# COMMUNICATING NURSING RESEARCH CONFERENCE PROCEEDINGS

VOLUME 49

# INNOVATIONS IN ENGAGEMENT THROUGH RESEARCH, PRACTICE, AND EDUCATION

**2016**

**Western Institute of Nursing**

# WESTERN INSTITUTE OF NURSING

The Western Institute of Nursing (WIN) is the western regional nursing organization that succeeded the Western Council on Higher Education for Nursing (WCHEN). In 1985, following extensive deliberations by special committees, the decision to create an autonomous, self-supporting organization was implemented. At the first meeting of the new organization, nurses from collegiate schools of nursing and health care agencies adopted the bylaws and the new name of the organization, Western Institute of Nursing. The organization moved to Portland, Oregon on July 1, 1996. The Western Institute of Nursing was incorporated on November 3, 1998 in accordance with the Oregon Nonprofit Corporation Act.

WIN exists to bring together a diverse community of nurses in a shared commitment to transcend the boundaries of knowledge development and application to advance the discipline and drive improvements in practice, outcomes, and cost. The organizational structure includes the Membership Assembly, the Board of Governors, committees, and societies.

There are six categories of membership in WIN: agency, individual, student, retired nurse, associate, and honorary. Agency memberships are open to organized nursing education programs and organized nursing practices in one of the states designated by the Board of Governors as being in the western region. Individual membership is open to RNs who support the mission of WIN. Student members must be matriculated in a degree granting program. Retired nurse membership is open to retired nurses who live in, or relocate to, the region following retirement. Associate memberships are open to individual non-nurses who, and to organizations, agencies, and businesses outside the western region which, support the mission of WIN. Honorary memberships include those designated for Emeritus status and those who have made supporting contributions to WIN.

# COMMUNICATING NURSING RESEARCH

Volume 49

# INNOVATIONS IN ENGAGEMENT THROUGH RESEARCH, PRACTICE, AND EDUCATION

An annual publication of the Western Institute of Nursing containing the proceedings
of the Communicating Nursing Research Conference and WIN Assembly
held April 6-9, 2016 at the Disneyland® Hotel in Anaheim, California.

**WESTERN INSTITUTE OF NURSING**
**SN-4S**
**3455 SW US VETERANS HOSPITAL ROAD**
**PORTLAND, OR 97239-2941**

An Affirmative Action/Equal Opportunity Employer

Spring 2016

# COMMUNICATING NURSING RESEARCH

issues previously published:

Volume 1: The Research Critique
Volume 2: Problem Identification and the Research Design
Volume 3: Methodological Issues in Research
Volume 4: Is the Gap Being Bridged?
Volume 5: The Many Sources of Nursing Knowledge
Volume 6: Collaboration and Competition in Nursing Research
Volume 7: Critical Issues in Access to Data
Volume 8: Nursing Research Priorities: Choice or Chance
Volume 9: Nursing Research in the Bicentennial Year
Volume 10: Optimizing Environments for Health: Nursing's Unique Perspective
Volume 11: New Approaches to Communicating Nursing Research
Volume 12: Credibility in Nursing Science
Volume 13: Directions for the 1980's
Volume 14: Health Policy and Research
Volume 15: Nursing Science in Perspective
Volume 16: The Image of Nursing Research: Issues and Strategies
Volume 17: Advancing Nursing Science: Qualitative and Quantitative Approaches
Volume 18: Influencing the Future of Nursing Research through Power and Politics
Volume 19: The Winds of Change: New Frontiers in Nursing Research
Volume 20: Collaboration in Nursing Research: Advancing the Science of Human Care
Volume 21: Nursing: A Socially Responsible Profession
Volume 22: Choices within Challenges
Volume 23: Nursing Research: Transcending the 20th Century
Volume 24: Partnerships: Putting It All Together
Volume 25: Silver Threads: 25 Years of Nursing Excellence
Volume 26: Scholarship in Practice
Volume 27: Research, Practice, and Education within the Health Care Agenda
Volume 28: Innovation and Collaboration: Responses to Health Care Needs
Volume 29: Advancing Nursing through Research, Practice, and Education
Volume 30: Nursing: Changing the Environment
Volume 31: Quality Research for Quality Practice
Volume 32: Nursing Research: For the Health of Our Nation
Volume 33: Building on a Legacy of Excellence in Nursing Research
Volume 34: Health Care Challenges Beyond 2001: Mapping the Journey for Research and Practice
Volume 35: Health Disparities: Meeting the Challenge
Volume 36: Responding to Societal Imperatives through Discovery and Innovation
Volume 37: Hallmarks of Quality: Generating and Using Knowledge
Volume 38: Looking Ahead: Innovations in Nursing Science, Practice and Education
Volume 39: Building Knowledge for Practice
Volume 40: 50 Years of Advancing Nursing in the West 1957 – 2007

Volume 41: The Circle of Nursing Knowledge: Education, Practice and Research
Volume 42: Networks in Nursing Science: Creating Our Future
Volume 43: Nursing Science: Informing Practice and Driving Policy
Volume 44: Transitions: Unifying Practice, Education, and Research to Improve Health
Volume 45: Advancing Scientific Innovations in Nursing
Volume 46: Creating a Shared Future of Nursing: Research, Practice, and Education
Volume 47: Taking It Global: Research, Practice, and Education in Nursing
Volume 48: Equity and Access: Nursing Research, Practice, and Education

The Cumulative Index of the Communicating Nursing Research Conference Proceedings, Volumes 1 to 25, (1968-1992) was published in 1992.

**COMMUNICATING NURSING RESEARCH** has been published annually by the Western Institute of Nursing. Each volume contains the addresses and abstracts of papers presented at the annual Communicating Nursing Research Conference.

# TABLE OF CONTENTS

# FOREWORD

The WIN Program Committee chose the theme, “Innovations in Engagement through Research, Practice, and Education,” for the 49th Annual Communicating Nursing Research Conference. Our keynote and plenary session speakers brought the theme to life with discussions from their unique perspectives.

George DeMaris, PhD, University of Washington, keynoted the conference, discussing the use of technology to engage people in their health care. State of the Science speakers focused on patient engagement from their perspectives: Kate Lorig, PhD, Stanford University, education; Bonnie Gance-Cleveland, PhD, RNC, PNP, FAAN, practice; and Debra Barksdale, PhD, RN, research. The 2016 Distinguished Research Lecturer, Carolyn (Carrie) Merkle, PhD, RN, FAAN, Associate Professor, College of Nursing, The University of Arizona, reviewed her long and distinguished nursing research career in which she used biological models to study altered health, including endothelial cell biology, breast cancer and aging, inflammation and shared risk factors for breast cancer and cardiovascular disease, and stress and wound healing.

The presentations reminded us again that nursing research makes a significant difference in the lives of individuals. Engaging those people in understanding risk factors, prevention, and self-management is an important step toward attainment of their own health.

Paula McNeil, MS, RN
Executive Director
February 2016

# PREFACE

The 49th Annual Communicating Nursing Research Conference, "Innovations in Engagement through Research, Practice, and Education," was held April 6-9, 2016 at the Disneyland Hotel in Anaheim, California.

The keynote address was delivered by **George Demiris**, PhD, FACMI, Alumni Endowed Professor in Nursing, School of Nursing and Professor and Vice Chair for Informatics Education, School of Medicine, University of Washington, Seattle, WA. State of the Science presentations were delivered by: **Debra J. Barksdale**, PhD, FNP-BC, ANP-BC, CNE, FAANP, FAAN**,** Associate Dean of Academic Programs, School of Nursing, Virginia Commonwealth University, Richmond, VA; **Bonnie Gance-Cleveland**, PhD, RNC, PNP, FAAN, Loretta Ford Professor, Division of Women, Children & Family Health, College of Nursing, University of Colorado Denver - Anschutz Medical Campus, Aurora, CO; and **Kate Lorig**, Dr.P.H., Director, Stanford Patient Education Research Center and Professor of Medicine, School of Medicine, Stanford University, Palo Alto, CA.

Two award papers were presented:
**Distinguished Research Lectureship Award: Carrie Merkle**, PhD, RN, FAAN, Associate Professor, Behavioral Health Science Division, College of Nursing, University of Arizona, Tucson, AZ; and
**Carol A. Lindeman Award for a New Researcher: Lyndsey M. Miller**, RN, BSN, BA, PhD Candidate, School of Nursing, Oregon Health & Science University, Portland, OR.

**The Western Academy of Nurses** panel focused on the changing landscape in the world of publishing. Panelists included: **Steve Clancy**, MLS, Research Librarian & Bibliographer for Health Sciences and Nursing Science, Ayala Science Library/ Grunigen Medical Library, University of California, Irvine, CA; **Nancy K. Lowe**, PhD, CNM, FACNM, FAAN, Professor & Director of Global Health Initiatives, College of Nursing, University of Colorado, Anschutz Medical Campus, Editor-in-Chief, *Journal of Obstetric, Gynecologic, and Neonatal Nursing (JOGNN)*; **Jan Morse**, PhD, FAAN, The Ida May Dotty Barnes, RN & D. Keith Barnes, MD, Presidential Endowed Chair, Professor, College of Nursing, University of Utah, Professor Emeritus, University of Alberta, Canada, Editor, *QHR* & *GQNR*.

The Proceedings include the abstracts of symposium, podium, and poster presentations. One hundred and ninety-four papers were presented in podium sessions on a wide variety of topics, including completed research, theoretical papers, and projects. Sixty-four papers were presented in fourteen symposia, and one hundred and thirty papers were organized in twenty-eight other sessions. Four hundred and sixty-five posters were displayed over four poster sessions, representing projects and research, completed or in progress. A total of two hundred and twenty-six posters were submitted from member institutions for the Research & Information Exchange.

Awards were given to numerous WIN individual members during the 2016 conference. Please consult the Table of Contents for the location of the aforementioned papers, the list of awardees honored by WIN, and the name and subject indexes.

The conference was planned and organized by the WIN Program Committee, and we extend our gratitude to the Program Committee members: Donna Velasquez, Chair, AZ; Judith Berg, AZ; Lauren Clark, UT; Tina DeLapp, AK; Mary Ellen Dellefield, CA; Marie Driever, WA; Bronwyn Fields, CA; Bonnie Gance-Cleveland, CO; Lori Hendrickx, SD; Kathryn Lee, CA; Martha Lentz, WA; Marie Lobo, NM; Kristin Lutz, OR; Anthony McGuire, CA; Katreena Merrill, UT; Annette Nasr, CA; Roberta Rehm, CA; and Catherine Van Son, WA.

We extend special appreciation to: Amy Tomlinson, Graphic Designer; Linda Hallinger, Indexer; and Charlotte Woodward, Graphic Designer.

We extend our gratitude to the WIN Executive Director, Paula McNeil; Bo Perry, Conference Manager; Laura Hottman, Administrative Coordinator; and Mary Giannone, Administrative Assistant, for their work in bringing the Committee's plans to reality.

Finally, we thank all of the nurse researchers who submitted papers and participated in the 2016 conference.

Marie L. Lobo, PhD, RN, FAAN
President
Western Institute of Nursing

Donna Velasquez, PhD, RN, FNP-BC, FAANP, Chair
WIN Program Committee

## State of the Science Paper

# INNOVATIVE TECHNOLOGIES TO PROMOTE PATIENT ENGAGEMENT

*Bonnie Gance-Cleveland, PhD, PNP-PC, RNC*
*Loretta C. Ford Professor*
*College of Nursing*
*University of Colorado Anschutz Medical Campus*
*Aurora, CO*

# INNOVATIVE TECHNOLOGIES TO PROMOTE PATIENT ENGAGEMENT

*Bonnie Gance-Cleveland, PhD, PNP-PC, RNC*
*Loretta C. Ford Professor*
*College of Nursing*
*University of Colorado Anschutz Medical Campus*
*Aurora, CO*

In 2009, Congress passed the Health Information Technology for Economic and Clinical Health (HITECH) Act as part of the American Recovery and Reinvestment Act ("American Recovery and Reinvestment Act," 2009). The goal of the HITECH Act was to implement a nationwide health information technology (IT) infrastructure to improve health care quality, reduce health disparities, and advance the delivery of patient-centered health care. Health IT was defined by the HITECH Act to include: hardware, software, integrated technologies, related licenses, intellectual property, upgrades, or packaged solutions sold as services that are designed for or support the use of health information ("American Recovery and Reinvestment Act," 2009).

Specifically, the focus of the HITECH Act included technologies, applications, and platforms used by health care providers, consumers, or both (NORC at the University of Chicago, 2010). Examples of applications used by providers include electronic health records (EHR), electronic registries, health information exchanges, and clinical decision support systems. Applications used by consumers include social networking applications, mobile health apps, and stand-alone personal health records. Applications that facilitate electronic sharing of information between patients and providers include patient monitors that feed information to providers, patient portals, distance medicine applications, and message exchange systems (NORC at the University of Chicago, 2010).

The goal of this landmark legislation was to transform healthcare through the use of technology. The report to Congress on the adoption of health IT described the basis for the legislation as improving the availability and uses of health information as foundational for enhancing the efficiency and effectiveness of health care systems (Department of Health & Human Services, 2014). Data created throughout the health care system has the potential for better informed decisions and processes that can simultaneously improve individual health and the delivery of health care. Health IT systems that are interoperable and capable of integrating different sources are critical components to attain information-fueled health system improvements. Once interoperable, health data and health IT systems will accelerate improvements in the health care system; improvements that will put data to better use by making it available at the right time, to the right people, and in the right format (Department of Health & Human Services, 2014). In order to optimize the potential outcomes for the HITECH Act, nursing must be familiar with the legislation, knowledgeable about the state of the science in health IT and participate in the development, implementation and evaluation of the health IT.

### *Meaningful Use*

Implementation of the HITECH Act included an EHR incentive program for Medicare and Medicaid reimbursement that provided financial incentives for meaningful use of technology. The Centers for Medicare and Medicaid Services and the Office of the National Coordinator for Health Information Technology have established standards and other criteria for structured data that EHRs must use in order to qualify for this incentive program. In order to capture and share patient data efficiently, providers need an EHR that stores data in a structured format. Structured data allows patient information to be easily retrieved and transferred, and it allows the provider to use the EHR in ways that can aid patient care. To get an incentive payment, you must use an EHR that is certified specifically for the EHR Incentive Program. Certified EHR technology gives assurance to purchasers and other users that an EHR system or module offers the necessary technological capability, functionality, and security to help them meet the meaningful use criteria. Certification also helps providers and patients be confident that the electronic health IT products and systems they use are secure, can maintain data confidentially, and function with other systems to share information (Centers for Medicare & Medicaid Services, 2015; "Health information technology: standards, implementation specifications, and certification criteria for electronic health record technology, 2014 edition; revisions to the permanent certification program for health information technology. Final rule," 2012).

In addition to using a certified EHR, providers must also show they are meaningful users of the EHR to receive financial incentives. The goal of meaningful use is to provide patient-centered, evidence-based, prevention-oriented, efficient, and equitable care. Three components of meaningful use include: use of technology in a meaningful manner such as e-prescribing; use of a health information exchange to improve quality of care; and use of health IT to submit clinical quality and other measures("Medicare and Medicaid programs; electronic health record incentive program--stage 2. Final rule," 2012).

Specifically, meaningful use had a three staged approach over a five-year period that included: 1) Stage one, implemented in 2011-2012, was primarily concerned with data capture and sharing data ("American Recovery and Reinvestment Act," 2009). This stage focused on electronically capturing health information in a standardized format, using that information to track key clinical conditions, and communicating that information for care coordination. The health information collected was to be used to engage the patients and families in care. This phase also included initial steps towards reporting on quality measures and introductory steps toward establishing the process for reporting public health information. 2) Stage two, implemented in 2014, focused on advanced clinical processes that included a more rigorous development of health information exchanges. Health care practices were required to implement e-prescribing and incorporate the laboratory results into the EHR. Practices were expected to provide an electronic transmission of patient care summaries across multiple settings, and to implement strategies for more patient controlled data. 3) Stage three, which we embark upon in 2016, will focus on improved outcomes through improving quality, safety, and efficiency. Use of decision support for national high-priority conditions is encouraged as well as providing patients with self-management tools. In addition, stage three includes health care practices implementing plans for accessing comprehensive patient data through patient-centered health information exchanges ("American Recovery and Reinvestment Act," 2009).

### *Exemplars of Health IT and Impact*

Substantial gains have been made with the increased emphasis and infrastructure provided by the HITECH Act. Incredible opportunities lie ahead as we embark upon Stage 3 of meaningful use. The next section will focus on the current state of the science followed by the opportunities and challenges that lie ahead. The current state of the science suggests that health IT has the potential to impact the quality of care and health outcomes through improvement in service delivery, access to care, enhanced patient engagement, and health self-management. Health IT can improve care through decision support, quality improvement reporting, patient registry to facilitate monitoring outcomes, increasing access to care (telehealth), and improving patient engagement and literacy (individualized education, mHealth, Kiosks) (NORC at the University of Chicago, 2010). Exemplars of Health IT and outcomes from research on its use are provided below.

*Electronic Health Records* are an electronic record of health-related information on a patient that conforms to nationally recognized interoperability standards and that can be created, managed and consulted by authorized clinicians and staff across more than one health care organization (NORC at the University of Chicago, 2010). Benefits of EHR that have been reported include: 1) Providing individuals and health care providers with access to medical history, diagnoses, medications, immunizations, allergies, radiology images, and laboratory test results at the point of care; 2) Offering evidence-based tools that providers can use in making decisions about care; 3) Automating and streamlining providers' workflow; 4) Increasing organization, accuracy, and use of information; 5) Reducing unnecessary tests and procedures; 6) Preventing medical errors; 7) Repurposing of data for regulated clinical research; and 8) Identifying safety problems and quickly finding and notifying patients who may be at risk for problems related to unsafe drugs or medical devices. In addition to improving an individual's care, EHRs can help improve population health. EHRs can serve as a tool for the medical community to find unexpected increases in diseases within a community, enabling health officials to take action sooner to protect the public. Communities have also used EHRs for medical disaster response and recovery.

The Office of the National Coordinator for Health IT commissioned a recent systematic review of the literature on the effects of health IT on key aspects of care, including heath care quality, safety, and efficiency. The review found that the majority of studies published between 2010 and 2013 had positive associations between health IT and quality, safety, and efficiency (Shekelle & Jones, n.d.). A total of 236 studies met the eligibility criteria: assessing the effect of health IT on healthcare quality, safety, and efficiency in ambulatory and non-ambulatory care settings. Approximately 77 percent of studies reported positive or mixed-positive findings. The authors reported the effects of health IT were sensitive to the particulars of the IT system itself, the implementation process, and the context in which the IT was implemented, and therefore generalizations across systems and contexts should be made cautiously. Nevertheless, analyses found that neither study setting (ambulatory vs. nonambulatory), nor recognition as a health IT leader, nor commercial status were significantly associated with outcome results. Studies of efficiency were significantly less likely to report positive results than studies of safety or quality. Likewise, studies that evaluated e-prescribing and multifaceted health IT interventions were significantly less likely to report positive results than studies of more targeted clinical decision support or computerized physician order entry interventions. The authors concluded that overall, a majority of studies reported findings that were at least partially positive on metrics of satisfaction, care process, and cost and health outcomes across many different care settings.

*Clinical Decision Support*, as a part of the EHR or independent apps uses patient-specific information, filters and organizes data based upon algorithms at the point of care to enhance health and health care. ("Medicare and Medicaid programs; electronic health record incentive program. Final rule," 2010). Evidence-based algorithms match risk factors with patient-specific recommendations. A systematic review of 100 controlled trials on computer-assisted decision support including computer diagnostics (40%), reminders (76%), disease management (62%), and prescribing (66%), suggested that decision-support systems improved provider performance in 62 (64%) of 97 studies(Garg et al., 2005). A systematic review of the impact of health IT by Chaudhrey et al., (2006) reported results of 257 studies on use EHR and decision support systems. The benefits were reported as increased adherence to guidelines, enhanced surveillance and monitoring, decreased medication errors, improvement in preventive health, and decreased utilization of care.

*Telemedicine* uses telecommunication to provide medical information and services using phone, videoconferencing, and/or remote monitoring. (American Telemedicine Organization, 2010). A similar application is a Virtual Learning Collaborative that uses telecommunication as described for telemedicine but provides the education and consultation to the providers to build their capacity for managing health of the patients in their community with the expertise of specialists in other locations(Gance-Cleveland, Aldrich, Schmiege, & Tyler, 2015).

Access to care can be improved via telehealth or building capacity of providers in diverse setting through online education and support through a virtual collaborative approach. Virtual collaboratives focus on increasing knowledge and skills on evidence-based intervention and quality improvement strategies for providers in diverse settings. New Mexico's Extension for Community Healthcare Outcomes project is an exemplary program using this approach (Arora et al., 2011). Results from their AHRQ-funded grant showed that telemedicine reduced disparities and improved the cure rate for hepatitis C.

*Population Health Information Systems* are a mechanism for recording, retrieving and manipulating information in population health records, which are defined as a repository of statistics, measures and indicators regarding the state of and influences on health of a population, in computer processable form, stored and transmitted securely, and accessible by multiple authorized users (Friedman & Parrish, 2010). Many states have immunization health information systems that allow providers from across the state to access the immunization record and update the system to reflect immunizations given at their site (Colorado Department of Public Health & Envionment, 2015).

*Electronic Registry* is a database that includes key clinical data, usually on a subset of patients for the purpose of tracking their condition and managing prevention and treatment. (Gaylin & Moiduddin, 2007). Many EHRs have search capabilities that allow identification of all patients who meet certain criteria such as all patients with a diagnosis of asthma when influenza vaccine is available can be notified to come in for their immunization.

*Health Information Exchange* is the electronic movement of health-related information among organizations according to nationally recognized standards (NORC at the University of Chicago, 2010). Health information exchange may take place between laboratories and providers or hospitals and primary care providers. Health information exchange can include e-prescribing or electronically ordering laboratory tests. There have been significant increases in e-prescribing among health care providers. Recent national e-prescribing transaction data indicates that 57 percent of new and renewal prescriptions sent by physicians in 2013 were sent electronically. This represents a fourteen-fold increase since 2008. Moreover, in 2013, 70 percent of providers use an EHR to e-prescribe on the Surescripts Network, a 63 percentage point increase since 2008 (Gabriel & Swain, 2014).

*Consumer E-Health Tools* includes personal health records (PHR), Health Kiosks, and Mobile/Smart phone applications. PHRs are an electronic record of health-related information on a patient that conforms to nationally recognized interoperability standards and can be drawn from multiple sources and can be managed, shared and controlled by the individual patient (NORC at the University of Chicago, 2010). Research shows that providing patients or their caregivers with access to clinical information empowers them to better manage their health (Hibbard, Mahoney, Stock, & Tusler, 2007; Holman & Lorig, 2000; Mosen et al., 2007). Health kiosks are computer terminals designed to allow patients to obtain information on health conditions or to access information on their health. Combined decision support and kiosks have been developed that include an information exchange. Mobile/Smart phone applications are used to record and send health-related information and/or deliver email or short message services (SMS) messaging that reinforce health behavior (NORC at the University of Chicago, 2010).

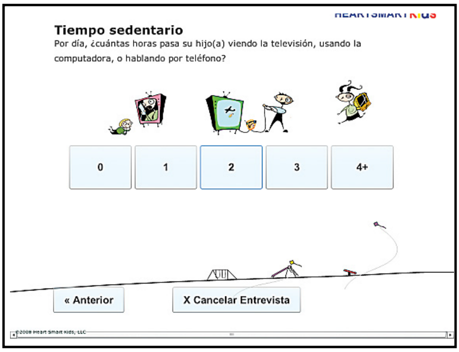
The potenial impact of these consumer E-Health tools is improvement in patient engagment by educating patients about their condition and treatment options in more understandable format (improved health literacy) (NORC at the University of Chicago, 2010). The interactive technologies can also use provider prompts to guide health care professionals in culturally competent care. In addition, the interactive technologies can aide with health self-monitoring and management that is communicated to the health care provider to improve care and enhance care coordination (NORC at the University of Chicago, 2010).

*Exemplars from our work*

**HeartSmartKids™ (HSK)**

HSK™ is a bilingual decision support system that generates individualized education materials and provider prompts for counseling children and their families to improve patient engagement for enhanced cardiovascular health (Gance-Cleveland, Gilbert, Gilbert, Dandreaux, & Russell, 2014). The HSK™ system consists of web-based applications including a bilingual lifestyle interview (Figure 1) and a webpage for entry of measurements (height, weight, and blood pressure [BP]) that generates the HeartPrint summaries (Figure 2).

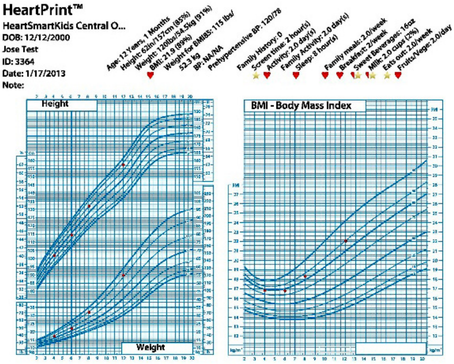
Figure 1. Inactivity History in Spanish



Tiempo sedentario

Por día, ¿cuántas horas pasa su hijo(a) viendo la televisión, usando la computadora, o hablando por teléfono?

Figure 2. HeartPrint (red hearts flag risk factors)



HeartPrint™
HeartSmartKids Central O...
DOB: 12/12/2000
Jose Test
ID: 3364
Date: 1/17/2013
Note:

Age: 12 Years, 1 Months
Height: 62in/157cm (85%)
Weight: 120lbs/54.5kg (91%)
BMI: 21.9 (89%)
Weight for BMI85: 115 lbs/
52.3 kg
BP: NA/NA
Prehypertensive BP: 120/78
Family History: 0
Screen time: 2 hour(s)
Activity: 2.0 day(s)
Family Activity: 2.0 day(s)
Sleep: 8 hour(s)
Family meals: 2.0/week
Breakfast: 2/week
Sweet Beverages: 16oz
Milk: 2.0 cups (2%)
Eats out: 2.0/week
Fruits/Vege: 2.0/day

Both applications are accessed through standard Web browsers on Internet-connected kiosks or iPad. The family completes the assessment using a touch screen kiosk or iPad. The assessment covers family history of cardiovascular disease, eating habits, smoke exposure, activity levels, and sedentary time. The measurement entry application is accessed through the Web browser where the height, weight, and BP measurement are entered. A cardiovascular risk summary and individualized recommendations are generated for counseling patients/families on risks and care planning. Patients who complete the assessment in Spanish receive their HeartPrint™ in Spanish.

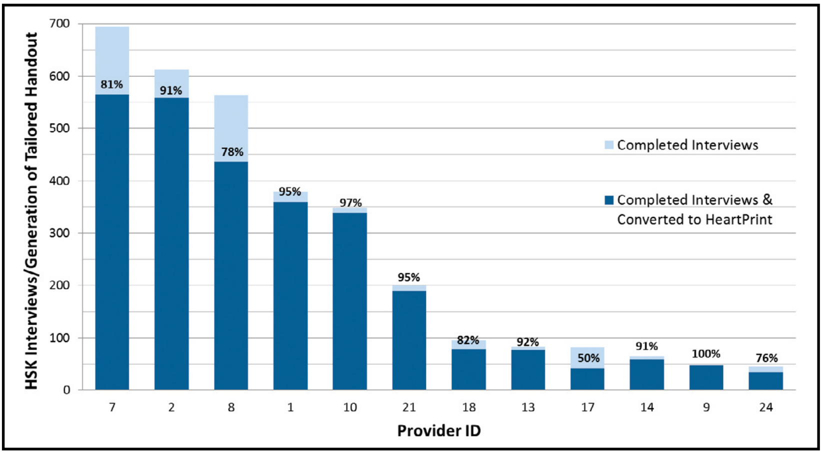
The system compares lifestyle information with clinical practice guidelines. Standard growth charts, including BMI percentile, are automatically generated and plotted, promoting greater understanding of the child's growth pattern by parents and providers. Health risk and protective factors are highlighted in the HeartPrint™, a summary of the child's cardiovascular health. The system can be used to increase perception of risks and provide suggestions regarding evidence-based behavior change strategies. In addition, this cardiovascular assessment clusters risk factors for provider convenience in identifying the risk of metabolic syndrome. Tailored recommendations give the provider and the family a starting point for health counseling. The cardiovascular assessment goes home with the family and allows communication of status to others.

In a pre/post-test, quasi-experimental study, cardiovascular screening was assessed before and after implementation of the technology decision support. Chart audits examining obesity-related risk factors in a Hispanic, low literacy population indicated significant increases in documentation of BMI (64.4% to 86%; p<0.001), BMI percentile (30.7% to 76%; p<0.001), BP (82.2% to 97%; p=.001), and BP percentile (1% to 35%; p<.001) after implementing the technology (Gance-Cleveland, Gilbert, Kopanos, & Gilbert, 2010).

**Comparative Effectiveness of Virtual Collaborative and HSK$^{TM}$**

Combining several of the health IT approaches, a follow up study was conducted using a comparative effectiveness trial design of virtual collaborative training on the obesity guidelines with and without HSK$^{TM}$ in 24 school-based health centers in six states. The purpose of the study was to evaluate provider adherence to guidelines for identification and assessment of childhood overweight/obesity after participation in a virtual collaborative with and without HSK$^{TM}$ using parent surveys, provider surveys, and chart audits.

Figure 1. HSKTM use by provider.
Implementation of the HSKTM was variable (see Figure 1). Approximately half of the sites used HSKTM for 200 visits, while the remaining had difficulty implementing HSKTM for less than 100 visits.



The virtual collaborative approach incorporated the Health Resources and Services Administration's Health Disparities Collaborative and the chronic care model, that were developed to reduce health disparities and improve quality of care to at-risk populations by using the Institute for Healthcare Improvement's Breakthrough Series methodology (MH, 2010). The virtual collaborative consisted of web-based training focused on a practice-based intervention to prevent and treat obesity in children that includes changes at the system level in the healthcare providers' practice. The virtual collaborative approach was extrapolated from experience with the National Health Disparities Collaboratives on Asthma, Diabetes, and Depression (Coleman, Austin, Brach, & Wagner, 2009). This collaborative model of practice training for the health care system change to promote evidence-based obesity care involved an interdisciplinary team completing four virtual collaborative, multicomponent modules over a 12-month period (Table 1), with intermittent follow-up via a virtual learning community to encourage continuous monitoring of practice changes and patient outcomes. A major distinction of this model is that the training was directed at practice teams comprised of up to four members that included the practitioner/physician assistant and may have included other members such as the administrator, support staff, dietitian/counselor, and/or school nurse.

Table 1. Components of Virtual Collaborative Training adapted from (Gance-Cleveland, Aldrich, Schmiege, et al., 2015)

| | Topic | Delivery Method |
|---|---|---|
| **Learning Session 1**<br>(4-5 hrs) | **Obesity Care Guidelines** | |
| Module A | Evidence-based obesity care | Voiced PowerPoint with case-based video vignettes |
| Module B | Health Disparities Collaborative | Voiced PowerPoint with case-based video vignettes |
| Module C | Intro Motivational Interviewing (MI) | Voiced PowerPoint with video vignettes |
| Module D<br>Group 2 only | Heart Smart Kids training | Recorded demonstration |
| Module E | E-Learning community orientation | Taped webinar & conference calls |
| **Learning Session 2**<br>(2 hrs) | **Advanced Motivational Interviewing & Chronic Care Model for Childhood Obesity** | |
| Module A | Advanced MI training | Interactive case-based video vignettes & Webinar |
| Module B | CCM components resources | Voiced PowerPoint with case-based video vignettes & E-Learning community |
| Module C | Implementing guidelines | Chat room, links |
| **Learning Session 3**<br>(2 hrs) | **Community Collaboration & Partnerships** | |
| Module A | Cultural competency | Interactive case-based video vignettes & E-Learning community |
| Module B | Advocacy & policy | Virtual city with exemplars & E-Learning community |
| Module C | Implementing guidelines | Chat room, links |
| **Learning Session 4**<br>(1 hr) | Summarizing Practice Changes | |
| Module A | Practice changes & PDSA | Storyboards posted on Blackboard<br>Webinar discussion of storyboards |
| Module B | Implementing guidelines | E-Learning community<br>Chat room, links |

The training modules included an overview of the guidelines, motivational interviewing, community collaborations, and summarizing practice changes. The virtual collaborative and follow-up encouraged continuous monitoring of practice changes(Gance-Cleveland, Aldrich, Schmiege, et al., 2015). Participants received continuing education credits after completing a satisfaction survey following each training module. Sixty-four percent of providers completed 75% of the modules. Data were collected at baseline (T1), after training (T2), and six months after training (T3).

**Results**

*Participant Satisfaction*

Provider satisfaction with training was high (3.76-3.24 on a 4-point Likert scale). Qualitative data revealed that providers planned to change their practice after completing the training (Gance-Cleveland, Aldrich, Dandreaux, Oetzel, & Schmiege, 2015).

*Parent Surveys*

Parent perception of the care provided reflecting principles of MI was also assessed using, The Health Care Climate Questionnaire (HCCQ) and the Interpersonal Process of Care. The HCCQ, a measure with six items each for eating and exercise assessed the degree of support from healthcare providers for healthy behaviors. For all items, the response values ranged from (1) "not at all true" to (7) "very true" where higher scores were more favorable. There was a significant time by technology interaction (HSK 6.33, 6.51, 6.41; non-HSK 6.04, 5.26, 6.43; p=.04) suggesting the effect of HSK$^{TM}$ improving counseling from T1 to T2 for parents' perception of healthcare provider showing confidence in their ability to make changes regarding the child's diet. The non-HSK group, however, was able to catch up by T3. There were not significant training effects noted for provider support for healthy eating or exercise suggesting the MI training alone did not improve the parents' perception of support from providers for changing behavior in children.

The Interpersonal Process of Care (IPC) is a 29-item survey that measures the patient-clinician relationship, quality, and satisfaction with care on three domains: communication, decision making, and interpersonal style. The IPC includes seven subscales: 1. Hurried communication; 2. Elicited concerns, responded; 3. Explained results, medication; 4. Decision making (patient-centered); 5. Compassionate, respectful; 6. Discrimination; and 7. Disrespectful office staff. All the IPC items ranged from 1 ("never") to 5 ("always"). Disrespectful office staff had a significant HSK effect between T1 and T2. (HSK 1.07, 1.09; non-HSK 1.14, 1.43; F = 9.34, p<.01) where those in the non-technology group reported a greater likelihood of disrespectful office staff at T2 than they did at T1.

*Provider Surveys*

The International Life Science Institute (ILSI) Assessment of Overweight in Children and Adolescents Survey was used to assess providers' attitudes, barriers, skills, approaches to assessment, and treatment of overweight/obese youth. The survey consists of 35 questions, most with multiple parts. Results for the ILSI surveys suggested that the virtual training enhanced provider adherence to the guidelines. Training significantly improved providers self-report: of counseling proficiency for both groups over the three time points (HSK 1.87, 2.13, 2.27 and non-HSK 1.88, 2.15, 2.21; p 0.0007); medical assessment (HSK 3.29, 3.53, 3.74 and non-HSK 3.11, 3.23, 3.45; p 0.009); psych/emotional assessment (HSK 3.82, 4.29, 4.33 and non-HSK 3.95, 3.89, 4.02; p 0.0004); activity assessment (HSK 4.39, 4.34, 4.72 and non-HSK 4.37, 4.41, 4.67; p 0.0004); inactivity assessment (HSK 4.42, 4.83, 4.81and non-HSK 4.33, 4.57, 4.78; p 0.001); and diet assessment (HSK 64%, 84%, 82%; and non-HSK 64%, 60%, 83%; p 0.04).

The Chronic Care Model Elements Survey (CCMES) is 9-items that assessed which elements of the chronic care model were used in the care of patients in a practice. For all items, the response values ranged from (1) "never" to (5) "always." Results for the CCMES indicated the HSK$^{TM}$ group had greater improvements in chronic care model element for use of patient registry (p=.02; HSK 2.67, 3.05, 4.0 and non-HSK 3.0, 3.94, 3.28).

*Chart Audits*
Medical records from a random sample of youth 5-12 years making well-child or sports-physical visits at the enrolled SBHCs during a 6-month period prior to each of the three data collection points were reviewed by SBHC staff for documentation. Charts were examined for documentation of: BMI percentile, accurate weight diagnosis based upon the BMI percentile for age and sex, BP percentile, and ordering appropriate laboratory assessment per guidelines (fasting lipid profile, fasting glucose, aspartate aminotransferase, and alanine aminotransferase for obese children ≥ 10 years old).

*BMI Percentile Documentation.* There was a virtual training effect on BMI percentile documentation (*P* = 0.018), where post hoc contrasts demonstrated a significant improvement from T1 to an aggregate of T2 and T3 (odds ratio [OR] = 17.22 [95% CI 2.21 to 134.15], *P* = 0.008), but no further change from T2 to T3 (OR = 4.55 [95% CI 0.24 to 85.08], *P* = 0.30). There was no impact of HSK™. BMI documentation improved for both groups combined after virtual training from 74.1% (T1) to 95.4% (T2), and 95.9% (T3).

*BP Percentile Documentation.* There was a training effect on BP percentile documentation (*P* < 0.001) as well, post hoc contrasts demonstrated a significant improvement from T1 to an aggregate of T2 and T3 (OR = 7.12 [95% CI 3.50 to 14.50], *P* < 0.001), but no change from T2 to T3 (OR = 0.78 [95% CI 0.36 to 1.70], *P* = 0.53). There was again no impact of HSK™. BP documentation for both groups combined after training improved from 28.2% (T1) to 45.6% (T2) and 43.1% (T3).

*Overweight Diagnosis.* At baseline, providers were accurately identifying overweight in only 60% (HSK™ group) and 30% (non-HSK™ group) of children. There was a training effect on correct overweight diagnosis (*P* = 0.008). Post hoc contrasts showed significant improvement from T1 to an aggregate of T2 and T3 (OR = 2.73 [95% CI 1.29 to 5.74], *P* = 0.009), as well as additional improvements from T2 to T3 (OR = 2.33 [95% CI 1.06 to 5.15], *P* = 0.04).

*Obesity Diagnosis.* At baseline, providers were accurately identifying obesity in 70% (HSK™ group) and 28% (non-HSK™ group) of children. There were training effects (*P* = 0.006). Similar to accurate overweight diagnosis, post hoc contracts show significant improvement from T1 to an aggregate of T2 and T3 (OR = 2.81 [95% CI 1.41 to 5.60], *P* = 0.0034), as well as improvements between T2 and T3 (OR = 2.27 [95% CI 1.02 to 5.04], *P* = 0.04]. Providers in the HSK™ group improved from 69.9% (T1) to 85.3% (T3), while providers in the non-HSK™ group improved from 28.2% (T1) to 63.2% (T3).

*Laboratory Assessment Adherence.* There was not a significant change in adherence to laboratory assessment guidelines after training (*P* = 0.28), nor was there an impact of HSK™ either as a main effect (*P* = 0.49) or through an interaction with time (*P* = 0.58). Providers in the HSK™ group improved from 76.1% (T1) to 80.9% (T3), while providers in the non-HSK™ group showed no improvement from 85.4% (T1) to 84.2% (T3) but these differences were not significant.

*Discussion*

Overall results from our work suggest the potential benefits of health IT. The technology decision support shows promise for identification, screening, and counseling in overweight/obese children. The simultaneous introduction of EHRs may have been a confounding influence in our comparative effectiveness trial. Our findings agree with previous health IT literature reviews suggesting that health IT, particularly those functionalities included in the meaningful use regulation, can improve healthcare quality and safety particularly if we can address the interoperability. The relationship between health IT and efficiency is complex and remains poorly documented or understood, particularly in terms of healthcare costs, which are highly dependent upon the care delivery and financial context in which the technology is implemented (Shekelle & Jones, n.d.).

The virtual collaborative approach was an effective strategy for increasing clinician adherence to the obesity guidelines including the use of motivational interviewing. The virtual collaborative approach to QI was an acceptable and feasible approach for providers in diverse settings. Satisfaction with training was high, and participation was higher than other reports in the literature.

*Opportunities and Challenges: Interoperability of Health IT*

With the exponential growth in the number and different types of health IT applications, attention of the technology science community has been directed toward establishing interoperability standards for the development of health IT. This growing interest in interoperability among the health IT community has resulted in an emerging data exchange technology known as Fast Health Interoperability Resources (FHIR) (Ahier & Doeringsfeld, 2015).

FHIR is a proposed interoperability standard developed by Health Level Seven International (HL7). HL7 is a not-for-profit, standards developing organization dedicated to providing a comprehensive framework and related standards for the exchange, integration, sharing and retrieval of electronic health information (Ahier & Doeringsfeld, 2015). Stakeholders from across all aspects of health IT are actively exploring, experimenting, and testing FHIR. Part of the enthusiasm surrounding FHIR is due to the elegant simplicity of the technology (Ahier & Doeringsfeld, 2015). FHIR is based on a modern web services approach (similar to those used by companies such as Yahoo, Facebook and Google). This approach makes it easier for systems to exchange very specific, well-defined pieces of information, rather than entire documents. The current standard in health IT, is based on Consolidated Clinical Document Architecture C-CDA. C-CDA is designed to transfer entire documents, rather than a single piece of data or a simple list (Ahier & Doeringsfeld, 2015). The proposed changes associated with the move to FHIR will revolutionize the data storage and retrieval possibilities.

FHIR makes it possible for specific information to be transmitted. FHIR also allows access to smaller data elements that are not included in some clinical documents. The proposed FHIR-based standard will make exchanging health care information faster, more efficient, and allow much greater potential for application developers interested in meaningful use applications that would require interoperability between a mobile application and the EHR. FHIR would allow developers to create new and innovative apps by using the public application programming interfaces (APIs) and following a well-defined set of rules. The interface will allow a true app store approach to healthcare data and interoperability.

Finally, the Office of the National Coordinator for Health IT has a group of independent scientists who advise the federal government, the JASON Task Force (Ahier & Doeringsfeld, 2015). This group and others have made recommendations to the Office of the National Coordinator for Health IT to establish and maintain a set of public API standards. Assuming the Office of the National Coordinator for Health IT follows the recommendations, EHR vendors would be required to use those public APIs to obtain certification(Ahier & Doeringsfeld, 2015). The challenge for nursing is to stay abreast of this fast moving field and participate in the development, implementation and testing of these new technologies to optimize patient engagement in health care.

### *Conclusions*

The HITECH Act provides the resources to establish health IT infrastructure with the potential of transforming health care in the United States. In 2016, we will be faced with the opportunities of stage 3 of meaningful use. Stage 3 of meaningful use requires patient engagement with technology to improve health outcomes through activities such as improved screening, health education, self-monitoring, and self-management. Interdisciplinary teams with expertise in health care, health education, behavior change, health IT, workflow, and interoperability are essential for the design, implementation and evaluation of health IT. It is a unique opportunity for nursing to form interdisciplinary teams to transform healthcare for our patients. This stage is a golden opportunity for nurses to develop, implement, and test technology to insure optimal patient outcomes.

**Funding:** This project was supported by grant number 1R18HSO18646-01A1 from the Agency for Healthcare Research and Quality.

## References:

Ahier, B., & Doeringsfeld, J. (2015). FHIR and the future of interoperability. Retrieved from http://www.govhealthit.com/news/fhir-and-future-interoperability

American Recovery and Reinvestment Act, Pub. L. No. 111-5 § 3001, 123 Stat. 230 (2009).

American Telemedicine Organization. (2010). Telemedicine defined. Retrieved from http://www.americantelemed.org/about-telemedicine/what-is-telemedicine#.VnmeovkrLrc

Arora, S., Thornton, K., Murata, G., Deming, P., Kalishman, S., Dion, D., . . . Qualls, C. (2011). Outcomes of treatment for hepatitis C virus infection by primary care providers. *New England Journal of Medicine, 364*, 2199-2207.

Centers for Medicare & Medicaid Services. (2015). Certified EHR Technology. Retrieved from https://www.cms.gov/regulations-and-guidance/legislation/ehrincentiveprograms/certification.html

Chaudhry, B., Wang, J., Wu, S., Maglione, M., Mojica, W., Roth, E., . . . Shekelle, P. (2006). Systematic review: impact of health information technology on quality, efficiency, and costs of medical care. *Annals of Internal Medicine, 144*(10), 742-752.

Coleman, K., Austin, B. T., Brach, C., & Wagner, E. H. (2009). Evidence on the chronic care model in the new millennium. *Health Aff (Millwood), 28*(1), 75-85. doi:10.1377/hlthaff.28.1.75

Colorado Department of Public Health & Envionment. (2015). Colorado Immunization Information System. Retrieved from https://www.colorado.gov/pacific/cdphe/colorado-immunization-information-system-ciis

Department of Health & Human Services. (2014). *Report to Congress: Update on the adoption of health information technology and related efforts to facilitate the electronic use and exchange of health information*. Retrieved from https://www.healthit.gov/sites/default/files/rtc_adoption_and_exchange9302014.pdf

Friedman, D. J., & Parrish, R. G., 2nd. (2010). The population health record: concepts, definition, design, and implementation. *Journal of the American Medical Informatics Association, 17*(4), 359-366. doi:10.1136/jamia.2009.001578

Gabriel, M., & Swain, M. (2014). *E-prescribing trends in the United States*. Retrieved from http://healthit.gov/sites/default/files/oncdatabriefe-prescribingincreases2014.pdf

Gance-Cleveland, B., Aldrich, H., Dandreaux, D., Oetzel, K. B., & Schmiege, S. (2015). A Virtual Childhood Obesity Collaborative: Satisfaction With Online Continuing Education. *J Pediatr Health Care, 29*(5), 413-423. doi:10.1016/j.pedhc.2015.01.006

Gance-Cleveland, B., Aldrich, H., Schmiege, S., & Tyler, K. (2015). Virtual obesity collaborative with and without decision-support technology. *Manuscript submitted for publication*.

Gance-Cleveland, B., Gilbert, K., Gilbert, L., Dandreaux, D., & Russell, N. (2014). Decision support to promote healthy weights in children. *The Journal for Nurse Practitioners, 10*(10), 803-812.

Gance-Cleveland, B., Gilbert, L. H., Kopanos, T., & Gilbert, K. (2010). Evaluation of technology to identify and assess overweight children and adolescents. *Journal for Specialists in Pediatric Nursing, 15*(1), 72-83.

Garg, A. X., Adhikari, N. K., McDonald, H., Rosas-Arellano, M. P., Devereaux, P. J., Beyene, J., . . . Haynes, R. B. (2005). Effects of computerized clinical decision support systems on practitioner performance and patient outcomes: a systematic review. *The Journal of the American Medical Association, 293*(10), 1223-1238. doi:10.1001/jama.293.10.1223

Gaylin, D., & Moiduddin, A. (2007). Health information technology adoption among health centers: A digital divide in the making?

Health information technology: standards, implementation specifications, and certification criteria for electronic health record technology, 2014 edition; revisions to the permanent certification program for health information technology. Final rule. (2012). *Federal Register, 77*(171), 54163-54292.

Hibbard, J., Mahoney, E., Stock, R., & Tusler, M. (2007). Do increases in patient activation result in improved self-management behaviors? *Health Services Research, 42*(4), 1443-1463.

Holman, H., & Lorig, K. (2000). Patients as partners in managing chronic disease: Partnership as a prerequisite for effective and efficient health care. *British Medical Journal, 320*(7234), 526-527.

Medicare and Medicaid programs; electronic health record incentive program--stage 2. Final rule. (2012). *Fed Regist, 77*(171), 53967-54162.

Medicare and Medicaid programs; electronic health record incentive program. Final rule. (2010). *Federal Register, 75*(144), 44313-44588.

MH, C. (2010). Quality improvement implementation and disparities: The case of health disparities collaboratives. *Medical Care, 48*(8), 668-675. doi:10.1097/MLR.0b013e3585c

Mosen, D., Schmittdiel, J., Hibbard, J., Sobel, D., Remmers, C., & Bellows, J. (2007). Is patient activation associated with outcomes of care for adults with chronic conditions? *Ambulatory Care Management, 30*(1), 21-29.

NORC at the University of Chicago. (2010). *Understanding the impact of health IT in underserved communities and those with health disparities*. Retrieved from https://www.healthit.gov/sites/default/files/pdf/hit-underserved-communities-health-disparities.pdf

Shekelle, P., & Jones, S. (n.d.). *Health information technology: An updated systematic review with a focus on meaningful use functionalities* (HHSP23337020T). Retrieved from http://healthit.gov/sites/default/files/systematic_review_final_report_508_compliant.pdf

## Distinguished Research Lectureship Award Paper

# INFLAMMATION: MORE THAN A RESPONSE TO INJURY

*Carrie J. Merkle, RN, PhD, FAAN*
*Associate Professor,*
*College of Nursing*
*The University of Arizona*
*Tucson, AZ*

# INFLAMMATION: MORE THAN A RESPONSE TO INJURY

*Carrie J. Merkle, RN, PhD, FAAN*
*Associate Professor*
*College of Nursing*
*The University of Arizona*
*Tucson, AZ*

## Introduction

Five decades ago, inflammation was defined as "an active and aggressive response of the tissue to injury" in the basic nursing textbook *Clinical Nursing: Pathophysiological and Psychosocial Approaches* by Irene L. Beland (1970, p. 182). Inflammation and its cardinal signs of redness, warmth, swelling, pain and loss of function at sites of inflammation seemed so simple to me then as a first semester basic nursing student. In fact, I recall thinking at the time that this information seemed very self-evident and that I was unclear why the emphasis in class included scratching our arms to observe the inflammatory response.

Decades later, this definition of inflammation from the 1970s seems even more simplistic and restricted, as the focus was a local generalized response of the body to injury. Then the term "cytokine" was not in existence (Cohen, Bigazzi, & Yoshida, 1974). The substances that we now know as inflammatory cytokines were not yet defined, and for the most part, not even identified. Interferon had been discovered in 1957 (Isaacs & Lindemann, 1957), and in the early 1970s there had been reports of a lymphocyte-activating factor (Gery & Waksman, 1973), later to be known as interleukin 1, but cytokines as the soluble mediators, cell-cell signaling molecules, and coordinators of inflammation and immunity, were not yet known and appreciated. Even cells with key roles in inflammation were absent from textbook discussions of inflammation. The mast cell, which secretes tens of inflammatory mediators including pro-inflammatory cytokines, biogenic amines such as histamine, numerous growth factors, nitric oxide and other substances, was not mentioned in sections on inflammation in nursing textbooks (Beland, 1970), when I entered nursing school.

The closest to acknowledgement that inflammation could also include a systemic process were statements such as, "Even in conditions in which inflammation is not considered to be an aspect of the disease, it may play a role." (Beland, 1970, p. 182). Though, some had observed that neoplastic cells could occassionally induce inflammation in surrounding tissue, similar to that triggered by a foreign body. Decades later, not only is inflammation known to be a secondary response to cancer, but more importantly inflammation is considered to be a contributing factor and/or hallmark of cancer. Inflammation is now proposed to not only fuel the growth and progression of cancer via growth and angiogenic factors, but also serve as both an intrinsic factor by which oncogene expression contributes to the inflammatory milieu, as well as an extrinsic factor by which inflammation down-regulates DNA repair mechanisms and results in defective cell cycle checkpoints and faulty mitosis (Colotta, Allavena, Garlanda, & Mantova, 2009).

The elucidation and evolution of inflammation are deeply seated in my academic nursing career, including research, teaching and even service aspects, as well as practice in critical care nursing that originally drew me to this area of inquiry. The primary purpose of this paper is to trace my involvement in the investigation and elucidation of inflammation during the decades in which inflammation expanded from being a response to injury to recognition that inflammation was a very complex process. Inflammation is no longer considered only the acute response of tissue to injury, but it also provides the milieu that contributes to major illnesses including, but not limited to, cardiovascular disease, diabetes, stroke and cancer. Additionally, the significance and often critical influences on my journey will be highlighted, as the success and enjoyment that I have obtained in my academic career of my career are due to many people, a number of important events, even some "luck," and biological discoveries and technological advances during the past 50 years.

## Inflammation and Intravenous Catheters: My Nursing Master's Thesis and First Grant

Selection of inflammation as a focus for my master's degree topic was an easy task. As a critical care nurse with 7 years of experience in the area at the time, I was well aware that my patients hated venipunctures to obtain blood samples, intravenous catheters inserted or anything related due to the associated pain. They seemed to remember in detail how many attempts specific nurses made to draw blood samples and insert intravenous catheters, and how much it hurt. Since the policy at my institution was to change intravenous catheters every 48 hours or more frequently with site inflammation, I was interested in factors associated with heparin-lock site phlebitis. Heparin-locks were the common venous access port used in the adult cardiac care unit (CCU) where I worked, and re-insertions were common. This actually formed the topic of my first research project, and a funded one at that. In an attempt to conduct a study using state-of-the-art methodology, a Yellow Springs Instruments Telethermometer (Model 43TA; Yellow Springs, OH) with probes to measure skin temperature was needed to replicate the methodology and operational definition of phlebitis used by Elizabeth G. Nichols and colleagues (1983) and reported in Nursing Research. This project was funded by the Arizona State University Associated Students Grant-in-Aid Program with most of the award spent for the thermometer purchase. As a CCU-nurse and novice investigator, I had anticipated that phlebitis should be linked to lack of site care, and I was surprised to discover that it was actually the number of manipulations including the number of times in was used, but also the frequency of care. In a nutshell, inflammation, the response of the body to injury, included injury due to good intentions and adherence to guidelines (Merkle, 1985).

After using this work in partial fulfillment for my master's degree, the most valuable learning experience was writing and receiving the Grant-in-Aid Award. I do thank and acknowledge many in my master's thesis, but the person that I omitted was Dr. Ellamae Branstetter, who was not a member of my thesis committee. She just happened to be assisting Arizona State University College of Nursing faculty in developing a graduate education grant at the time of my grant submission. Due to her strong encouragement, the grant was submitted. Much later, I learned that Dr. Branstetter, who was also a member of the Western Institute of Nursing (WIN), was a very prominent past faculty member of the College of Nursing at ASU. Some of her accomplishments included being one of three of the original ASU College of Nursing faculty members, for while being the only doctorally-prepared faculty member at the ASU College of Nursing. She also was developer and Director of the ASU College of Nursing Graduate Program, one-time Assistant Dean in the College, developer of the Nurse Practitioner option and nurse-run health clinic in Scottsdale, and Director of a 3 million dollar grant to fund training activities. I was very fortunate that Dr. Branstetter was available and agreed to review my grant. Upon learning of my second thoughts about submitting the grant, her message to me was "Of course you will submit this!" The second most value career lesson was to take good advice.

## Cell Secretion: A Central Mechanism to Inflammation

My master's degree work led the way for my doctoral studies, though I did not venture far staying at ASU. Dr. Patsy Perry, who later established the WIN Patsy A. Perry Young Investigator Award after her many years of service to the organization, had just joined the ASU College of Nursing faculty in 1985 and seemed to be the logical mentor. However the ASU College of Nursing had not yet established its Doctoral Program in Nursing, and the PhD was my goal. A PhD in Zoology, the biological field that focused on animals and included physiology, was the logical choice.

The biological field in the 1980s was characterized by a flurry of activity, change, and progress as information was rapidly accumulating in the newly-defined areas of cell and molecular biology. The early and mid- part of this decade were heavily focused on more basic mechanisms that were applicable to more cell types and organisms along the evolutionary spectrum. The later 1980s would be characterized by a transitioning in emphasis from understanding basic cellular and molecular mechanisms and their application to solving clinically-relevant and more disease-focused problems. Two of the many basic cellular mechanisms of investigative emphasis were calcium ion signaling in cells and cell secretion, the process by which cells release their products by exocytosis. Although both mechanisms were well delineated at the time in relation to neurotransmitter release from axons, involvement in many biological processes, including inflammation, was being examined and elucidated.

My doctoral student studies (Kazilek, Merkle & Chandler, 1988; Merkle & Chandler, 1989; Merkle & Chandler, 1991; Merkle & Chandler, 1993) focused on calcium signaling and the membrane events involved in cell secretion in the Laboratory of Dr. Douglas E. Chandler at ASU in the then Department of Zoology. Calcium signaling and cell secretion were very relevant to inflammation, as inflammatory cells release their products including inflammatory mediators, cytokines, hormones and enzymes to the extracellular environment by these mechanisms. To illustrate the role of calcium signaling and secretion during inflammation, the mast cell may be used as an example as it has a key role in initiating the inflammatory cascade. When numerous types of stimuli, some harmful, activate mast cells, intracellular calcium ion levels increase from normally low levels. The calcium ion rise triggers secretion with release of histamine and other mediators outside of the mast cells. Release of histamine and the other mediators causes swelling, redness, pain, warmth and loss of function, the cardinal signs of acute localized inflammation. Products of the mast cell are now known to participate in the pathophysiology and pathogenic processes of many diseases and altered health states, as well as maintaining and restoring healthy states (da Silva, Jamur, & Oliver, 2014).

Though, some of my studies involved neutrophils and mast cells, it is important to note that the majority of this work was done in sea urchin eggs. The sea urchin egg was a commonly used model for calcium ion signaling and cell processes such as secretion. The eggs were easy to harvest, manipulate, and use in experiments with the appropriate controls, while enabling one to make very relevant observations and contributions to the field. The calcium signaling and secretory mechanisms of sea urchin eggs have many similarities to those in mast cells, neutrophils, and most cell types. These doctoral studies demonstrated to me the value of model systems to begin addressing complex questions relevant to biology and ultimately clinical nursing. My early experiences using model systems had an important career-long influence.

In addition to the valuable experiences with model systems, my doctoral training exposed me to an exceptional mentor, Dr. Chandler. My research was a collaborative project, part of National Science Foundation (NSF) funded projects and Dr. Chandler's NIH Career Development Award that were a team effort of a laboratory of one post-doctoral fellow, four graduate students, one technician and frequent visiting scientists. My mentor was devoted to the team concept, and accomplishments and achievements of the Chandler Laboratory were due to the efforts of all laboratory members. Dr. Chandler personally instructed all members on scientific writing, presentation of papers, and making posters and slides. He introduced all to prominent scientists at scientific meetings, attended all of our presentations, and gave advice to advance our careers. He loved science and teaching, and he always saw the best in people.

Finally, my doctoral training years were influenced by the technological advances of the time. For me, technological advances included very costly electron microscopy that employed methods to avoid formaldehyde-fixation of cells and tissues, to expose vast cell membrane views with embedded membrane proteins, and to visualize the cell cytoskeleton and glycocalyx, structures that were previously undetectable by conventional thin-section electron microscopy. Additionally, fluorescent probes that enabled measurement of cellular calcium ions, pH, and other components were entering the market and revolutionizing the possibilities of what could be studied. Of interest, though, there was only one computer in our laboratory until my last year in the doctoral program, I knew of only two people with email addresses, and in order to read scientific papers of interest, one either went to the library or wrote to the investigator requesting that a reprint of the paper be mailed.

## Return to the Vasculature: Inflammation and the Microvasculature

Post-doctoral training provides a valuable opportunity to focus one's interests and begin establishing one's own program of research. My post-doctoral training centered on microvascular physiology, which brought my specific focus back to inflammation and clinically-relevant issues. There are important events that occur very early in acute inflammation that involve the microvasculature and its component endothelial cells. In response to inflammatory mediators, such as histamine, released at the site of injury, vasodilation increases blood flow to the area and contributes to redness and warmth at the injured site. Histamine-induced increases in capillary permeability cause edema by leakage of plasma proteins and increased fluid filtration into the injured tissue. Furthermore, endothelial cells that become activated during inflammation are able to capture leukocytes from the circulation and facilitate leukocyte transmigration through the wall of the microvessel to the site of injury.

The early events of inflammation are great significance. The early 1990s were particularly exciting times in microvascular research because cellular and molecular influences were entering the conventional focus on fluid mechanics, Starling's capillary forces and capillary membrane parameters. The endothelium was beginning to be recognized as a responsive and dynamic structure composed of endothelial cells that contained actin and myosin, had dynamic cell-cell junctions, and responded to the environment with changes in surface proteins and receptors via intracellular signaling mechanisms. Due to the continued rapid technological advances in the development of fluorescent probes, markers and antibodies, light microscopy with fluorescence and video-recording capabilities and computer-assisted measurement was expanding the possibilities and nature of studies to address physiological and pathophysiological problems and examine phenomena in vivo and real-time. Fluorescence microscopy was faster, less expensive and required less skill and training than electron microscopy, and it has the advantage of enabling studies in living animals while monitoring multiple parameters, including specific cell structures and proteins of interest simultaneously.

For one interested in inflammation, these were exciting times. Importantly, the role of the endothelium in the inflammatory response was being delineated in detail. Furthermore, clinically relevant issues were being examined and elucidated, so that the events within the vasculature during a myocardial infarction were being delineated. As a CCU-nurse, I was interested in changes related to blood flow stoppage in vascular beds such as the intestine, as I had cared for patients who survived their serious myocardial infarction, only to succumb to issues, such as necrosis in the gastrointestinal tract, shortly later. In the early 1990s, I joined Dr. Anne L. Baldwin's Laboratory, which was housed at the Benjamin W. Zweifach Microcirculatory Laboratories at the the Tucson Veterans Administration Medical Center, though Dr. Baldwin and other members of these Labs were faculty members at The University of Arizona College of Medicine, Department of Physiology. I begin this post-doctoral fellowship on an NIH Heart Blood and Lung T32 Training Grant on Training in the Microcirculation that was directed by Dr. Paul C. Johnson and had been continuously funded for some time. Using a rat model, we externalized small portions of the mucosal surface of the small intestine while leaving the circulation intact. Using fluorescently-tagged albumin, we were able to monitor changes in albumin uptake, as well as red cell movement, in the microcirculatory networks within an individual villus of the gut in response to blood flow perturbations (Merkle, Wilson, & Baldwin, 1998). Training in these then state-of-the-art methods in physiology to address very clinically-relevant issues led to four awards, which were the August Krogh Young Investigator Award from the Microcirculatory Society, the Best Abstract by a Post-doctoral Fellow from the Gastrointestinal Section of the American Society of Physiology, an F32 Individual Postdoctoral Training Grant from the then NIH National Center for Nursing, later to become the National Institute of Nursing Research (NINR), and finally, a Grant-in-Aid from the American Heart Association, National Center. The latter required that I prematurely terminate my post-doctoral fellowship and training, though Dr. Richard C. Schaeffer, Jr. supported in part my salary while I was on the American Heart Award in return for performance of electron microscopy work for his funded NIH award.

This period of my career was very exciting and challenging. In retrospect, this period instructed my about NIH training grants, both institutional awards and individual fellowships. These mechanisms benefited me personally and later graduate students and post-doctoral fellows training in my laboratory and with other faculty members at The University of Arizona College of Nursing. Additionally, it gave me additional confidence in my ability to write grants. Finally, due to my working relationship with Dr. Schaeffer, I learned the techniques of cell culture and I was given access to a very nice cell line of bovine pulmonary artery endothelial cells that he developed to study adult respiratory disease syndrome. Through our collaboration, I learned more about inflammation, inflammatory mediators, and related cell signaling, cytoskeletal changes and permeability changes in endothelial cells. This knowledge and experience would assist me in developing cell culture models to study stress and wound healing, the aging vasculature and cancer-endothelial cell interactions, as well as supervise graduate student projects in the future. Finally, the National Center for Nursing Research was developing a 10-year plan to increase the number of nurse scientists employing state-of-the-science methodology in nursing research and published a report on the topic during this period (Cowan, Heinrich, Lucas, Sigmon

& Hinshaw 1993). This had a significant impact on my career. First, I learned that the NIH National Center for Nursing Research and later NINR were interested in nurses using biological methods to study clinically-related problems. Secondly, I learned that Cowen et al. (1993) considered the methods that I used in my master's thesis project, specifically the telethermometer for measuring skin temperature differences, to be sub-state-of-the-art. Finally, I along with Dr. Schaeffer, as a co-investigator, submitted an R03 employing electron microscopy to examine endothelial ultrastructure in response to inflammatory mediators to align with goals of the 10-year plan initiative to train nurse scientists in biological methods. This grant was funded and became my first non-training Federal award.

## Biological Models to Address Clinically-Relevant Questions

In the Spring of 1994, Dr. Dana Epstein, who was a Post-doctoral Fellow at the Tucson VA Medical Center and supported by a Department of Veteran's Affairs mechanism on which I served as a consultant, came to visit my laboratory to let me know that The University of Arizona College of Nursing was seeking a tenure-track faculty member to teach undergraduate pathophysiology, and that she thought I should apply for the position. "What are the qualifications? I asked. She did not know, but assured me that I met them, whatever they were. I applied and got the job, and I have been there ever since. Early on I once told Dr. Joyce Verran, when she was the Division Director of the then Adult Health Division at the College, that I really doubted my ability to be successful in an academic position split between teaching, research and service. She disagreed, but I still maintain that view over 20 years later.

So, equipped with a laboratory at the Tucson VA Medical Center, soon to be renamed the Southern Arizona VA Healthcare System, and an academic tenure-track position, I, along with Dr. David W. Montgomery, who was interested in immune function and a fellow VA scientist, as a co-investigator submitted my first R01-level grant on prolactin (PRL), as a stress hormone, to study its effects on endothelial injury. This project was conceived in part from my early experiences as a nurse with a patient, who was a Holocaust survivor and had numerous health problems necessitating surgeries. After every surgery, it seemed that all that could go wrong did, and she just did not heal without complications. This patient with possible stress and healing interactions was in the back of my mind for over 20 years. Thoughts resurfaced after teaching undergraduate pathophysiology for a few semesters, upon learning that PRL, well known as the hormone responsible for breast growth during pregnancy and lactation post partum, was also a stress hormone that became elevated during times of emotional and physical stress. By elevated, one meant from a normal plasma level of about 5 ng/ml to over 1000 ng/ml during anesthesia and surgery, as stressful events. Yet the effects of stress-induced PRL were unknown at the time and remain in need of thorough elucidation to this day. Dr. Montgomery had been examining PRL as an immunoregulatory cytokine produced by lymphocytes and had experience studying PRL and its receptor. Our overarching hypothesis was that elevated PRL altered wound healing by way of endothelial responses. Indeed, we found that PRL altered endothelial cell motility post injury in a U-shaped concentration-dependent manner as commonly seen with cytokines, that PRL was internalized by endothelial cells and localized in the nucleus after injury, and finally that the 23-kD PRL receptor was expressed by injured endothelial cells, but not in uninjured cells (Merkle, Schuler, Schaeffer, Gribbon, & Montgomery, 2000). This was the first report of an endothelial PRL receptor.

In the 2000s, the majority of my work focused on extending a very interesting observation made by Dr. Jean M. Gribbon Baruch, then a graduate student. When examining in vitro breast cancer-endothelial cell interactions in the presence of stress hormones under a microscope, Dr. Baruch noticed that breast cancer cells when added to vascular endothelial cells caused gap formation between neighboring endothelial cells, breaking their cell-cell junctions. If the observation period continued, it seemed that the endothelial cells reformed a tight layer over the cancer cells. Of great interest, if the endothelial cells were aged in culture, the gaps became very large and persisted due to failure of the endothelial monolayer to reform.. These observations led us to hypothesize that aged endothelial cells would likely facilitate breast cancer metastasis, as a key step in the so-called metastatic cascade is extravasation of the tumor cells into the blood and lymph vascular, where they can then be transported to distant sites in the body and colonize organs, if proper conditions exist. A project based on these observations was funded by the Department of Defense Breast Cancer Research Program. Using cell culture models, an aged endothelial cell line was established having sequentially cultured cells that demonstrated telomere shortening (Merkle, Torres, Baruch, Stevens, Munoz, Schaeffer, & Montgomery, 2005), which is a key characteristic of aged cells. Using this aging model, experiments showed that aged endothelial cells formed larger and persistent gaps between neighboring endothelial cells in response to breast cancer cell addition compared to younger cells. This response was accompanied by apoptosis, programmed cell death, and was a response specific to breast cancer cells. Gaps between endothelial cells did not form when non-tumor breast epithelial cells were added. In a model system in which the endothelial cells were grown on porous filters, significantly more breast cancer cells passed between aged cells, compared to the younger cells (Merkle et al., 2005). These studies were consistent with the notion that aged cells would facilitate cancer metastasis by enabling more cancer cells to enter the vasculature. Importantly, the observations were consistent with the idea that cancer injured the vasculature and additional studies showed that injury was associated with increased susceptibility of the aged endothelial cells to hydrogen-peroxide produced by the breast cancer cells when added to the endothelial cells.

Another series of studies related to cancer and the vasculature were conducted using model systems to better understand cancer treatment-related untoward effects. My collaborator Dr. Ida M. (Ki) Moore has been interested for decades in treatment-related cognitive deficits in children with acute lymphoblastic leukemia. Over the years, Dr. Moore, Dr. Montgomery and I have performed a number of projects addressing this issue using biological models, initially using cell culture models and more recently using rat models. Using cells in culture, we investigated the effects of commonly used chemotherapeutic agents on vascular endothelial cells to better understand the effects of these drugs on the vasculature, perhaps giving clues as to why many children showed cognitive decline after intrathecal treatment using these agents. The findings were that both methotrexate and cytosine arabinoside caused apoptosis to endothelial cells (Merkle, Moore, Penton, Cueny, Torres, Schaeffer, & Montgomery, 2000; Moore, Merkle. Miketova, Salyer, Torrez, Schaeffer, & Montgomery, 2006). The surprising finding in both these studies, however, was that these drugs caused apoptosis in mitotically quiescent, i.e., non-dividing cells, endothelial cells. Cancer chemotherapy is expected to kill rapidly dividing cells, however injury to non-dividing endothelial cells was completely unexpected. Since, both of these drugs have been used in treating cancer for decades, it was very unexpected to discover they we were the first to publish such a seemingly basic observation.

In more recent studies to better examine the effects of methotrexate on the brain, an animal model was developed using rats in which methotrexate was infused into the cerebrospinal fluid via the ventricle by osmotic pump and brain infusion cannula to mimic intrathecal methotrexate administration as a treatment for acute lymphoblastic leukemia. Results from a pilot study showed greater neuronal degeneration in certain areas of the cortex and the hippocampus, as well as down-regulation of genes associated with protection from injury, oxidant defense and apoptosis/inflammation, in methotrexate-treated animals compared to controls (Moore, Merkle, Byrne, Ross, Hawkins, Ameli & Montgomery, in press). Since these areas of the brain are associated with learning and memory, findings in this model may provide additional insight into the cognitive deficits experienced by children after intrathecally-delivered methotrexate treatment.

Clearly, these various biological models have enabled us to begin addressing a number of clinically-relevant questions that cannot be studied in human subjects due to ethical issues. Equally important as the models have been the technological advances related to microscopy, fluorescent probes and tags, antibodies and genomics. The availability of funding through Federal agencies; foundations, including the Oncology Nursing Foundation and Alex's Lemonade Stand, have made this work possible. In return for being grateful to these agencies for funding to support the work, I am also thankful for the opportunity to review grants for the NIH, but primarily for the Department of Defense Breast and Prostate Cancer Programs since 2003. Service as a grant reviewer provides an outstanding educational opportunity to stay current on the science and methodology relevant to one's areas of interest.

Finally, I acknowledge the many talented and dedicated students from all of The University of Arizona College of Nursing Programs who participated in these projects. Jennifer Geoghegan performed two funded projects, completed her Honors thesis and is currently a plastic surgeon in Scottsdale, Arizona. Dr. Jean M. Gribbon founded and directs the non-profit organization Beads of Courage to support children being treated for cancer. Sara Sadri Ameli is currently in the PhD/DNP Program at The University of Arizona. These are just a few of the many outstanding students, who have worked in the lab over the years. The students coupled with exceptional technicians, such as Ms. Bonny Torres, have contributed to the success of our laboratory efforts to address clinical problems related to injury and inflammation. As final note under the topic of biological models to address clinically relevant questions is the value and influence of service involvement in academia.

## Moving the Science Forward: Exploratory Centers and Training Grants on Injury Mechanisms and Related Responses

Between 2001 and 2008, Dr. Moore and I along with Dr. Leslie Ritter and Dr. Paula Meek successfully developed and secured NIH NINR funding for an Exploratory Center, supported by an original award and continuation award, and a T32 Institutional Training grant. Both the Center on Injury Mechanisms and Related Responses and the institutional training grant with the same title had a strong focus on inflammation. In brief, the organizing framework that we developed viewed sources of injury contributing to physiological responses that maybe modified by numerous factors to alter health outcomes. Sources of injury included physical factors, hypoxia, temperature extremes, oxidative stress, neoplasms, toxic chemicals, genetic factors, nutritional deficits, and inflammatory/immune factors. The goal was to understand injury mechanisms and related responses more thoroughly to optimize health outcomes. Funds from the center grants enabled us to equip our College Core Biobehavioral Laboratory with state-of-the-art common-use equipment, particularly those items needed for molecular/genetic studies. Funds also supported exploratory studies related to injury mechanisms and related responses, particularly ones that would expand projects to include biological methods and measures. There were also funds to bring in speakers with expertise in biological and molecular methods to give seminars on their research and to provide consultation during their visits. The Center and Training Grant also sponsored WIN events, such as symposia and round table discussions. The T32 Training Grant enabled the support of qualified PhD students and post-doctoral fellows who were interested in biologically-based projects and/or techniques related to injury mechanisms and related responses.

The Center was very successful in moving the science forward and many times in assisting both faculty and trainees to learning about and/or performing state-of-the-science techniques related to injury mechanism and related responses. The Center faculty members, often with contributions from doctoral students and post-doctoral fellows, assembled high quality conference symposia, including WIN conference symposia, related to either substantive themes within the injury mechanism and related responses framework or biologically-based techniques. The Center did move the science forward by assisting incorporation of state-of-the state biological methods into projects that were externally funded. An example was the project entitled "Biological Age and Capacity for Self-Management: Implications for Nursing" developed by Dr. Kathleen C. Insel and funded as R03 NR100100. Here Dr. Insel used telomere length, as determined using real-time quantative polymerase chain reaction technology, to evaluate the biological age of the subjects (Insel, Merkle, Hsaio, Vidrine, & Montgomery, 2012).

Two examples of past trainees funded by the T32 Training Grant are Dr. Ted Rigney, who received support as a doctoral student, and Dr. Donna Velasquez, who received support as a post-doctoral fellow. Both conducted biologically related-projects with an injury mechanism and related response focus. Both have academic appointments and are active in the education and training of doctoral students in nursing. Dr. Velasquez has been and continues to be very active in WIN and its activities.

An important benefit to having a Center and T32 Training Grant on an area of interest is that these benefited many faculty members and students, including those not receiving financial support. The training grant offered me the opportunity to develop a doctoral-level course on endothelial injury and dysfunction. Another "indirect benefit", during the years of the Center and T32 Training Grant, I was very fortunate to work with two graduate students, the now Dr. Charles A. Downs and Dr. Helena Morrison, as Dissertation Chair and Dissertation Committee Member, respectively. These two stellar former graduate student trainees were trainees of individually-awarded F31 Training Grants. Both were highly successful in incorporating state-of-the-art biological and molecular methodology into their dissertation projects that focused on elucidating injury mechanisms related to clinically-relevant questions regarding smoking-related lung responses and stroke using biological presenting models (Downs, Montgomery, & Merkle, 2011a; Downs, Merkle, & Montgomery, 2011b; Morrison, Frye, Davis-Gorman, Funk, McDonaugh, & Ritter, 2011; Morrison, Frye, & Ritter, 2011). Both received additional grants to support their doctoral research and their post-doctoral/young investigator training, and both have positioned themselves well for academic careers focusing on inflammation.

## Central Roles for Inflammation in Complex Mechanisms: The Future

In recent years, Dr. Shu-Fen Wung and I have become very interested in the emerging science of inflammation as a systematic problem that poses risk for diseases and altered health conditions including acquired cardiovascular disease, diabetes, cancer, cognitive decline, depression, and many others. In a project funded by the Oncology Nursing Society Foundation, we have begun to investigate shared risk factors for cardiovascular disease and breast cancer (Wung, Hepworth, Sparenga, & Merkle, 2015). The reviewer's comments were very positive with stated enthusiasm. I was pleased to read the praise, as I was a bit concerned. Why? Because diet, exercise, weight reduction, adequate sleep, stress reduction, environment chemicals, and other lifestyle factors as interventions to reduce inflammation and prevent chronic diseases-associated with systematic inflammation are topics of interest to the general public, as evidenced by the popularity of television programs, such as the Dr. Oz Show. We are so bombarded with information and buzz about inflammation, its reduction and health benefits, I was concerned that the reviewers might feel that it was a "ho hum" topic. The take home message perhaps being that this area of inquiry is new and a lot needs to be investigated prior to really understanding the role inflammation in these many conditions and how to reduce risk.

I am very proud to report that The University of Arizona College of Nursing has at least four very promising young investigators who are continuing the quest to better understand inflammation. Dr. Charles A. Downs has recently rejoined the College as an assistant professor and to build upon and expand his interests in inflammation and lung injury, while incorporating additional area such as diabetes (Downs & Faulkner, 2015). Dr. Helena Morrison rejoined the College two years ago and is focusing on, no pun intended, the role of the microglia in neuroinflammation (Morrison & Filosa, 2013). Dr. Sheila Gephart, former recipient of an individual NIH F31 training grant and current recipient of an NIH Clinical Investigator Award, has continued her affiliation with the College and transitioned smoothly between doctoral student and assistant professor, while further devoting her investigative attention to inflammatory issues in the neonate (Newnam, Gephart, & Wright, 2013). Finally, Dr. Tad Pace, who joined the faculty about three years ago is very involved in examining inflammation and psychosocial factors (Pace, Negi, Dodson-Lavelle, Ozawa-de Silva, Reddy, Cole, ... Raison, C. L., 2013). Thus, I have faith also that the "psychosocial" part of the full title of Irene Beland's clinical nursing textbook is finally getting addressed with respect to inflammation and so that it really can be viewed as much more than a response to injury.

---

**Funding:** Associated Students of Arizona State University Graduate Student Grant-in-Aid Program; American Heart Association, National Center and Sandofi-Winthrop; NIH T32-HL07249 (post-doctoral fellow); NIH F32-NR06908; NIH R03-NR03822; NIH R01-NR04343; NIH 5F31-NR007424 (Sponsor); NIH P20-NR07794; NIH 5F31-NR010843 (Sponsor); NIH R03-NR010100 (Advisor); Department of Defense USAMRMC BC010756; Oncology Nursing Society Foundation-Bristol Myers Squibb; Oncology Nurses Foundation/American Brain Tumor Association Neuro-Oncology Nursing Research Grant (Co-investigator); Oncology Nursing Society Foundation (Co-PI); Alexis' Lemonade Stand Foundation (Co-investigator)

## References:

Beland, I. L. (1970). *Clinical nursing: Pathophysiological and psychosocial approaches* (2nd ed.). New York, NY: The Macmillan Company.

Colotta, F., Allavena, P., Garlanda, C., & Mantova, A. (2009). Cancer-related inflammation, the seventh hallmark of cancer: Links to genetic instability. *Carcinognesis*, *30* (7), 1073-1081.

Cohen, S., Bigazzi, P. E., & Yoshida, T. (1974). Similarities of T cell function in cell-mediated immunity and antibody production. *Cellular Immunity*, *12*, 150-159.

Cowan, M. J., Heinrich, J., Lucas, M., Sigmon, H., & Hinshaw, A. S. (1993). Integration of biological and nursing sciences: A 10-year plan to enhance research and training. *Research in Nursing & Health*, *16*, 3-6.

da Silva, E. Z., Jamur, M. C., & Oliver, C. (2014). Mast cell function: A new vision of an old cell. *Journal of Histochemistry & Cytochemstry*, *62*(10), 698-738.

Downs, C. A., & Faulkner, M. S. (2015). Toxic stress, inflammation and symptomology of chronic complications in diabetes. *World Journal of Diabetes*, *6* (4), 554-565.

- Downs, C. A., Montgomery, D. W., & Merkle, C. J. (2011a). Age-related differences in cigarette smoke extract-induced H 2O 2 production by lung endothelial cells. *Microvascular Research*, *82*(3), 311-317.
- Downs, C. A., Montgomery, D. W., & Merkle, C. J. (2011b). Cell culture models using rat primary alveolar type I cells. *Pulmonary Pharmacology and Therapeutics*, *24*(5), 577-586.

Gery, I. & Waksman, B. H. (1972). Potential of the T-lymphocyte response to mitogens. II. The cellular source of potentiating mediator(s). *The Journal of Experimental Medicine*, *136*,1), 143-155.

Insel, K. C., Merkle, C. J., Hsiao, C. P., Vidrine, A. N., & Montgomery, D. W. (2012). Biomarkers for cognitive aging part I: Telomere length, blood pressure and cognition among individuals with hypertension. *Biological Research for Nursing*, *14*(2), 124-132.

Isaacs, A., & Lindenman, J. (1957). Virus interference. I. The interferon. *Proceedings of the Royal Society of London Series B, Biological Sciences*, *147*(927), 258-256.

Kazilek, C. J., Merkle, C. J., & Chandler, D. E. (1988). Hyperosmotic inhibition of calcium signals and exocytosis in rabbit neutrophils. *American Journal of Physiology - Cell Physiology*, *254*(5), C709-C718.

Merkle, C. J. (1985). *Inflammation and number of entries into the heparin-lock*. (Unpublished Masters Thesis). Arizona State University, Tempe, AZ.

Merkle, C. J., & Chandler, D. E. (1993). Visualization of exocytosis by quick freezing and freeze-fracture. *Methods in Enzymology*, *221*, 112-123.

Merkle, C. J., & Chandler, D. E. (1991). Cortical granule matrix disassembly during exocytosis in sea urchin eggs. *Developmental Biology*, *148*(2), 429-441.

Merkle, C. J., & Chandler, D. E. (1989). Hyperosmolality inhibits exocytosis in sea urchin eggs by formation of a granule-free zone and arrest of pore widening. *The Journal of Membrane Biology*, *112*(3), 223-232.

Merkle, C. J., Moore, I. M. K., Penton, B. S., Torres, B. J., Cueny, R. K., Schaeffer, R. C., & Montgomery, D. W. (2000). Methotrexate causes apoptosis in postmitotic endothelial cells. *Biological Research for Nursing*, *2*(1), 5-14.

Merkle, C. J., Wilson, L. M., & Baldwin, A. L. (1998). Acute blood stasis reduces interstitial uptake of albumin from intestinal microcirculatory networks. *American Journal of Physiology - Heart and Circulatory Physiology*, *274*(2), H600-H608

Merkle, C. J., Schuler, L. A., Schaeffer R.C., J., Gribbon, J. M., & Montgomery, D.

W. (2000). Structural and functional effects of high prolactin levels on injured endothelial cells: Evidence for an endothelial prolactin receptor. Endocrine, 13(1), 37-46.

Merkle, C. J., Torres, B. J., Baruch, J. M., Stevens, K., Munoz, C., Schaeffer, R. C., & Montgomery, D. W. (2005). In vitro age-related responses of endothelial cells to breast cancer cell addition. Cancer Detection and Prevention, 29(6), 518-527.

Moore, I. M., Merkle C.J., Miketova, P., Salyer, R. K., Torres B. J., Schaeffer, R. C., & Montgomery, D. W. (2006). Cytosine arabinoside induces programmed endothelial cell death through the caspase-3 pathway. Biological Research for Nursing, 7, 289-296.

Moore, I. M., Merkle C.J., Byrne, H., Ross, A.., Hawkins, A. M., Ameli, S. S., & Montgomery, D. W. (in press). Effects of intra-ventricular methotrexate on neuronal Injury and gene expression in a rat model: Findings from an exploratory study. Biological Research for Nursing.

Morrison, H. W., & Filosa, J. A. (2013). A quantitative spatiotemporal analysis of microglia morphology during ischemic stroke and reperfusion. Journal of Neuroinflammation, 10(4).

Morrison, H., Frye, J., Davis-Gorman, G., Funk, J., McDonagh, P., Stahl, G., & Ritter, L. (2011). The contribution of mannose binding lectin to reperfusion injury after Ischemic stroke. Current Neurovascular Research, 8(1), 52-63.

Morrison, H., McKee, D., & Ritter, L. (2011). Systemic neutrophil activation in a mouse model of ischemic stroke and reperfusion. Biological Research for Nursing, 13(2), 154-163.

Newnam, K., Gephart, S. M., & Wright, L. (2013). Common complications of dysregulated inflammation in the neonate. Newborn and Infant Nursing Reviews, 13(4), 154-160.

Nichols, E. G., Barstow, R. E., & Cooper, D. (1983). Relationship between incidence of phlebitis and frequency of changing IV tubing and percutaneous site. Nursing Research 32, (4), 247-252.

Pace, T. W. W., Negi, L. T., Dodson-Lavelle, B., Ozawa-de Silva, B., Reddy, S. D., Cole, S.P., ... Raison, C. L. (2013). Engagement with cognitively-based compassion training is associated with reduced salivary C-reactive protein from before to after training in foster care program adolescents. Psychoneuroendocrinology, 38(2), 294-299.

Wung, S. F., Hepworth, J. T., Sparenga, D., & Merkle, C. J. (2015). Cardiovascular disease risk and breast cancer outcomes: A pilot study. Oncology Nursing Forum, 42(5), E330-E338.

## The Carol A. Lindeman Award for a New Researcher Paper

# DECISION-MAKING INVOLVEMENT OF HOSPITALIZED PATIENTS WITH DEMENTIA: A DYADIC STUDY

*Lyndsey M. Miller, RN, BSN, BA*
*PhD Candidate*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

# DECISION-MAKING INVOLVEMENT OF HOSPITALIZED PATIENTS WITH DEMENTIA: A DYADIC STUDY

*Lyndsey M. Miller, RN, BSN, BA*
*PhD Candidate*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

The continued involvement of a person with dementia (PWD) in decision making is an important goal for both the PWD and the family caregiver (Fetherstonhaugh, Tarzia, & Nay, 2013; Samsi & Manthorpe, 2013). Although researchers have often examined the involvement of PWDs in medical and treatment decisions (e.g. Hirschman, Xie, Feudtner, & Karlawish, 2004; Horton-Deutsch, Twigg, & Evans, 2007; Karel, Gurrera, Hicken, & Moye, 2010; Karlawish, Casarett, Propert, James, & Clark, 2002), PWDs are often more concerned with remaining involved in everyday decisions about daily activities and functioning (e.g. choosing who to help with care or where to live) (Feinberg & Whitlatch, 2002; Menne & Whitlatch, 2007; Murphy & Oliver, 2013; Samsi & Manthorpe, 2013). The substantial challenges of involving PWDs in decision making within the acute care setting have recently been highlighted (Nilsson, Rasmussen, & Edvardsson, 2013). Discharge planning begins at admission for hospitalized patients, and decisions about everyday aspects of the PWD's life are an important part of the discharge plan. Yet, there are no known studies that have examined the involvement of hospitalized PWDs in everyday decisions from either the PWD's or the family caregiver's point of view.

Compared to other older adults, PWDs experience three times as many hospitalizations (Thies & Bleiler, 2013). Readmission and mortality rates in hospitals are also higher among PWDs than other older adults (Callahan et al., 2012), and PWDs have half the survival time as other older adults after discharge from an unplanned hospitalization (Sampson, Leurent, Blanchard, Jones, & King, 2013). Some PWDs have described the experience of a hospitalization as stressful and threatening (Edvardsson & Nordvall, 2008), while family caregivers have reported high levels of depressive symptoms during the hospitalization of a relative with dementia (Epstein-Lubow et al., 2012; Shankar, Hirschman, Hanlon, & Naylor, 2014). The frequency of hospitalizations for PWDs–as well as the adverse effects of hospitalizations on PWDs and their family caregivers–likely creates substantial challenges to decision making among PWD-family caregiver dyads.

In order to understand dementia decision making, there is a need for a dyadic perspective (PWD and family caregiver). Whereas the family caregiver's perspective is often solicited in research, inclusion of the PWD's perspective is also warranted given the evidence supporting the reliability of PWDs' self-report. For example, PWDs have consistently and reliably reported on their own quality of life (Logsdon, Gibbons, McCurry, & Teri, 2002), well-being (Mak, 2011), depressive symptoms (Parmelee, Lawton, & Katz, 1989), and care values and preferences (Whitlatch et al., 2005), even with a moderate amount of cognitive impairment. In addition to their ability to contribute to everyday decisions, community-dwelling PWDs report better quality of life when their involvement in everyday decision-making is higher (Menne, Tucke, Whitlatch, & Feinberg, 2008). At the same time, impairments to executive function and insight, which are common in dementia, affect PWDs' abilities to make decisions independently (Kensinger, 2009; Orfei et al., 2010; Sörensen, Mak, & Pinquart, 2011), and as a result, family caregivers' are often needed to make the crucial link between what a PWD values and the particular decisions at hand (Gillick, 2013).

The dementia theory of personhood supports the inclusion of PWDs in decision making and calls for greater support of the PWD's autonomy (Kitwood & Bredin, 1992). One of the central tenants of personhood is knowing the PWD in detail, and respecting the PWD's choices (Kitwood, 1990). Person-centered care (an approach to dementia caregiving developed from personhood) emphasizes the unique perspective of the PWD instead of characterizing all PWDs by the hallmarks of dementia (Penrod et al., 2007). Researchers of person-centered care in the hospital setting also call for more individualized care and the involvement of PWDs in decision making (Edvardsson, Nilsson, Fetherstonhaugh, Nay, & Crowe, 2013). Studies of community-dwelling PWDs and their family caregivers have linked the PWD's involvement in decision making to the extent of the PWD's autonomy, and have also revealed other determinants of perceptions of decision making such as lower levels of cognitive impairment in the PWD, higher quality of life in the dyad, and less depression in the PWD (Menne et al., 2008; Menne & Whitlatch, 2007).

The purpose of this study is to examine the everyday decision-making involvement of PWDs from the perspectives of hospitalized patients with dementia and their family caregivers, and to identify factors associated with perceptions of greater involvement of patients in decision-making.

## Methods

Participants for this study were recruited from the inpatient acute care setting in a university hospital in the Pacific Northwest. Approval was obtained from the Institutional Review Board for this study. A convenience sample of 42 dyads was enrolled that met the following eligibility criteria. **Inclusion criteria**. PWDs needed to be age 65 or older, admitted to an acute care unit, have symptoms consistent with mild to moderate dementia, and self-report a probable or current diagnosis of an irreversible progressive dementia: Alzheimer's disease, vascular dementia, Lewy body dementia, or frontotemporal dementia. Family caregivers needed to be age 21 or older, nominated by the PWD as the primary family caregiver (primary family caregiver is defined as the family member who is most involved in care at home). PWDs needed to have a score of at least 13 (moderate dementia) on the Mini-Mental State Exam, which corresponds to reliable, consistent reporting in previous studies using this criterion (Feinberg & Whitlatch, 2001; Logsdon, Gibbons, McCurry, & Teri, 2002; Parmelee, Lawton, & Katz, 1989; Whitlatch, Feinberg, & Tucke, 2005). Finally, both PWDs and family caregivers needed to be willing to participate, able to provide informed consent, and able to complete the requirements of the study. **Exclusion criteria.** Dyads were ineligible if either the PWD or family caregiver was unable to speak English, or if the PWD had unresolved delirium or altered level of consciousness, which was assessed by the direct care RN prior to screening for interest.

After the investigators screened patient records for potentially eligible participants (confirming dementia diagnosis), the PWD's direct care RN screened patients and family caregivers for interest in the study. The researcher confirmed eligibility and interest, and obtained informed consent from each member of the dyad prior to enrollment in the study. Individual members of each dyad completed one interview in-person within the acute care unit. Interviews were conducted in private without the other member of the dyad present.

## Measures

**Decision-making involvement of the PWD** was measured among PWDs and family caregivers using parallel versions of the Decision-Making Involvement Scale developed specifically for the dementia dyad (Menne et al., 2008). The measure consists of 15 items, scored on a 4-point scale ranging from 0 (not involved at all) to 3 (very involved). The scale ranges from 0 to 21 with higher scores indicating more PWD decision-making involvement. This measure has previously been used among older adults with cognitive impairment and their family caregivers, with established validity and reliability (Menne et al., 2008; Reamy, Kim, Zarit, & Whitlatch, 2011). The reliability in this study was excellent (PWD α = .89; family caregiver **α = .87).**

**Cognitive status** of PWDs was screened and measured with the 11-item Mini-Mental State Examination (MMSE) (Folstein, Folstein, & McHugh, 1975). The MMSE is designed for clinician assessment of orientation, working memory, language, delayed recall, and attention/comprehension. The scale range is 0 to 30, with higher scores indicating higher cognitive function. It is used widely in research and has good reliability (test-retest r = .89) and validity (predictive and concurrent validity) among PWDs (Fillenbaum, Heyman, Wilkinson, & Haynes, 1987; Mitchell, 2009; Tombaugh & McIntyre, 1992).

**Depressive symptoms** were measured among PWDs and family caregivers using the 20-item Center for Epidemiological Studies-Depression scale (Radloff, 1977). Each item is a statement of a feeling that the participant may have experienced for some duration during the past week. Items are rated on a 4-point scale ranging from 0 (rarely or none of the time) to 3 (most or all of the time). Scores range from 0 to 60, with higher scores indicating more depressive symptoms. This measure has been used widely among older adults, with demonstrated validity and internal consistency (Bierman, Comijs, Jonker, & Beekman, 2007; Sebern & Whitlatch, 2007). The reliability in this sample was adequate to good (PWD α = .71; family caregiver **α = .84)**.

**Importance of autonomy to the PWD** was measured among family caregivers using a subscale of the Care Values Scale developed specifically for caregiving dyads where the care recipient is a person with cognitive impairment (Whitlatch et al., 2005). The autonomy subscale has 7 items that describe a care value around autonomy (e.g. do things for him/herself) and are rated according to the importance to the PWD on a 3-point scale: 1= not at all, 2= somewhat, 3= very. The total score is averaged for a scale range of 1 to 3, with higher scores indicating that the family caregiver perceives the PWD to place more importance on their autonomy. The reliability in this sample was good (**α = .79**).

**Quality of life** was measured among PWDs and family caregivers using the Quality of Life-Alzheimer's Disease Scale (QOL-AD), a 13-item measure of quality of life designed for adults with and without dementia (Logsdon et al., 2002). Each item is a question pertaining an aspect of the respondent's life. Responses are rated on scale from 1 (poor) to 4 (excellent) for a possible range of 13 to 52, higher scores indicating greater quality of life. Reliability in this sample was good (PWD **α** = .77; family caregiver **α** = .85).

## Analytic Approach

Analyses of the dyadic data collected in this study was conducted using multilevel modeling and the software program HLM, version 7 (Raudenbush, Bryk, & Congdon, 2011). The multivariate outcomes model (separate PWD/family caregiver outcomes) can be achieved using multilevel modeling while still estimating and controlling for the degree of shared variance in the dyad. In this study, level 1 data included PWDs and family caregivers, which were nested within the level 2 PWD-family caregiver dyad (the unit of analysis). The level 1 model estimated the average values and the variability around the averages for the two parallel measures (one for the PWD and one for the family caregiver) of perceptions of the PWD's decision-making involvement. Predictors were introduced in level 2 to explain the variability around the average. The ability to examine this variability and go beyond group differences is a distinct advantage of multilevel modeling.

***Level 1 model***. Within-dyad variation was modeled at Level 1, where the outcome is the sum of the true score and measurement error. In the equation,

$$[\ \text{Decision}_{ij} = \beta_{1j}\ (\text{PWD}_{ij}\ ) + \beta_{2j}\ (\text{CG}_{ij}\ ) + r_{ij}\ ]$$

$\text{Decision}_{\text{ij}}$ represents the outcome parallel score i in dyad j. PWD is an indicator variable taking on a value of 1 if the response was obtained from the PWD, or taking on a value of 0 if the response was obtained from the family caregiver. Similarly, CG is an indicator variable taking on a value of 1 if the response was obtained from the family caregiver, or taking on a value of 0 if the response was obtained from the PWD. The latent true scores of perceptions of the PWD's decision-making involvement for PWDs and family caregivers are represented by $\beta_{1j}$ and $\beta_{2j}$, respectively. Error is represented as $r_{ij}$. Thus, PWDs' average perceptions of their own decision-making involvement (Decision) is the sum of their latent true score ($\beta_{1j}$) and measurement error ($r_{ij}$); or, family caregivers' average perceptions of PWDs' decision making involvement (Decision) is the sum of their latent true score ($\beta_{2j}$) and measurement error ($r_{ij}$).

***Level 2 model***. Between-dyad variation was modeled at Level 2. Based on the theoretical framework, previous literature, and preliminary correlational analysis, independent variables were included in Level 2 models where the parameters for latent true scores of PWDs ($\beta_{1j}$) and family caregivers become the outcome variables ($\beta_{2j}$).

## Results

Patients with dementia were age 80±8 years, predominantly non-Hispanic white ethnicity/race (95%), had an average MMSE score of 21±4, and a slight majority (55%) were male. The most common dementia diagnosis among patients was Alzheimer's disease (40%), followed by vascular dementia (29%), mixed or unknown dementia type (24%), fronto-temporal dementia (5%), and lewy body dementia (2%). Family caregivers were age 61±13 years, predominantly non-Hispanic white ethnicity/race (93%), mostly female (75%), and were either adult children (70%) or spouses (30%) of patients. Average ratings of depressive symptoms (CES-D) among PWDs were 12.26 ±6.08, and among family caregivers were 11.19±8.60 (scale 0-60). Quality of life ratings among PWDs averaged 31.33±4.94 and among family caregivers averaged 35.15±5.65 on the QOL-AD scale (range 13-52). Finally, family caregivers rated the importance of autonomy to the PWD as 2.19±.49 on the CVS sub-scale (range 1-3).

Average ratings of the PWD's decision-making involvement were 14.78±0.70 and 14.66±.69 for PWDs and family caregivers, respectively (DMI scale range 0-21), indicating that, on average, both members of the dyad perceived the PWD as being "somewhat" involved in everyday decisions. There was a significant amount of variability around the average perceptions of PWD involvement in decision-making from the perspective of both PWDs ($\chi^2 = 351.02$, $p < .001$) and family caregivers ($\chi^2 = 327.01$, $p < .001$). Both PWDs and family caregivers were significantly more likely to perceive greater PWD involvement in decision-making when the family caregiver reported the PWD as valuing autonomy (see Table 1). Additionally, PWDs were significantly more likely to report greater involvement when they rated their own depressive symptoms as low and had greater cognitive function. Finally, family caregivers perceived significantly greater involvement of the PWD in decision-making when they rated their own quality of life as high. Together, these variables accounted for 51% and 46% of the variability in PWDs' and family caregivers' perceptions, respectively, of the PWD's decision-making involvement.

## Discussion

The current study is a dyadic examination of the decision-making involvement of PWDs in everyday types of decisions, and it is one of the first such studies known to include hospitalized PWDs and their family caregivers. Results indicated several important findings. First, PWDs and family caregivers shared similar average ratings of the PWD as being "somewhat" involved in decision making. Second, there was significant variability around the average perceptions for both PWDs and family caregivers. Third, several determinants were identified as being significantly associated with the variability in perceptions of the PWD's decision-making involvement. Finally, determinants differed across PWD/family caregiver models, reinforcing the need to for a dyadic examination of dementia decision making.

The family caregiver's perception of the PWD's value of autonomy was a significant determinant of both PWD and family caregiver ratings of the PWD's decision-making involvement. This finding is aligned with the theory of personhood, and it implies that working with family caregivers to support the autonomy of PWDs may be an important protective factor helping to prolong PWDs' decision-making involvement.

Similar to previous studies in the community, decision-making involvement of PWDs in this study was higher when the PWD had greater cognitive funciton (Karlawish et al., 2002; Menne et al., 2008). This finding was not significant in the family caregivers' model, indicating that cognitive impairment may not be as influential on family caregivers as it is on PWDs' perceptions of decision-making involvement. Also similar to a previous study, decision making involvement of PWDs in this study was higher, according to PWDs' perceptions, when the PWD had fewer depressive symptoms (Menne & Whitlatch, 2007). Family caregivers' perceptions were not influenced by either the PWDs' depressive symptoms, nor the family caregivers' own depressive symptoms (results not shown). One explanation for the influence on PWDs' perceptions is that depression could be coloring PWDs' appraisals of the extent of their involvement. Alternatively, depressive symptoms could dampen the PWD's engagement in scenarios where decision-making occurs.

Finally, family caregivers perceived greater involvement of the PWD in decision making when their own quality of life ratings were higher. This finding could indicate that family caregivers are in a better position to support PWDs' decision-making involvement when they enjoy a higher quality of life. Since this is cross-sectional data, it could also imply that when PWDs are more involved, family caregivers have better quality of life. Future longitudinal work is needed to untangle these associations. This study was also limited by small sample size and lack of diversity, which limited generalizability and dictated that fewer independent variables be entered into models. However, there were also notable strengths to the study, including the novel hospital setting, dyadic data collection, and an analytic approach appropriate for dyadic data.

Findings from this dyadic study have important implications for the nursing care of PWDs in the acute care setting. In order to appreciate the challenges of including the PWD in decision making, the nurse may need to first assess the extent of cognitive impairment and depressive symptoms in PWDs, and gain a sense of the family caregiver's perspective by assessing their quality of life. Finally, assessing family caregivers' perception of the PWD's autonomy, and encouraging their support of it, reinforces person-centered care and may also help sustain the PWD's involvement in decision-making in the acute care environment.

**Table 1:** *Level 1 and level 2 multivariate outcomes model: Perceptions of the PWD's decision-making involvement (N = 42 dyads)*

| Fixed effects (robust SE) | Level 1 Model | | | Level 2 Model | | |
|---|---|---|---|---|---|---|
| | $\beta$ | SE | t | $\beta$ | SE | t |
| **Patient intercept** | 14.78 | .70 | 21.10*** | 14.96 | .52 | 28.90*** |
| Patient Cognitive Impairment | | | | .50 | .17 | 32.86** |
| Patient Depressive Symptoms | | | | -.29 | .08 | -3.68*** |
| Family Quality of Life | | | | .09 | .09 | 1.05 |
| Family Perceived Autonomy | | | | 3.14 | 1.15 | 2.72** |
| **Family member intercept** | 14.66 | .69 | 21.10*** | 14.69 | .52 | 27.98*** |
| Patient Cognitive Impairment | | | | .11 | .18 | .59 |
| Patient Depressive Symptoms | | | | -.09 | .07 | -1.24 |
| Family Quality of Life | | | | .26 | .09 | 2.95** |
| Family Perceived Autonomy | | | | 5.47 | .92 | 5.92*** |
| **Random Effects** | Variance Component | | $\chi^2$ | Variance Component | | $\chi^2$ |
| Patient intercept | 18.18 | | 351.02*** | 9.63 | | 172.44*** |
| Family member intercept | 17.12 | | 327.01*** | 9.96 | | 177.29*** |

***Significant at the level of $p < .001$; **Significant at the level of $p < .01$; *Significant at the level of $p < .05$.

---

**Funding:** This study was supported by a grant from the National Institute of Nursing Research of the National Institutes of Health [5F31NR015195; PI: Miller, L.M.]. The content is solely the responsibilities of the author and does not necessarily represent the views of the National Institutes of Health.

## References:

Bierman, E., Comijs, H., Jonker, C., & Beekman, A. (2007). Symptoms of anxiety and depression in the course of cognitive decline. *Dementia and Geriatric Cognitive Disorders, 24*(3), 213-219.

Callahan, C. M., Arling, G., Tu, W., Rosenman, M. B., Counsell, S. R., Stump, T. E., & Hendrie, H. C. (2012). Transitions in care for older adults with and without dementia. *J Am Geriatr Soc, 60*(5), 813-820.

Edvardsson, D., Nilsson, A., Fetherstonhaugh, D., Nay, R., & Crowe, S. (2013). The person-centred care of older people with cognitive impairment in acute care scale (POPAC). *J Nurs Manag, 21*(1), 79-86. doi:10.1111/j.1365-2834.2012.01422.x

Edvardsson, D., & Nordvall, K. (2008). Lost in the present but confident of the past: experiences of being in a psycho-geriatric unit as narrated by persons with dementia. *J Clin Nurs, 17*, 491-498.

Epstein-Lubow, G., Gaudiano, B., Darling, E., Hinckley, M., Tremont, G., Kohn, R., . . . Miller, I. W. (2012). Differences in depression severity in family caregivers of hospitalized individuals with dementia and family caregivers of outpatients with dementia. *Am J Geriatr Psychiatry, 20*(9), 815-819.

Feinberg, L. F., & Whitlatch, C. J. (2001). Are persons with cognitive impairment able to state consistent choices? *Gerontologist, 41*(3), 374-382.

Feinberg, L. F., & Whitlatch, C. J. (2002). Decision-making for persons with cognitive impairment and their family caregivers. *American Journal of Alzheimer's Disease and other Dementias, 17*(4), 237-244. doi:10.1177/153331750201700406

Fetherstonhaugh, D., Tarzia, L., & Nay, R. (2013). Being central to decision making means I am still here!: the essence of decision making for people with dementia. *J Aging Stud, 27*(2), 143-150. doi:10.1016/j.jaging.2012.12.007

Fillenbaum, G. G., Heyman, A., Wilkinson, W. E., & Haynes, C. S. (1987). Comparison of two screening tests in Alzheimer's disease. The correlation and reliability of the Mini-Mental State Examination and the modified Blessed test. *Arch Neurol, 44*(9), 924-927. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/3619711

Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). "Mini-mental state". A practical method for grading the cognitive state of patients for the clinician. *J Psychiatr Res, 12*(3), 189-198. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/1202204

Gillick, M. R. (2013). The critical role of caregivers in achieving patient-centered care. *JAMA, 310*(6), 575-576. doi:10.1001/jama.2013.7310

Hirschman, K. B., Xie, S. X., Feudtner, C., & Karlawish, J. H. (2004). How does an Alzheimer's disease patient's role in medical decision making change over time? *J Geriatr Psychiatry Neurol, 17*(2), 55-60. doi:10.1177/0891988704264540

Horton-Deutsch, S., Twigg, P., & Evans, R. (2007). Health care decision-making of persons with dementia. *Dementia, 6*(1), 105-120. doi:10.1177/1471301207075643

Karel, M. J., Gurrera, R. J., Hicken, B., & Moye, J. (2010). Reasoning in the capacity to make medical decisions: the consideration of values. *Journal of Clinical Ethics, 21*(1), 58-71.

Karlawish, J. H. T., Casarett, D., Propert, K. J., James, B. D., & Clark, C. M. (2002). Relationship between Alzheimer's Disease Severity and Patient Participation in Decisions about Their Medical Care. *Journal of Geriatric Psychiatry and Neurology, 15*(2), 68-72. doi:10.1177/089198870201500203

Kensinger, E. A. (2009). Cognition in Aging and Age-Related Disease. *Encyclopedia of Neuroscience*, 1055-1061.

Kitwood, T. (1990). The dialectics of dementia: with particular reference to Alzheimer's disease. *Ageing and Society, 10*(2), 177-196.

Kitwood, T., & Bredin, K. (1992). Towards a theory of dementia care: Personhood and well-being. *Ageing and Society, 12*, 269-287.

Logsdon, R. G., Gibbons, L. E., McCurry, S. M., & Teri, L. (2002). Assessing quality of life in older adults with cognitive impairment. *Psychosomatic Medicine, 64*, 510-519.

Menne, H. L., Tucke, S. S., Whitlatch, C. J., & Feinberg, L. F. (2008). Decision-making involvement scale for individuals with dementia and family caregivers. *American Journal of Alzheimer's Disease & Other Dementias, 23*(1), 23-29.

Menne, H. L., & Whitlatch, C. J. (2007). Decision-making involvement of individuals with dementia. *The Gerontologist, 47*(6), 810-819.

Mitchell, A. J. (2009). A meta-analysis of the accuracy of the mini-mental state examination in the detection of dementia and mild cognitive impairment. *J Psychiatr Res, 43*(4), 411-431. doi:10.1016/j.jpsychires.2008.04.014

Murphy, J., & Oliver, T. (2013). The use of Talking Mats to support people with dementia and their carers to make decisions together. *Health Soc Care Community, 21*(2), 171-180. doi:10.1111/hsc.12005

Nilsson, A., Rasmussen, B. H., & Edvardsson, D. (2013). Falling behind: a substantive theory of care for older people with cognitive impairment in acute settings. *J Clin Nurs, 22*(11-12), 1682-1691. doi:10.1111/jocn.12177

Orfei, M. D., Varsi, A. E., Blundo, C., Celia, E., Casini, A. R., Caltagirone, C., & Spalletta, G. (2010). Anosognosia in mild cognitive impairment and mild Alzheimer's disease: frequency and neuropsychological correlates. *Am J Geriatr Psychiatry, 18*(12), 1133-1140. doi:10.1097/JGP.0b013e3181dd1c50

Parmelee, P. A., Lawton, M. P., & Katz, I. R. (1989). Psychometric properties of the Geriatric Depression Scale among the institutionalized aged. *Psychological Assessment, 1*, 331-338.

Penrod, J., Yu, F., Kolanowski, A., Fick, D. M., Loeb, S. J., & Hupcey, J. E. (2007). Reframing person-centered nursing care for persons with dementia. *Res Theory Nurs Pract, 21*(1), 57-72.

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401.

Raudenbush, S. W., Bryk, A. S., & Congdon, R. (2011). HLM for Windows (Version 7). Skokie, IL: Scientific Software International, Inc.

Reamy, A. M., Kim, K., Zarit, S. H., & Whitlatch, C. J. (2011). Understanding discrepancy in perceptions of values: individuals with mild to moderate dementia and their family caregivers. *Gerontologist, 51*(4), 473-483. doi:10.1093/geront/gnr010

Sampson, E. L., Leurent, B., Blanchard, M. R., Jones, L., & King, M. (2013). Survival of people with dementia after unplanned acute hospital admission: a prospective cohort study. *Int J Geriatr Psychiatry, 28*(10), 1015-1022. doi:10.1002/gps.3919

Samsi, K., & Manthorpe, J. (2013). Everyday decision-making in dementia: findings from a longitudinal interview study of people with dementia and family carers. *Int Psychogeriatr, 25*(6), 949-961. doi:10.1017/S1041610213000306

Sebern, M. D., & Whitlatch, C. J. (2007). Dyadic relationship scale: A measure of the impact of the provision and receipt of family care. *Gerontologist, 47*(6), 741-751.

Shankar, K. N., Hirschman, K. B., Hanlon, A. L., & Naylor, M. D. (2014). Burden in caregivers of cognitively impaired elderly adults at time of hospitalization: a cross-sectional analysis. *J Am Geriatr Soc, 62*(2), 276-284. doi:10.1111/jgs.12657

Sörensen, S., Mak, W., & Pinquart, M. (2011). Planning and decision making for care transitions. *Annual Review of Gerontology and Geriatrics, 31*(1), 111-142.

Thies, W., & Bleiler, L. (2013). 2013 Alzheimer's disease facts and figures. *Alzheimer's & Dementia, 9*(2), 208-245.

Tombaugh, T. M., & McIntyre, N. J. (1992). The Mini-Mental State Examination: a comprehensive review. *J Am Geriatr Soc, 40*, 922-935.

Whitlatch, C. J., Feinberg, L. F., & Tucke, S. S. (2005). Measuring the values and preferences for everyday care of persons with cognitive impairment and their families. *The Gerontologist, 45*(3), 370-380.

## Abstract of the Western Academy of Nurses Panel

---

# CHANGING LANDSCAPE IN THE WORLD OF PUBLISHING: WHAT AUTHORS NEED TO KNOW

---

*Moderator:*
*Deborah Koniak-Griffin, RNC, EdD, FAAN*
*Professor and Audrienne H. Moseley Endowed Chair Women's Health Research*
*Associate Dean for Diversity, Equity and Inclusion*
*University of California, Los Angeles*
*Member, WAN Program Committee*

*Panelists:*
*Steve Clancy, MLS*
*Research Librarian & Bibliographer for Health Sciences and Nursing Science*
*Ayala Science Library/Grunigen Medical Library*
*University of California, Irvine*

*Nancy K. Lowe, PhD, CNM, FACNM, FAAN*
*Professor & Director of Global Health Initiatives*
*College of Nursing, University of Colorado*
*Anschutz Medical Campus*
*Editor-in-Chief, Journal of Obstetric, Gynecologic, and Neonatal Nursing (JOGNN)*

*Jan Morse, PhD, FAAN*
*The Ida May Dotty Barnes, RN & D. Keith Barnes, MD, Presidential Endowed Chair*
*Professor, College of Nursing, University of Utah*
*Professor Emeritus, University of Alberta, Canada*
*Editor, QHR & GQNR*

# CHANGING LANDSCAPE IN THE WORLD OF PUBLISHING: WHAT AUTHORS NEED TO KNOW

*Steve Clancy, MLS*
*Research Librarian & Bibliographer for Health Sciences and Nursing Science*
*Ayala Science Library/Grunigen Medical Library*
*University of California, Irvine*

*Nancy K. Lowe, PhD, CNM, FACNM, FAAN*
*Professor & Director of Global Health Initiatives*
*College of Nursing, University of Colorado*
*Anschutz Medical Campus*
*Editor-in-Chief, Journal of Obstetric, Gynecologic, and Neonatal Nursing (JOGNN)*

*Jan Morse, PhD, FAAN*
*The Ida May Dotty Barnes, RN & D. Keith Barnes, MD, Presidential Endowed Chair*
*Professor, College of Nursing, University of Utah*
*Professor Emeritus, University of Alberta, Canada*
*Editor, QHR & GQNR*

Publication is required of nurse scholars whether they are practitioners, educators or researchers. In the past, publication was straightforward: write the manuscript, send it off in hard copy to the journal of choice and wait for a reply. Today with the growth of the internet, online journals and the ever increasing existence of “predatory” publishers, writing for publication has taken on a chaotic existence. Nurse scholars need to understand the benefits of online publishing vs. those of traditional journals as well how to select appropriate sources for publication.

The purpose of this panel is to present basic information on today’s changing landscape of publishing. Panelists will present their view of current day publishing from the perspectives of library science and editorial experience both in traditional and online publications. The session will include moderator and audience questions. Discussion will include basic considerations in selecting the venue for specific types of manuscripts.

# ACADEMIC PROGRESSION IN NURSING: HOW ARE WE PROGRESSING?

*Moderator:*
*Judy Liesveld, PhD, PPCNP-BC*
*Associate Professor*
*College of Nursing*
*University of New Mexico*
*Albuquerque, NM*

## OVERVIEW: ACADEMIC PROGRESSION IN NURSING: HOW ARE WE PROGRESSING?

*Judy Liesveld, Mary Dickow*

---

## ACADEMIC PROGRESSION IN NEW MEXICO

*Diane Evans-Prior, Jenny Landen*

---

## CALIFORNIA COLLABORATIVE MODEL OF NURSING EDUCATION

*Lorie Judson*

---

## WASHINGTON STATE'S DIRECT TRANSFER AGREEMENT (DTA): EXPERIENCES OF EARLY ADOPTING SCHOOLS

*Mary A. Baroni, Renee Hoeksel, Laurie Choate, Wendy Buenzli*

---

## MENTORING & INCLUSION: FOSTERING ACADEMIC PROGRESSION IN MONTANA

*Kailyn Dorhauer*

# ACADEMIC PROGRESSION IN NURSING: HOW ARE WE PROGRESSING?

## Overview: Academic Progression in Nursing: How Are We Progressing?

*Judy Liesveld, PhD, PPCNP-BC*
*Associate Professor*
*College of Nursing*
*University of New Mexico*
*Albuquerque, NM*

*Mary Dickow, MPA, FAAN*
*Statewide Director*
*California Action Coalition*
*HealthImpact*
*Oakland, CA*

**Purposes & Aims:** The Institute of Medicine's 2010 report, *The Future of Nursing: Leading Change, Advancing Health*, issued the challenge of an 80-percent baccalaureate-prepared nursing workforce by 2020. In response, the Robert Wood Johnson Foundation (RWJF) awarded Academic Progression in Nursing (APIN) grants to nine states with the goal of developing innovative plans and models to accomplish this challenge. The purpose of this project and symposium is to describe, after three years, the progress of the APIN grants and to further challenge nursing to strive for the 80-percent by 2020 goal.

**Rationale/Background:** Compelling research indicated that BSN-prepared nurses create a safer practice environment, have lower turnover rates, and are associated with lower mortality and hospital acquired conditions (Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Yakusheva, Lindrooth, & Weiss, 2014). BSN-prepared nurses are also more likely to seek further education (U.S. Health & Human Services). The APIN grantees were challenged to develop plans to show academic progression in nursing, to increase diversity in the nursing workforce, to involve employer partners in commitment for academic progression in nursing, and to sustain the work of academic progression in nursing.

**Description of Approach:** The nine APIN grantees developed varied and ground-breaking approaches to promote academic progression in nursing. Many states developed models of partnership between universities and community colleges to share curriculum and courses, academic credits, faculty development, and funding resources. Others developed unique mentoring and diversity plans to foster ongoing academic progression in nurses. This symposium will describe projects and outcomes from New Mexico, California, Washington, and Montana as well as include an overview of academic progression from a national perspective.

**Outcomes:** Between 2010 and 2013, the percentage of employed nurses with a baccalaureate degree increased from 49% to 51% (Campaign for Action, 2015). California State University Los Angeles (CSULA) partnered with 12 local community colleges to support ADN graduates to obtain their BSN degree within one year of completing their associate's degree. 62 graduates recently achieved their BSN within this partnership. The New Mexico Nursing Education Consortium has two universities partnering with four community colleges to offer the BSN on the community college campuses. A common statewide curriculum is shared offering seamless transferability. Sixty-six BSN prepared nurses recently graduated in the NMNEC program. Washington State has implemented Direct Transfer Agreements (DTA) between community colleges and universities to streamline BSN acquisition. Montana has developed a unique mentoring program to help sustain academic progression in nursing.

**Conclusion:** While the challenge of 80-percent BSN prepared nurses by 2020 seems daunting, steady progress toward this goal is evident. Models and programs developed by APIN grantees afford creative avenues for replication by other states, regions, and stakeholders.

---

References:

Aiken, L.H., Clarke, S.P., Sloane, D.M., Lake, E. T. & Cheney, T. (2008). Effects of hospital care environment on patient mortality and nurse outcomes. *Journal of Nursing Administration, 38*(5), 223-229

Campaign for Action (2015) Retrieved from Campaignforaction.org/dashboard October 10, 2015.

Institute of Medicine. (2010). *The Future of Nursing: Leading Change, Advancing Health*. Washington, DC: National Academies Press.

Yakusheva, O., Lindrooth, R., & Weiss, M. (2014). Economic evaluation of the 80% baccalaureate nurse workforce recommendation: A patient-level analysis. *Medical Care, 52*(10), 864-869.

U.S. Health and Human Services (2010). *The Registered Nurse Population: Findings from the 2008 National Sample Survey of Registered Nurses*. Available online at: bhpr.hrsa.gov/healthworkforce/rnsurveys/rnsurveyfinal.pdf

# ACADEMIC PROGRESSION IN NURSING: HOW ARE WE PROGRESSING?

## Academic Progression in New Mexico

*Diane Evans-Prior, MSN*
*Director of Nursing Education*
*Central New Mexico Community College*
*Albuquerque, NM*

*Jenny Landen, MSN, FNP-BC*
*Dean of Health & Sciences*
*Santa Fe Community College*
*Santa Fe, NM*

**Purposes & Aims:** The New Mexico Nursing Education Consortium (NMNEC) was formed in 2009 as a collaborative of nurse educators throughout the state of New Mexico. The consortium had two primary goals: to create a common statewide curriculum for pre-licensure nursing degrees and to build partnerships between universities and community colleges by placing a BSN education option on community college campuses.

**Rationale/Background:** Even before the Institute of Medicine's 2010 report on The Future of Nursing, nursing educators in New Mexico realized the need to reform nursing education and standardize the delivery of quality nursing education across the state. Conversations began before 2010 discussing the changing needs in nursing education which included increasing enrollment, addressing capacity issues and transforming curriculum delivery due to content overload.

**Description of Approach:** Nursing education leaders and faculty from around the state met regularly to design and implement a shared concept-based curriculum. The teams agreed on bylaws and procedures and then built and implemented the membership and committee structure.

Once the state-wide concept-based curriculum was collaboratively developed, the next step was to construct an articulation and seamless transfer model for ADN and BSN curriculum delivery across the state. The model allows for concurrent enrollment in ADN and BSN programs, housed and delivered by the community college under the guidance of the University partners.

All decisions were made by school votes and the process was guided by designated leadership at the state level. Implementation of shared curriculum began in 2013 with several community colleges and both state universities having received curriculum approval at the institution, state and national level.

**Outcomes:** To date, three state universities have adopted the NMNEC curriculum along with four partnering community colleges**.** The first community college to partner with a university graduated 62 BSN students this summer with the three other colleges to follow suit this fall. One community college, which traditionally had 140 ADN students in the pipeline in any given semester, now has transitioned to having over 84 BSN students and 56 ADN students after only one year of collaborating with a university. Transition to a BSN model is gaining momentum and growing in popularity throughout the state with employer support.

**Conclusion:** This effort has steadily increased the BSN pre-licensure programs in the state from two, in 2013, to six in 2015 with the possibility of adding sixteen more schools in the upcoming years. The diversity of the BSN student population will increase in this minority-majority state as this opportunity expands throughout the entire state, particularly in the rural areas. Although there are challenges ahead, ultimately, this effort will provide an increase in BSN-prepared graduates in the rural communities providing a higher percentage of BSN-prepared nursing workforce.

# ACADEMIC PROGRESSION IN NURSING: HOW ARE WE PROGRESSING?

## California Collaborative Model of Nursing Education

*Lorie Judson, PhD, RN, NP*
*Director/Professor*
*California State University, Los Angeles*
*Los Angeles, CA*

**Background:** A key message of the Institute of Medicine (IOM) report in 2011 was that nurses should achieve higher levels of education and training through an improved education system that promotes seamless progression; 80% of the nursing workforce should be prepared at the BSN level or higher by 2020.

**Purpose:** With funding through an Academic Progression in Nursing (APIN) grant from Robert Wood Johnson Foundation (RWJF) through HealthImpact, California State University Los Angeles (Cal State LA) has partnered with twelve Los Angeles County regional community colleges to provide a seamless progression from the Associate Degree in Nursing (ADN) to the BSN.

**Method:** The California Collaborative Model of Nursing Education (CCMNE) was the model implemented for this endeavor. Features are: 1) dual admission, 2) an integrated curriculum, 3) shared faculty, 4) the attainment of the BSN in one year after the ADN, 5) program sustainability and permanence.

An effort was made to increase the number of students from diverse, economically and socially disadvantaged groups, who earn a BSN degree by partnering with community colleges that reflect the population in LA County.

The curriculum plan features two summers at Cal State LA and one additional academic year. The first summer is between year one and year two of the community college nursing program, and the second at the completion of the community college curriculum After graduating from the ADN program and successfully passing the NCLEX, students are fully matriculated at Cal State LA in the Fall for one more academic year until graduation the next spring.

Regional meetings across the state have been held to interest other California State Universities in this model of ADN-BSN education.

**Outcomes:** Three cohorts of students have entered the program to date. The first cohort of 61 students graduated with a BSN in Summer 2105, the second cohort of students just completed their second summer and are matriculating at CSULA in Fall 2015, the third cohort of 80 students just completed their first summer.

We have met or exceeded our goal of diversity/inclusion with cohorts of students that mirror the population of LA County, and who come from all levels of socioeconomic backgrounds.

This model has been adopted by other California State Universities across California and the numbers of BSN graduates in the state has increased in the past two years. The number of California Collaborative Model of Nursing Education programs (CCMNE) programs has increased to 19 in 2015 from 15 last year. Enrollments in all types of CA RN-BSN programs (which include CCMNE) are now at 2,252, up from 1,998 in 2014 with a target of 2,400.

**Conclusion:** The California Collaborative Model of Education is a viable method to increase the numbers of diverse BSN graduates across the state of California. It may also be a useful model for other states to consider.

# ACADEMIC PROGRESSION IN NURSING: HOW ARE WE PROGRESSING?

## Washington State's Direct Transfer Agreement (DTA): Experiences of Early Adopting Schools

*Mary A. Baroni, PhD, RN*
*Renee Hoeksel, PhD, RN*
*Laurie Choate, MSN, RN*
*Wendy Buenzli, PhD, RN*

**Purposes & Aims:** To describe a collaborative process used to develop and implement a statewide direct transfer agreement (DTA) outlining a 180 quarter/120 semester credit pathway for RN-to-BSN completion. This new degree pathway allows nursing students at community colleges to complete all general university requirements and assures full transfer of credits toward their BSN.

**Rationale/Background:** The IOM Future of Nursing (2011) report included an ambitious target of achieving an 80% BSN prepared nursing workforce by 2020. While highlighting ADN programs as less costly and serving more diverse student populations, research has shown improved patient outcomes for employers having a more highly educated nursing workforce. The Robert Wood Johnson Foundation accelerated efforts to achieve this target by funding nine states to develop promising strategies that support academic progression in nursing (APIN). Washington State has received two rounds of APIN funding from 2012-2016. A major grant goal was to streamline a curricular pathway from ADN to BSN through the development of a statewide DTA between the State Board for Community and Technical Colleges (SBCTC) and the public and private colleges and universities offering RN-to-BSN education. The Associate in Nursing DTA was approved in 2014 with implementation by the first wave of early adopting schools in 2015-2016.

**Description of Approach:** This presentation will begin with an overview of key stakeholders involved in the DTA development and approval processes and then describe the implementation process at two of the early adopting community colleges. Both early adopting schools had new nursing program directors facing substantive challenges in addition to taking on this new initiative.

The process included internal nursing curriculum revision as well as collaboration with other departments to develop a series of three cross-listed "integrated general education courses". These two steps were critical to assuring alignment with the DTA criteria. Subsequent steps included review and approval by college curriculum committees, SBCTC, the Nursing Care Quality Assurance Commission (NCQAC), and relevant national nursing accreditation bodies. Both schools have admitted their first cohorts and anticipate their first DTA graduates within the next year.

**Outcomes:** Twenty-three (85%) of the 27 community college nursing programs in Washington State have expressed interest in adopting the DTA at their institutions. Six early adopting schools have completed the implementation process and have begun admitting their first cohorts of DTA students. A seventh school will be ready for their first admissions in January 2016 and another 16 schools have begun the necessary curriculum revision process as part of a second wave of implementation over the next two years.

**Conclusion:** Successful implementation of the Associate in Nursing DTA will assure that nursing graduates from community colleges offering this 3-year pathway will have all credits accepted for transfer to a Washington State RN-to-BSN program, met all general university education requirements, and will be able to complete their BSN with one additional year of study.

# ACADEMIC PROGRESSION IN NURSING: HOW ARE WE PROGRESSING?

## Mentoring & Inclusion: Fostering Academic Progression in Montana

*Kailyn Dorhauer, MHA*
*Program Director*
*Montana State University*
*Bozeman, MT*

**Purposes & Aims:** .Since 2012, the Montana Center to Advance Health through Nursing (MT CAHN) has worked toward the goal that 80% of working nurses hold a BSN or higher degree by 2020. As part of this work, the Montana Academic Progression in Nursing (APIN) team is building a mentoring program and, also, increasing the number of Native American nurses in Montana. The mentoring program is intended to support RN students in a BSN program to complete degree requirements and to increase retention of working nurses, particularly BSN nurses. Our purposes are to describe effective mentoring strategies and approaches for increasing the numbers of Native American nurses.

**Rationale/Background:** Nurses have a history of mistreating new graduate nurses and more recently each other. In the United States 17% to 26% of nurses leave their job the first year after licensure. The financial cost of turnover ranges from $30,000 to $82,000 per nurse. There may also be very serious consequences for patients. Retention rates for RN students in Montana's public RN to BSN programs ranged from 19% to 72% (4 year average). Mentoring can improve retention rates for nurses, including Native American nurses, in both academic programs and the workforce. Montana's Native American nursing workforce is not representative of the Native American population in Montana. In the 2010 U. S. Census, 6.5% of Montana's population was Native American while only 3.1% of nurses were Native American in 2012. Native Americans have numerous healthcare needs and some prefer Native American nurses.

**Description of Approach:** The mentoring program for RN to BSN students was initiated at Montana Tech of the University of Montana. This voluntary program connects an RN student with an experienced, licensed RN. The mentor/mentee relationship can help the student achieve the short-term goal of earning a BSN and may lead to a lifelong relationship that supports long-term career goals. To support mentors, MT CAHN developed a 3-hour interactive, continuing education workshop on basic mentoring principles and addressing potential problems due to differences in perspective based on gender, generation, and culture.

The APIN team is collaborating with tribal colleges, Native American support programs, and additional grant partners to grow the Native American nursing student population and workforce.

**Outcomes:** Six RN nursing students requested a mentor and five have completed a BSN. Nine mentoring workshops were done across the state with 150 participants. The mentoring program was extended to students in another RN to BSN program and also to BSN graduates. The APIN team helped establish a statewide team to recruit and retain Native American nursing students, provide academic support, and promote cultural education. Native Americans are leading this team.

**Conclusion:** Our statewide efforts to mentor nurses and educate more Native American nurses are unique approaches to achieve a diverse workforce with 80% BSN nurses. Achieving this goal will better serve patients in Montana, including Native Americans.

---

Funding: Robert Wood Johnson Foundation, grant # 71943.

# CURRENT ISSUES IN HIV PREVENTION

*Moderator:*
*Carmen J. Portillo, PhD, RN, FAAN*
*Professor & Chair*
*Department of Community Health Systems*
*University of California, San Francisco School of Nursing*
*San Francisco, CA*

## OVERVIEW: CURRENT ISSUES IN HIV PREVENTION, TREATMENT & CARE AMONG HIGH RISK POPULATIONS

*Carmen J. Portillo, Glenn-Milo Santos*

---

## HIGH UPTAKE AND ADHERENCE TO HIV PREP AMONG SUBSTANCE USERS IN A NURSE-LED CLINIC

*Carlo Hojilla, Pierre Cedric-Crouch, Adam Carrico*

---

## DEVELOPMENT AND IMPLEMENTATION OF A NURSE LED BIOMEDICAL HIV PREVENTION PROGRAM

*Kellie Freeborn, Pierre-Cédric Crouch, Brandon Ahlstrom*

---

## HORMONE USE ASSOCIATED WITH VIRAL LOAD AND SUBSTANCE USE IN TRANSWOMEN LIVING WITH HIV

*Glenda N. Baguso, Erin C. Wilson, H. Fisher Raymond*

---

## PREVALENCE OF HEPATITIS C SCREENING IN AN HIV PRIMARY CARE CLINIC

*Patricia Ambrose, Carol Dawson Rose, Roland Zepf, Amanda Hutton Parrott*

# CURRENT ISSUES IN HIV PREVENTION

## Overview: Current Issues in HIV Prevention, Treatment and Care among High Risk Populations

*Carmen J. Portillo, PhD, RN, FAAN*
*Professor & Chair*
*Department of Community Health Systems*
*University of California, San Francisco School of Nursing*
*San Francisco, CA*

*Glenn-Milo Santos, PhD, MPH*
*Assistant Professor*
*Department of Community Health Systems*
*University of California, San Francisco School of Nursing*
*San Francisco, CA*

Despite sizable efforts to stem the domestic HIV epidemic in the US, the number of new infections among key at risk populations—men who have sex with men (MSM), transgender people, and people who use drugs—remain high. Ensuring that these disproportionally impacted communities do not become infected has been the "Achilles' heel" of HIV prevention efforts. Moreover, among those infected, improving HIV treatment access at the community-level in order to reduce the spread of HIV and elevate health outcomes remains challenging. However, the implementation of combination HIV strategies that couple biomedical and behavioral approaches have changed the face of HIV/AIDS prevention and care.

In May 2014, the US Public Health Service released the first comprehensive clinical practice guidelines for PrEP, pre-exposure prophylaxis with antiretroviral medications to prevent HIV. The federal guidelines recommend that PrEP be considered for people who are HIV-negative and at major risk for HIV prevention, including MSM and transgender people. As nursing has frequently taken a leadership in HIV prevention since the beginning of the epidemic, the development of PrEP programs in a nurse-led designed clinic setting is yet another example of skill and innovation that can help turn the tide against HIV for key at risk populations.

Access to HIV treatment is a major issue for transgender populations; the prevalence of HIV among transgender women is 49 times greater compared to the general adult population. In this symposium, we present a study on the benefits of hormone replacement therapy for transwomen. From this presentation, we provide data on the positive impact a hormone replacement therapy program can have on HIV/AIDS medication adherence and HIV virologic suppression for transwomen who are HIV-infected, and point to how nurses can elevate the health outcomes of HIV positive transwomen by jointly addressing needs in these areas.

Finally, Hepatitis C (HCV) is a major liver disease that is often co-occurring in HIV-infected persons, especially in marginalized substance-using populations. In the last two years, novel direct-acting antiviral medications have been approved that can treat or even cure HCV. Yet screening protocols for HCV among HIV-infected individuals have not become standard practice in specialized primary care practice clinics, despite high rates of HIV/HCV co-infection. Assessing and screening individuals then subsequently referring infected patients to treatment is the oldest form of prevention and a strategy that nursing has employed since the beginning of nursing care and practice.

Our symposium will highlight current issues in HIV prevention, treatment and care among these high risk population, but also describe the role of nursing in leading efforts toward achieving an AIDS-free generation, from a practice and research perspective.

---

Funding: NINR T32NR07081 (PI: C. Portillo & D. Vlahov).

# CURRENT ISSUES IN HIV PREVENTION

## High Uptake and Adherence to HIV PrEP among Substance Users in a Nurse-Led Clinic

*Carlo Hojilla, RN, MSN*
*Doctoral Candidate*
*Community Health Systems, School of Nursing*
*Department of Epidemiology & Biostatistics, School of Medicine*
*University of California, San Francisco*
*Sam Francisco, CA*

*Pierre Cedric-Crouch, PhD, ANP-BC*
*Director of Nursing*
*Magnet @San Francisco AIDS Foundation*
*San Francisco, CA*

*Adam Carrico, PhD*
*Associate Professor*
*Community Health Systems, School of Nursing*
*University of California, San Francisco*
*San Francisco, CA*

**Aim:** To examine the uptake of HIV pre-exposure prophylaxis (PrEP) in a nurse-led community clinic among stimulant users and binge drinkers, and assess for differences in adherence.
**Background:** PrEP is a novel biomedical prevention strategy where the risk of HIV infection is substantially reduced through the prophylactic use of the daily medication emtricitabine/tenofovir disoproxyl fumarate (FTC/TDF). Substance users, including those who use illicit drugs or engage in binge drinking (≥ 5 drinks in one occasion), are at heightened risk for HIV from sexual transmission and may be ideal candidates for PrEP. However, little is known about demand for PrEP in this population and how drug use and problematic drinking might impact PrEP adherence and care engagement. This study will be among the first to characterize PrEP uptake and adherence in substance users.
**Methods:** We reviewed the medical records of patients who presented to an urban nurse-led sexual health clinic for PrEP evaluation between November 2014 and April 1, 2015. The site provides free sexual health services and is located in the Castro District of San Francisco. Baseline sociodemographics and self-reported sexual risk, drug use, and drinking behavior were collected using a standardized data collection tool. Patient-reported 7-day adherence was documented by clinicians at 4 and 16 weeks after PrEP was prescribed. Patients were considered non-adherent if they reported taking < 4 doses of FTC/TDF per week or had missed their follow-up visit. We compared non-adherence at week 16 of follow-up among patients who reported drug use and binge drinking to patients who denied such behaviors using Chi-square tests.
**Results:** Records of 172 patients were analyzed, of whom 116 (67%) reported drug use in the last 12 months or consuming ≥ 5 drinks in one occasion in the last 30 days. Median age was 32 years (range 18-70 years); most identified as White (67%), non-Hispanic (73%), and MSM (99%). Median number of sex partners in the last year was 12 (range 1-100), with most reporting engaging in condomless anal sex in the last 12 months (90%). Uptake of PrEP among drug users and binge drinkers was high; only 2 (1.7%) declined PrEP. The most commonly used drugs were poppers (59%), ecstasy (33%), and cocaine (23%). By week 16, nearly 33% of all patients prescribed PrEP were non-adherent. Non-adherence to PrEP did not significantly differ among persons who reported drug use (p=0.262) and binge drinking (p=0.782) compared to persons who did not report these behaviors.
**Implications:** Uptake of PrEP was high among persons who reported stimulant use and binge drinking in this nurse-led community clinic. Non-adherence was relatively low at week 16 of follow-up and we found no significant difference among substance users and non-users. The high prevalence of drug use, problematic drinking, and risky sexual behavior we found in this cohort suggests that PrEP is being accessed by individuals who would benefit the most from it. Nurse-led clinics can play a critical role in advocating for and providing access to effective HIV prevention services like PrEP for this often marginalized subgroup.

---

**Funding:** NIH/NIDA R01 DA033854

# CURRENT ISSUES IN HIV PREVENTION

## Development and Implementation of a Nurse Led Biomedical HIV Prevention Program

*Kellie Freeborn, RN, MS, ANP-BC, FNP*
*Assistant Clinical Professor and Doctoral Student*
*Department of Community Health Systems*
*School of Nursing, University of California, San Francisco*
*San Francisco, CA*

*Pierre-Cédric Crouch, PhD, ANP-BC, ACRN*
*Director of Nursing*
*Magnet @San Francisco AIDS Foundation*
*San Francisco, CA*

*Brandon Ahlstrom, RN, BSN, MSN(c)*
*Masters Student*
*San Francisco State University*
*San Francisco, CA*

**Purposes/Aims:** To describe the development and implementation of a nursing protocol for Pre-Exposure Prophylaxis for HIV prevention (PrEP) in a nurse-led community clinic for Men who have Sex with Men (MSM) and transgender (TG) individuals.

**Background:** In October, 2014, the Centers for Disease Control and Prevention (CDC) guidelines were utilized to implement a practice protocol for a PrEP program in an urban, sexual health clinic for men 18 and over who identify as MSM and TG. Originally, 1.6 FTE Nurse Practitioners (NPs) completed all initial and follow-up (month 1 and every 3 months) appointments for PrEP. Initial visits included, complete history and physical, review of co-morbidities and contraindications to PrEP, adherence and safer sex practices counseling, sexually transmitted infection testing, point of care rapid metabolic panel and HIV testing, and prescribing medication. Follow-up visits included point of care and STI testing, and adherence and safe sex counseling. Due to the high demand for PrEP, protocols and a training plan had to be developed by NPs within the scope of practice of Registered Nurses (RNs), thereby allowing RNs to complete follow-up visits.

**Brief Description of the Undertaking:** RNs completed a two stage training. Stage 1 involved a two-hour didactic training covering pharmacology, contraindications, side effects, communication skills, renal function, assessing stigma, and safer sex and adherence counselling. Learning comprehension was assessed by completion of case vignettes, mock record keeping and evaluation by an NP. During stage 2, RNs completed 6 follow-up visits with NP supervision before working independently. Upon final implementation of the program, NPs reviewed follow-up charts 24 hours before appointment time, wrote a prescription, and a calculated creatinine threshold of 1.6 mg/dL and/or > 50% increase from baseline at follow-up). RNs referred abnormal lab results to an NP for evaluation and follow-up.

**Outcomes Achieved:** As a result of the new protocol NPs are now able to cover two clinical sites and expand services to other high-risk populations, including injection drug users and women. As of October, 2015, there are 580 clients on PrEP at the two clinics. There are now five new visits and six follow-up visits per day at one site, and three new visits and two follow-up visits two mornings a week at a satellite clinic. Since the introduction of the protocols adherence to PrEP is high with 96% of clients reporting missing 3 or fewer doses/week, and retention in care is 90%.

**Conclusions:** Nurse-led community clinics provide access to HIV prevention services through knowledgeable, culturally competent care. RNs play a crucial role in providing PrEP follow-up services in community-based clinics and towards achieving the goal of "zero new infections". This nursing model of care can be replicated in order to expand access to PrEP where health services are limited due to provider shortages. Further research is needed to assess if under protocols RNs may also complete initial visits for PrEP services.

---

**Funding:** National Institute of Nursing Research T32 NR07081 (PI: C.Portillo, D.Vlahov).

# CURRENT ISSUES IN HIV PREVENTION

## Hormone Use Associated with Viral Load and Substance Use in Transwomen Living with HIV

*Glenda N. Baguso, RN, MS*
*Doctoral Student*
*Department of Community Health Systems*
*School of Nursing, University of California San Francisco*
*San Francisco, CA*

*Erin C. Wilson, DrPH*
*Senior Research Scientist*
*Center for Public Health Research*
*San Francisco Department of Public Health*
*San Francisco, CA*

*H. Fisher Raymond, DrPH*
*Director of Behavioral Surveillance*
*Center for Public Health Research*
*San Francisco Department of Public Health*
*San Francisco, CA*

**Purposes/Aims:** The aim of this study is to determine whether or not utilization of hormone therapy is positively associated with better health among transgender women (transwomen) living with HIV.

**Rationale/Conceptual Basis/Background:** Transwomen, people who currently identify as women and whose sex assigned at birth were male, commonly utilize cross-sex hormone therapy to transition their physical appearance to become congruent with their current gender identity. The high prevalence of HIV and substance use among transwomen may present opportunities to integrate HIV care and substance use treatment with hormone therapy, potentially resulting in collateral health benefits in this marginalized population.

**Methods:** This is a secondary data analysis of an HIV behavioral risk study with transwomen, The Transwomen Empowered to Advance Community Health (TEACH) study. TEACH participants were recruited through respondent driven sampling in 2010. The current study analyzed the subset of transwomen living with HIV in the TEACH study (n=123). Self-identified transwomen who were 18 years or older and lived in San Francisco were eligible to participate in this study. All participants were screened for eligibility prior to enrollment. Regardless of self-reported HIV status, rapid HIV testing was offered to all participants and positive tests were confirmed using standard laboratory methods. Participants completed a survey assessing demographic information and alcohol and substance use. Descriptive statistics were used to summarize demographic and behavioral data. Chi-square tests evaluated the associations between hormone use and undetectable HIV viral load (≤50 copies/ml) and substance use.

**Results:** Transwomen living with HIV (62.6%) reported using hormones. Of participants who identify as *female* versus *transwoman*, a significant proportion were on hormones (79.6%) compared to those not on hormones (20.4% p=.002). More transwomen on hormones had an undetectable viral load (70.4%) than those who were not on hormones (34.8%; p=.042). Greater portion of transwomen with no substance use were on hormones (71.4%), than transwomen not on hormones (28.6%; p=.020). Hormone use was also associated with lower self-reported use of cannabis (p=.036), sedatives (p=.002) and stimulants (p=.011) in the past 6 months.

**Implications:** Our study suggests that hormone use in transwomen with HIV may have a protective effect and associated with lower rates of substance use and undetectable viral load. Given the importance of gender affirmation in transwomen and the need for hormone therapy, nurses, amongst an interdisciplinary team can create a pathway for engagement to HIV care. These results are consistent with prior studies that suggest that hormone therapy and HIV care should be integrated. Nurses can create opportunities for culturally sensitive assessments, interventions and education for transwomen living with HIV. The potential protective effect of hormone use underscores the need for culturally sensitive healthcare services that address transitioning interventions in tandem with often co-morbid substance use.

---

**Funding:** National Institute of Nursing Research T32 NR07081 (PI: C. Portillo & D. Vlahov).

# CURRENT ISSUES IN HIV PREVENTION

## Prevalence of Hepatitis C Screening in an HIV Primary Care Clinic

*Patricia Ambrose, RN, MS*
*Doctoral Student*
*Department of Community Health Systems*
*School of Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Carol Dawson Rose, RN, PhD, FAAN*
*Professor*
*Department of Community Health Systems*
*School of Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Roland Zepf, MS, RN, ACRN*
*Research Nurse, Doctoral Student*
*Department of Medicine*
*University of California, San Francisco*
*San Francisco, CA*

*Amanda Hutton Parrott, DPT, NP, RN*
*Nurse Practitioner*
*Department of Medicine*
*University of California, San Francisco*
*San Francisco, CA*

**Aims:** The aims of this study were to describe the prevalence of Hepatitis C (HCV) screening in an HIV primary care clinic, and to describe demographic and clinical differences between screened and unscreened patients.

**Background:** HCV is the most common cause of liver disease complications in the United States and a principle source of morbidity and mortality in HIV-infected populations. HIV-HCV co-infected persons are at increased risk for accelerated progression of serious liver disease compared to HCV mono-infected individuals. Studies indicate that newly developed direct acting antivirals (DAAs) are well tolerated by patients and curative against HCV in co-infected populations. HCV screening is the first step to identifying and linking patients to care, potentially reducing morbidity and mortality in HIV-HCV co-infected individuals.

**Methods:** In this retrospective cross-sectional study, patient level data were extracted from electronic medical records (EMR) of 800 patients of an HIV primary care clinic between January 1, 2013 and December 31, 2014. Both demographic and clinical data including comorbidities and HIV clinical markers were collected. Our analyses of the data included: 1) determining the proportion of patients who were screened for HCV, and 2) comparing demographic and clinical characteristics between those screened and those not screened. Data were analyzed using Chi-Square tests, analysis of variance, and logistic regression models.

**Results:** The study sample (N=800) was primarily male (79.1%), 55.8% Caucasian, 22.4% African American, 8.1% Hispanic, 5.7% Asian, and 7.9% other race/ethnicity, with a mean age of 50.77 years (±10.01). A total of 54.8% patients were screened for HCV. There were no statistical demographic differences between screened and unscreened patients. There were statistical differences in smoking and substance use as clinical predictors for screening. In our sample, patients who reported smoking were 1.5 times more likely to be screened for HCV (95% CI: 1.01, 2.09; p=0.04). Similarly, the odds of screening patients who reported substance use was 2.1 times higher (95% CI: 1.33, 3.39; p=0.002) the odds of screening patients who did not report substance use.

**Implications:** The prevalence of HCV in HIV-infected populations is estimated at 25%, substantially higher than the general population rate of approximately 1%. Although our finding of 54.8% screening prevalence is not consistent with the CDC's universal screening recommendation for people living with HIV, it is over twice as high as the 25% rate reported in the literature. Approaches to increasing HCV screening are needed. HIV primary care clinics provide the ideal setting for identifying patients at risk who could substantially benefit from treatment. Nurses are ideally positioned to lead a culture of change by acting as key innovators in their practice setting to identify best practices and advocate for their implementation.

---

Funding:
UCSF School of Nursing Clinical Nursing Research (PI: C. Dawson-Rose)
National Institute of Nursing Research T32 NR07081 (PI: C. Portillo & D. Vlahov)

## Abstracts of Symposium Presentations

---

# EMERGING HEALTH NEEDS OF A DIVERSE AGING POPULATION

---

*Moderator:*
*Janet Mentes, PhD, APRN, BC, FGSA, FAAN*
*Associate Professor*
*University of California, Los Angeles*
*Los Angeles, CA*

### OVERVIEW: EMERGING HEALTH NEEDS OF A DIVERSE AGING POPULATION

*Janet Mentes*

---

### CULTURE: A MISSING PIECE IN THE RELATIONSHIP OF SOCIAL ENGAGEMENT TO COGNITIVE HEALTH

*Ariz Guzman, Tiffany Dzou, Janet C. Mentes, Linda R. Phillips*

---

### BREAST CANCER SCREENING PRACTICES OF IMMIGRANT AFGHAN AND PAKISTANI WOMEN

*Hafifa Siddiq Shabaik*

---

### CORRELATES OF CHRONIC PAIN AMONG OLDER AFRICAN AMERICANS

*Sharon Cobb*

---

### UNDERSTANDING HEALTH NEEDS AMONG OLDER FRAIL HOMELESS ADULTS

*Benissa E. Salem, Anna Liza Antonio*

# EMERGING HEALTH NEEDS OF A DIVERSE AGING POPULATION

## Overview: Emerging Health Needs of a Diverse Aging Population

*Janet Mentes, PhD, APRN, BC, FGSA, FAAN*
*Associate Professor*
*University of California, Los Angeles*
*Los Angeles, CA*

**Purpose:** The purpose of this symposium is to present theoretical and research perspectives on identifying the health needs among diverse aging populations in the United States (U.S.) and to discuss the critical role that culture plays in providing appropriate care.

**Background:** The aging population of the U.S. is projected to grow larger and more diverse, such that in 2050, the white, single race population will be in the minority at 46%. Along with this population trend, by this date, almost half of adults over 65 years will be from racial and ethnic minority groups. With wars and economic instability across the world, aging immigrants to the US are increasing as well, providing challenges to nurses who may not understand the immigrant experience or how to best care for these vulnerable elders. These diverse elders face similar problems to white elders including chronic pain, frailty, cognitive impairment and cancer, but culture, previous life experiences, financial resources and self care practices influence their health outcomes. These influences can be protective as in the cultural effect of social engagement in elders from collectivist cultures on cognitive health or pose additional risk as in the early development of frailty in homeless elders who lack both financial, psychosocial resources and access to care.

**Current Work:** The four papers presented in this symposium, we will discuss cognition and culture; cultural perspectives among immigrant Muslim women and breast cancer screening, correlates of chronic pain in African Americans and healthcare needs among frail older homeless adults. First, Guzman will present an integrative review of the role that culture plays on cognitive health in older adults. Next, Siddiq will address cultural perspectives of Muslim women and their immigration experience as it influences breast cancer screening. Cobb will present findings from a pilot study on chronic pain among older African American elders, which will provide a basis for developing culturally appropriate interventions for this population. Finally, Salem will present research findings of health and social service delivery needs of frail homeless men and women with specific recommendations for further nursing intervention and research. The findings from these four papers will provide a foundation and start a discourse to develop best practices for diverse older adults.

---

**Funding:** NIGMS 1-R25GM-102777-01

# EMERGING HEALTH NEEDS OF A DIVERSE AGING POPULATION

## Culture: A Missing Piece in the Relationship of Social Engagement to Cognitive Health

*Ariz Guzman, MSN, RN, PHN*
*Doctoral Student*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Tiffany Dzou, MSN, RN, PHN*
*Doctoral Student*
*University of California, Los Angeles*
*Los Angeles, CA*

*Janet C. Mentes, PhD, APRN, BC, FGSA, FAAN*
*Associate Professor*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Linda R. Phillips, RN, PhD, FAAN*
*Professor Emerita*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Aim:** This integrative review seeks to identify research gaps about the influence of social engagement on cognitive health in the aging population.

**Background:** Aging can affect cognitive abilities or the mental skills that allow us to complete simple to the most complex tasks. These skills include awareness, information handling, memory and reasoning. Normal aging is associated with some cognitive changes. For many people, aging is associated with relatively little cognitive decline. However, there are those who experience the severe deterioration in cognitive skills associated with dementia. Deterioration of cognitive abilities can affect independence and the quality of life for older adults. Currently, ways to prevent or postpone cognitive deterioration in old age are receiving much research attention. One line of research is keyed on social environment, specifically on social engagement as having a protective factor from cognitive decline.

**Methods:** This review identified research literature by searching the terms "social engagement," "social involvement," "social activities," "social interaction," "aging," "older adult, "cognitive health," AND "cognitive function" in CINAHL, PsychInfo, PubMed, ProQuest databases and references of retrieved articles. The search included articles written in English published up to September 2015. Criteria included research that address social engagement factors in relation to cognitive function in population that is mostly 50+ and older. Reports were excluded if there are no clearly defined social engagement variables or variables related to cognition. Purposive sampling was used to analyze 16 literatures on social engagement and cognitive health after titles and abstracts were selected and duplicates removed.

**Results:** The final sample for this review are mostly empirical reports and are cross-sectional studies. The reviewed reports acknowledged how social engagement factors have the potential to improve or offset cognitive decline. Social engagement measures for these studies are often generalized to majority population and lack cultural relevance to the growing diverse minority population. Only one study addressed a minority group (American Indians and Alaska Natives). None explored the cultural dimension of social engagement or reveal any descriptions of differences in cognitive function within or between minority cultural. The review of literature reveals a gap about the effect of cultural aspects of social engagement as it relates to cognitive aging.

**Implications:** The lack of attention to culture in the context of addressing cognitive decline in our increasingly diverse aging population is an important gap that must be addressed. Comprehensive and culturally relevant measures of social engagement must be created to reflect our diverse aging population. Exploring the collectivist or individualistic tendencies of racial/ethnic minorities in their approach to social engagement may help add insight to social engagement's role in cognitive aging. Efforts must be made to ascertain the potential impact of social engagement influenced by culture on patterns of cognitive aging. As nurses are in the front line in engaging and advising their clients about cognitive health promotion, participation in the development of culturally relevant measures and interventions that can optimize cognition in the growing diverse aging population is of importance.

---

**Funding:** Provided UCLA/CDU Partnership for Enhancing Diversity of Nurses with Research Careers/NIH Grant Number: 5R25GM102777-02.

# EMERGING HEALTH NEEDS OF A DIVERSE AGING POPULATION

## Breast Cancer Screening Practices of Immigrant Afghan and Pakistani Women

*Hafifa Siddiq Shabaik, MSN, RN*
*PhD Student*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Aim:** This systematic review explores literature, which examines the impact of immigration on breast cancer screening among Afghan and Pakistani Muslim immigrants and refugees resettled in the U.S. This review will explore gaps in the literature regarding uptake of preventive screening services, as well as elicit possible research topics specifically with regards to breast cancer screening among culturally diverse populations.

**Background:** Breast cancer ranks first among cancers affecting women worldwide with over half of new cases occur in developing countries. Evidence in the U.S. suggests that women over the age of 40, but under the age of 75 who have a mammography screening, reduce cancer mortality by 15% to 20%. Despite the substantial benefit of early detection screening for women over the age of 40, immigrant women in the U.S. are less likely to utilize mammography screening.

**Methods:** The following electronic databases were searched for published literature: MEDLINE (1980 to October 2015), CANCERLIT (1980 to October 2015), CINAHL (1980 to October 2015) and PsycINFO (1980 to October 2015). A total of 24 journal articles were reviewed in this study which met the inclusion criteria: descriptive or intervention studies on breast cancer screening that include women of Pakistani or Afghan descent. Additional references were located through searching the bibliographies of related papers.

**Results:** Available data on breast cancer screening in Pakistan and Afghanistan, although scarce, suggest extremely low reports (as low as 5%) of ever had a mammogram. Various cultural, religious and economical factors were identified as barriers to screening in Pakistan, but more commonly were lack of awareness and knowledge about breast cancer. With diagnosis at more advanced stages of the disease, breast cancer becomes stigmatized as a “terminal illness”. Studies suggest that this fear of diagnosis, even with increased access to screening and availability of advanced treatment post-immigration, may be a barrier to early screening. Data on Afghan and Pakistani immigrant and refugee women in the U.S. consistently suggests low reports of ever having a mammogram, and even lower adherence, especially among older women. Qualitative data suggests modesty and preference for female providers is a crucial need for these populations.

**Implications and Conclusion:** A large number of studies investigating breast cancer beliefs and screening behaviors have been conducted in western settings to examine the utilization of these screening tools and to understand the barriers to screening. However, few studies have been conducted among Muslim immigrants, and even fewer among women over the age of 65. This systematic review was carried out with the aim of generating data that can help community health nurses provide culturally tailored and appropriate use of health services, promote the uptake of preventive health services and breast cancer screening practices.

## Correlates of Chronic Pain among Older African Americans

*Sharon Cobb, MSN, RN, PHN*
*Pre-Doctoral Fellow*
*University of California, Los Angeles*
*School of Nursing*
*Los Angeles, CA*

**Purpose/Aims:** Understanding the experience of chronic pain among older African Americans (OAAs) is critical in order to improve quality of life among this vulnerable population. The purpose of this descriptive, exploratory study was to describe correlates of chronic pain management among older AA in order to understand the course of pain and treatment practices used in this population.

**Background:** Chronic pain, defined as pain lasting longer than six months, leads to a poorer quality of life and physical functioning; however, often goes unrecognized and untreated among OAAs. Multiple studies demonstrate that although OAAs report a higher pain severity than Whites, they have lower rates of pain assessment and higher rates of under treatment. Further, OAAs are more likely to "hide" or "bear" existing chronic pain which further complicates strategies among health care providers to assess and treat pain in this population.

**Methods:** A cross sectional study among OAAs was conducted in South Los Angeles at four senior centers. A structured instrument was administered which assessed sociodemographic data, physical pain, self-reported chronic disease; and, medication pain relief. Descriptive analyses, bivariate associations, and logistic regression analyses were used to test the relationship between correlates and chronic pain, and various pain management therapies.

**Results:** In total, 50 OAAs were included ($\mu$= 74 years, SD: 7.7 years). The majority were female (76%) between 65 to 92 years of age. Over two thirds reported having pain (68%) and 36 percent took pain medication daily. Over half (52%) reported taking non-steroidal anti-inflammatory drugs (NSAIDS) for pain; further, less than a third (28%) reported using complementary and/or alternative medicine. Significant predictors of pain included those who used opioids ($p$=.023) and cold/warm compresses ($p$=.046). In regards to pain duration, 42 percent believed that pain medication was effective for at least four hours. Yet, 34 percent believed that pain medications only alleviated their pain up to 50 percent of the time.

**Implications:** OAAs were found to be in pain distress whilst using medications (*e.g. ibuprofen, opioids, and steroids*). OAAs have to face managing multiple comorbidities, which can contribute to a decrease in overall health status and quality of life contributing to unmanaged chronic pain. Health care providers, academicians and other service providers need to assess the intensity and characteristics of pain faced by OAAs in order to improve quality of chronic pain management.

Funding: Supported by the National Institute of Nursing Research (NINR): T32 NR007077 and 5R25GM102777-02.

# EMERGING HEALTH NEEDS OF A DIVERSE AGING POPULATION

## Understanding Health Needs among Older Frail Homeless Adults

*Benissa E. Salem, PhD, RN, MSN*
*Assistant Adjunct Professor*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Anna Liza Antonio, MS*
*Biostatistician*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Purpose/Aims:** The purpose of this descriptive, exploratory analysis was to understand health needs among frail middle-aged and older men and women (FHM/W) experiencing homelessness, and gain a greater understanding of gender differences between them.

**Background:** Los Angeles streets and shelters are densely populated with over 190,200 homeless adults annually. Older homeless adults are increasing and in one service agency report, about 50% were over 51 years of age. Despite these trends, scarce research focuses on individual-level, situational, behavioral and health-related needs among FHM/W.

**Methods:** Guided by the Frailty Framework among Vulnerable Populations (FFVP), a descriptive, cross sectional study among 150 middle-aged and older homeless adults was conducted; in this analysis, only FHM (n=43) and FHW (n=58) were included. Eligibility criteria: a) $\geq$ 40 years of age; b) self-reported to be homeless; c) frail as described by the Tilburg Frailty Indicator; d) free of evidence of acute, psychotic hallucinations, and e) English-speaking. A structured questionnaire assessed self-report for individual-level, situational, behavioral and health-related needs. Differences in the distribution of these variables among FHM/W were assessed using Fisher's exact tests. McNemar tests were used to determine whether having a particular self-reported health condition and taking medication for that health condition occurred at the same rate within each gender and across genders groupings.

**Results:** In total, the majority of FHM/W were African American (64%). Among both FHM/W, at least two thirds had back pain (66%) and over half had fallen in the last year (58%). The majority of FHM were significantly more likely to use alcohol ($p$<.0001), drugs ($p$=.009), marijuana ($p$=.017) and met the criteria for drug dependency ($p$<.0001) as compared to FHW. In terms of grip strength, FHW had lower average grip strength compared to FHM ($p$<.0001). Significant differences were found in the proportion of FHM who self-reported hypertension (HTN; $p$=.02) and depression ($p$=.0001), but did not take medication for HTN or depression. Among FHW, significant differences were found in the proportion of FHW who self-reported depression ($p$=.002) and rheumatoid arthritis (RA; $p$=.004) but, did not take medication for depression or RA. Last, among both FHM/W, significant differences were found among those who self-reported HTN ($p$<.0001), depression ($p$=.0001), and RA ($p$<.0001) and the proportion who did not take medication for those conditions (*e.g HTN, depression and RA*).

**Conclusions:** Given that FHM/W have distinctive health delivery needs; these study findings provide a foundation for future research with a particular focus on developing interdisciplinary, community-based programs aimed at addressing these areas of need.

---

Funding: This work was supported by the NIH/NINR T32 NR007077.

# ENGAGING NURSES, PATIENTS, AND FAMILIES TO IMPROVE HEALTH OUTCOMES

*Moderator:*
*Betty Winslow, PhD, RN*
*Professor and Director of Research*
*Graduate Nursing Department*
*Loma Linda University School of Nursing*
*Loma Linda, CA*

## OVERVIEW: ENGAGING NURSES, PATIENTS, AND FAMILIES TO IMPROVE HEALTH OUTCOMES

*Betty Winslow, Luenda Perkins, Joyce Oliverio Volsch,*
*YuQin Pan, Julie A. Pusztai*

---

## IMPROVING EMERGENCY DEPARTMENT NURSES' KNOWLEDGE OF PEDIATRIC NEUTROPENIC FEVERS

*Luenda Perkins, Shirley Bristol*

---

## EFFECTS OF NURSE CARING BEHAVIORS ON PREGNANT WOMEN'S ANXIETY & ATTACHMENT AFTER LOSS

*Joyce Oliverio Volsch*

---

## MUTUALITY, FILIAL PIETY, AND DEPRESSION IN FAMILY CAREGIVERS IN CHINA

*YuQin Pan, Patricia. S. Jones*

---

## ENGAGING THE OLDEST-OLD: LEARNING ABOUT THEIR CHALLENGES TO INDEPENDENCE

*Julie A. Pusztai*

# ENGAGING NURSES, PATIENTS, AND FAMILIES TO IMPROVE HEALTH OUTCOMES

## Overview: Engaging Nurses, Patients, and Families to Improve Health Outcomes

*Betty Winslow, PhD, RN*
*Professor and Director of Research*
*Graduate Nursing Department*
*Loma Linda University School of Nursing*
*Loma Linda, CA*

*Luenda Perkins, DNP, RN, FNP-BC*
*Pediatric Hematology Oncology Nurse Practitioner*
*Loma Linda University Children's Hospital*
*Loma Linda, CA*

*Joyce Oliverio Volsch, PhD, RN*
*Vice President Patient Care Services*
*Miller Children's & Women's Hospital Long Beach*
*MemorialCare Health System*
*Long Beach, CA*

*YuQin Pan, PhD, RN*
*Associate Professor Department of Nursing*
*Jinhua Polytechnic*
*JinHua, Zhejiang, China*

*Julie A. Pusztai, PhD, RN*
*Assistant Professor*
*Director Neighborhood Wellness Center*
*Azusa Pacific University*
*Azusa, CA*

**Purpose:** To describe how engaging nurses, patients and families can improve health outcomes among distinct populations and can provide innovative solutions in healthcare.

**Background:** Nurses, prepared with a Doctor of Nursing Practice degree, who engage in best practice projects and nurses who have earned a research doctorate (i.e., PhD) have the opportunity to translate findings into practice by implementing positive changes, developing educational opportunities, and improving patient/family outcomes in a timely manner.

**Methods:** Using diverse methods and research designs (i.e., hermeneutic phenomenology, quantitative correlational designs, and an evidence-based project), four studies are presented in this symposium to provide perspectives of nurses engaged in caring for diverse patient populations. Presenters will provide evidence that nurses can improve outcomes for neutropenic pediatric patients, pregnant women with previous perinatal loss, depressed caregivers of stroke survivors, and the oldest-old who fear and experience increasing dependency.

**Results:** Each presenter has gained an important perspective regarding these distinctly diverse populations who have unique needs. They have also gained a shared perspective regarding the importance of the role nurse researchers have in identifying nursing needs and strategies to improve care and patient/family outcomes.

**Implications:** Nursing strategies, informed by nursing scholarship, point the way to redesigning care processes to innovatively address diverse patient/family needs. Understanding the need to provide appropriate education or follow practice guidelines geared to at-risk patients, empowers nurses to engage in patient centered care and practice at their highest level. Distinct patient groups can be better served when their unique needs are understood and addressed, leading to better outcomes.

# ENGAGING NURSES, PATIENTS, AND FAMILIES TO IMPROVE HEALTH OUTCOMES

## Improving Emergency Department Nurses' Knowledge of Pediatric Neutropenic Fevers

*Luenda Perkins, DNP, RN, FNP-BC*
*Pediatric Hematology Oncology*
*Nurse Practitioner*
*Loma Linda University Children's*
*Hospital Loma Linda, CA*

*Shirley Bristol, DNP, JD, MS, CNS*
*Director, DNP Program*
*Loma Linda University*
*School of Nursing*
*Loma Linda, CA*

**Purpose and Aims:** To establish an evidence-based practice algorithm and scripted educational session for the treatment of neutropenic fevers that would result in timely antibiotic therapy administration. Specific aims were to improve pediatric emergency department nurses' knowledge of time to antibiotic (TTA) as a quality measure and to improve TTA for pediatric neutropenic febrile oncology patients presenting at a large medical center emergency department.

**Rationale:** Treatment for pediatric oncological processes requires aggressive multimodality therapy. The consequences of such regimens are often as deadly as the disease itself. A common side effect is neutropenia. According to Lanzowsky (2010), patients with an absolute neutrophil count (ANC) of less than 500/mm or 1000/mm and decreasing are considered neutropenic. The risk for morbidity and mortality, due to serious infection, increases during these time periods. Any child presenting with neutropenic fever must be treated as though they have life-threatening sepsis. To decrease the potential of such deleterious sequelae, pediatric hematology oncology and infectious disease agencies recommend "prompt" evaluation and antibiotic therapy. This is not accomplished at some hospitals, due in part to a lack of established evidence-based practice guidelines. This practice improvement project was developed to address this practice gap, ameliorating the deleterious effects of pediatric neutropenic fevers.

**Implementation Strategies:** Developing the evidence-based algorithm involved a comprehensive review of the medical literature regarding pediatric neutropenic fevers. Additionally, a system-based literature review to identify best practices at leading hospitals along with recommendations from national and international organizational bodies was conducted. Relevant theoretical frameworks were also reviewed in order to establish the basis for the project. A medical center retrospective chart review prior to implementation revealed that the average TTA for admitted pediatric oncology febrile neutropenic patients presenting through the emergency department was 192 minutes. An evidenced-based algorithm was designed, IRB approval obtained, and institutional support of key leaders enlisted to initiate the project. One hundred and twenty-two nurses, serving within the emergency department, participated in a 30-minute session on the evidenced-based algorithm. Pre-and post- knowledge assessment tests were administered. At three months a medical record review was conducted to identify pediatric oncology febrile patients with the appropriate diagnosis-related group (DRG) and assess time to initial antibiotic therapy.

**Outcomes:** A non-parametric test indicated improved knowledge ($t$ [1,122] = 22.96, $p < .0001$). A three-month retrospective and prospective medical record review demonstrated a 58-minute reduction in time to initial antibiotics, from 192 to 134 minutes.

**Conclusions:** Nurses can lead in practice change through the translation of sound research knowledge, applicable models, and internationally established guidelines. Evidence-based algorithms can be formulated and a scripted educational project can produce change in practice. This project supported improved health outcomes for pediatric oncology patients.

# ENGAGING NURSES, PATIENTS, AND FAMILIES TO IMPROVE HEALTH OUTCOMES

## Effects of Nurse Caring Behaviors on Pregnant Women's Anxiety & Attachment after Loss

*Joyce Oliverio Volsch, PhD, RN*
*Vice President Patient Care Services*
*Miller Children's & Women's Hospital Long Beach*
*MemorialCare Health System*
*Long Beach, CA*

**Purpose:** The goal of this study was to determine if nurse caring behaviors (NCB) during the perinatal loss event affect pregnancy-specific anxiety (PSA) and maternal-fetal attachment (MFA) in women who are pregnant following a perinatal loss while controlling for socio-demographic and general anxiety influences.

**Background/Conceptual Basis:** Perinatal loss is a traumatic event, often sudden and unexpected. Families are forced to integrate the simultaneous experiences of birth and death. Women who have experienced the death of a baby during pregnancy often view subsequent pregnancies with fear and apprehension. It is estimated that 59% – 86% of women with previous perinatal loss will become pregnant again (O'Leary, 2004). There is limited research on what bereaved parents perceive as caring behaviors by nurses following the human experience of perinatal loss. This study was guided by a theoretical framework drawn from Swanson's Caring model and middle range theory of caring.

**Methods:** A correlational, non-experimental, descriptive study design using established scales was applied to a non-probability, non-randomized, convenience sample. A final sample size of 33 pregnant women with a history of perinatal loss completed the surveys. Nurse caring was measured using the 24-item Caring Behaviors Inventory-24 (CBI-24) (Wu, Larrabee, & Putman, 2006). Pregnancy specific anxiety was measured using the 9-item Pregnancy Anxiety Scale (PAS) (Cote-Arsenault, 2003). Maternal fetal attachment was measured using the 19-item Maternal Antenatal Attachment Scale (MAAS) (Condon, 1998). General anxiety (GA) was measured using the 10-item questionnaire, International Personality Item Pool (IPIP) (IPIP Neuroticism, 1999). In addition to descriptive statistics of sample demographics, correlational analysis was conducted to study the interrelationships between the study variables, and multiple regressions were used to predict pregnancy specific anxiety and maternal fetal attachment.

**Results:** The results showed a significant relationship between NCB and PSA at $p = .005$. NCB significantly contributed in predicting PSA at $p = .008$ after controlling for maternal demographic variables and generalized anxiety. This research finding demonstrates that when pregnant women perceived caring behaviors by her nurse during her previous perinatal loss, she experienced an improvement in her health outcome with decreased anxiety in her current pregnancy. NCB was not a statistically significant predictor for MFA at $p = .422$.

**Implications:** A women's perinatal loss experience extends past the actual loss of her baby with lasting effects on her subsequent pregnancies. This research uniquely contributed to linking nurse caring behaviors to improved patient well-being outcomes in pregnant women following a previous loss. It provokes thoughtfulness and insight regarding pregnant women's individual experiences following perinatal loss to further investigate specific nursing behaviors that convey caring to improve patient outcomes in nursing practice and research. Implications can be drawn from this study to inform nurses on what patients perceive as helpful and caring behaviors by nurses. As front line healthcare providers who spend the greatest amount of time with patients, nurses are in a unique position and have the greatest opportunity to directly influence the patients' and families' perception of the caring experience during and after perinatal loss.

# ENGAGING NURSES, PATIENTS, AND FAMILIES TO IMPROVE HEALTH OUTCOMES

## Mutuality, Filial Piety, and Depression in Family Caregivers in China

*YuQin Pan, PhD, RN*
*Associate Professor*
*Department of Nursing*
*Jinhua Polytechnic*
*JinHua, Zhejiang, China*

*Patricia. S. Jones, PhD, RN, FAAN*
*Professor*
*School of Nursing*
*Loma Linda University*
*Loma Linda, CA*

**Purposes/Aims:** This study examines the relationship between mutuality, filial piety, and depression among adult child caregivers of parent stroke survivors in China.
**Background:** Strokes are the leading cause of adult disability in China, which creates a heavy burden on families. It is reported that 39.6 to 48.2% of the family caregivers have depressive symptoms. Although caregiving to parents has been a social norm in Chinese tradition, its enactment has been greatly challenged in recent years due to the competitive employment opportunities, shrinking family size, and the underdeveloped national elder-care system. As most adult children struggle to balance caregiving with other responsibilities, there is a great potential that adult child-parent relationships become strained in the process. The traditional concept of filial piety is changing, and subsequently may affect adult child-parent relationships. Few studies have reported on the influence of filial piety and adult child-parent relationships on the mental health of caregivers of parent stroke survivors in China.
**Methods:** This is a cross-sectional, descriptive, correlational study. A non-proportional quota sample of 126 adult child caregivers was recruited from five cities in a southeast region of China. Surveys were conducted at hospital stroke units or in the respondents' homes using structured questionnaires: 15-item Mutuality Scale, 4-item Filial Attitude Scale, 9-item Filial Behavior Scale, the 10-item Center for Epidemiological Study-Depression Scale. SPSS 17 was used for data analysis.
**Results:** The caregivers were 50.40 (9.42) years old, with a median duration of care of 36.0 months, and mean hours of care each day of 13.83 (8.62). The parent stroke survivors were 79.11 (9.89) years old, with a median score of 50.0 on activities of daily living. Mutuality ($r = - .25$, $p < .01$), filial attitude ($r = - .31$, $p < .001$), and filial behavior ($r = - .23$, $p < .05$) were significantly negatively associated with caregiver depression. After adjusting for caregivers' age, gender, number of diseases, and care receivers' activities of daily living, mutuality explained 5.5% ($\beta = - .24$, $R^2$ change = .055, $p < .01$) and filial attitude explained 4.6% ($\beta = - .22$, $R^2$ change = .046, $p < .01$) of the variance in caregiver depression.
**Implications:** Chinese adult child caregivers with a higher level of mutuality, stronger filial attitude, and more frequent filial behaviors were less depressed. However, in highly challenging situations where older female caregivers have more diseases themselves, and are taking care of parent stroke survivors with more functional impairments, only mutuality and filial attitude served as protective factors for depression. Thus, they both can be viewed as caregiver resources. Nursing strategies such as caregiver workshops, consultation, support groups, and respite care can promote caregiver mutuality and filial attitude, and thereby help maintain caregiver mental health in China.

# ENGAGING NURSES, PATIENTS, AND FAMILIES TO IMPROVE HEALTH OUTCOMES

## Engaging the Oldest-Old: Learning about Their Challenges to Independence

*Julie A. Pusztai, PhD MSN RN*
*Assistant Professor*
*Director Neighborhood Wellness Center*
*Azusa Pacific University*
*Azusa, CA*

**Purpose/Aims:** To explore the use of phenomenological methods with the aim of listening to and understanding the experiences of living with challenges to independence and dependence in very old age.

**Rationale/Conceptual Basis/Background:** Phenomenology wonders about and seeks to understand experiences of coming to know how to live in everyday lifeworld situations in a meaningful way. Living independently is highly valued in western cultures, particularly in America. Phenomenology methods yielded highly personal narratives that tell of unique experiences of living with the challenges of diminishing independence and growing dependence for oldest-old persons. These rich narratives tell of varied and similar understandings and experiences of this time of life, and enable nurses to care for the oldest-old among us.

**Methods:** Hermeneutic Phenomenology was used to explore the lived experiences of aging with men and women 85 years of age and older. Three audio recorded individual interviews, placed 3 to 4 weeks apart posed questions to 13 participants ranging in age from 87 to 100, to elicit narratives of instances of losses and gains due to aging and living long. Purposive sampling resulted in a total of 8 female and 5 male participants and included 2 African-Americans, 3 Hispanics, and 8 White participants. All were English speaking, living independently, and cognitively able to participate in the three interviews. Open ended questions posed included "Can you tell me a recent instance that illustrates a loss (gain, happiness, sadness, etc.) you have experienced due to you age?" All recordings were transcribed verbatim. Content analysis using phenomenological approaches was used to identify themes and create possible interpretations of narrative data offer by each individual.

**Results:** This phenomenological approach engaged oldest-old participants in an ongoing and intimate dialogue that revealed a sense of decreased independence that is seen as loss related to living long. What was not always stated outright, but clearly conveyed was that independence is a primary concern during a time of life in which dependence is seen as an ever-present threat. Each described this experience in a personalized way with varied meaning from their distinct lifeworld with a history, a lived present, and an anticipated future. While hope and positivity largely holds, oldest old age and waning independence can give a push and loosen their grip, forcing a movement into "unknown territory" of being old, less independent, and more dependent and vulnerable. It can be a difficult passage that is symbolic of being in the last years of life, yet narratives told of moving forward, living in the present, coming to a place of peace, and of "giving up and making new."

**Implications:** Nurses can offer and teach support of our aged, recognizing the unique implications of an increased need for others that occurs in this last stage of life. Focusing on our interdependence and what can be learned from them, we can help ease the burden that the fear of dependence places on our oldest-old.

# ENGAGING PATIENTS IN TECHNOLOGY ENABLED HEALTH RESEARCH TO IMPROVE HEALTH IN DIABETES

*Moderator:*
*Heather M. Young, PhD, RN, FAAN*
*Associate Vice Chancellor for Nursing, Dean and Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

## OVERVIEW: ENGAGING PATIENTS IN TECHNOLOGY ENABLED HEALTH RESEARCH TO IMPROVE HEALTH IN DIABETES

*Heather M. Young*

---

## PATIENT AND STAKEHOLDER ENGAGEMENT IN RESEARCH: THE PCORI OPPORTUNITY

*Heather M. Young, Sheridan Miyamoto, Sarina Fazio,*
*Yajarayma Tang-Feldman, Madan Dharmar, Stuart Henderson*

---

## DIABETES MANAGEMENT AND MHEALTH TECHNOLOGY: THE IMPORTANCE OF HEALTHCARE PARTNERSHIPS AND CLINICAL INTEGRATION

*Sheridan Miyamoto, Stuart Henderson, Sarina Fazio,*
*Madan Dharmar, Yajarayma Tang-Feldman, Heather M. Young*

---

## MHEALTH TECHNOLOGY AND CLINICAL INTEGRATION OF PATIENT-GENERATED HEALTH DATA (PGHD) FOR IMPROVING PATIENT ENGAGEMENT

*Madan Dharmar, Sheridan Miyamoto, Sarina Fazio, Yajarayma Tang-Feldman,*
*Heather M. Young*

---

## SENSOR GENERATED HEALTH DATA FOR BEHAVIOR CHANGE IN NURSE COACHING: A CASE STUDY

*Sarina Fazio, Sheridan Miyamoto, Yajarayma Tang-Feldman,*
*Madan Dharmar, Heather Young*

---

## ENGAGING IN SELF-MANAGEMENT SUPPORT THROUGH SOCIAL MEDIA

*Deborah A. Greenwood, Perry Gee*

# ENGAGING PATIENTS IN TECHNOLOGY ENABLED HEALTH RESEARCH TO IMPROVE HEALTH IN DIABETES

## Overview: Engaging Patients in Technology Enabled Health Research to Improve Health in Diabetes

*Heather M. Young, PhD, RN, FAAN*
*Associate Vice Chancellor for Nursing, Dean and Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

**Purpose:** This symposium will highlight results of a PCORI funded program of research focused on the utilization of emerging mobile and sensor driven technologies to enhance and improve the lives of persons living with diabetes.

**Background:** Diabetes affects more than 29 million people in the United States, and an estimated 86 million people have pre-diabetes. Diabetes type-2, the most common type of diabetes, is amenable to interventions that focus on behavior changes such as physical activity and diet. There is increasing evidence that person-centered models of care that target behavioral health are more successful in improving and addressing chronic illnesses such as diabetes. Mobile health (mHealth) technologies are emerging as a promising approach to engage persons with diabetes in improving their management of the disease. Smart phone applications, sensors and text messaging allow patients to receive health information wherever they are. If this technology is developed to allow bi-directional, timely communication of data and tailored feedback, it has the potential to change an individual's health behavior and prevent or mitigate the factors that lead to disease. Given that 91% of adults in the United States own a mobile phone, 63% of adult cell phone owners report use of their phone to access the internet, and 62% of adults with two or more chronic conditions report tracking a health indicator, it appears the barriers to mHealth technology access are being quickly overcome and will assume a larger role in future healthcare leading to improved health outcomes in patients with chronic diseases.

**Presentation:** This symposium will feature different elements of the PCORI funded research: patient and stakeholder engagement, integration of sensor and mHealth technologies into healthcare delivery and social media for diabetes self-management support. The first presentation will explore patient engagement in research and strategies to engage patients, providers and technology thought leaders to inform research and drive health system change. The second describes the results of focus groups with patients and providers on the potential for wireless activity trackers on managing chronic conditions. The third describes how an innovative platform was developed and tested that has the capacity to collect and integrate sensor-driven patient generated health data into the electronic health record for clinical practice. The fourth presentation utilizes a case study approach to demonstrate how integration of sensor driven patient generated health data can inform and enhance a nurse health coaching intervention. The final presentation will discuss the application of social media for diabetes self-management support.

**Conclusion:** Innovative health technologies have the potential to increase engagement of individuals with diabetes with personalized, targeted education, action plans or feedback wherever they may be. Research and health programs that are person-centered and responsive to patient priorities have the potential to promote healthier behaviors, motivate change and improve care and outcomes.

---

**Funding:** Patient-Centered Research Outcomes Institute (PCORI) HIS-1310-07894.

# ENGAGING PATIENTS IN TECHNOLOGY ENABLED HEALTH RESEARCH TO IMPROVE HEALTH IN DIABETES

## Patient and Stakeholder Engagement in Research: The PCORI Opportunity

*Heather M. Young, PhD, RN, FAAN*
*Associate Vice Chancellor for Nursing,*
*Dean and Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Sheridan Miyamoto, PhD, FNP, RN*
*Assistant Professor*
*College of Nursing*
*The Pennsylvania State University*
*State College, PA*

*Sarina Fazio, MS, RN*
*Administrative Research Nurse*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Yajarayma Tang-Feldman, MA*
*Research Specialist*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Madan Dharmar, MBBS, PhD*
*Associate Research Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Stuart Henderson, PhD*
*Associate Director of Evaluation*
*Clinical and Translational Science Center*
*University of California, Davis*
*Sacramento, CA*

**Purpose:** This presentation will illustrate how to address PCORI expectations for patient and stakeholder engagement in designing a competitive proposal and in implementing research using a funded PCORI project aiming to improve health for persons living with diabetes through nurse coaching and mobile health (mHealth) integration with the electronic health record. The presentation includes specific strategies and tactics to optimize stakeholder engagement and contributions.

**Background:** The Patient Centered Outcomes Research Institute (PCORI) was established as a provision of the Affordable Care Act (ACA). The PCORI mission is to help people make informed healthcare decisions, and improves healthcare delivery and outcomes, by producing and promoting high integrity, evidence-based information that comes from research guided by patients, caregivers and the broader healthcare community. This mechanism is well suited for nurse scientists as engagement with stakeholders throughout the research process is an expectation and the priorities align with the commitment of nursing to partnering with individuals, families and communities to improve health.

**Methods:** The project includes three stakeholder advisory boards with over 35 members: Patients (persons living with diabetes), Technology Leaders (computer scientists, informaticists, chief information officer, physician technology champions) and Providers (nurse coaches, physicians, nurse practitioners, clinical nurse specialists). Meaningful roles and responsibilities are in place for all participants and the advisors are highly engaged in design and implementation.

**Outcomes Achieved:** The advisory boards are integral to the study and provide leadership in design of the intervention, the technology build, and integration of the intervention into the workflow of primary care clinics. For example, important elements of engagement are: 1) creating a learning community; 2) reimbursing advisors for their time and expertise; and 3) establishing clear avenues for communication and input. Patient advisors are active in participant recruitment and in dissemination.

**Conclusions:** This project brings together several groups of stakeholders to accomplish a shared goal of integrating mHealth devices/apps into clinical care, providing a common platform for patients and clinicians to share as they collaborate to manage diabetes. Without the deep involvement of persons living with diabetes, technology experts and stakeholders and clinicians, the goals of the project could not be accomplished.

---

**Funding:** Patient-Centered Research Outcomes Institute (PCORI) HIS-1310-07894.

# ENGAGING PATIENTS IN TECHNOLOGY ENABLED HEALTH RESEARCH TO IMPROVE HEALTH IN DIABETES

## Diabetes Management and mHealth Technology: The Importance of Healthcare Partnerships and Clinical Integration

*Sheridan Miyamoto, PhD, FNP, RN, Assistant Professor*[1]
*Stuart Henderson, PhD, Associate Director of Evaluation*[2]
*Sarina Fazio, MS, RN, Administrative Research Nurse*[3]
*Madan Dharmar, MBBS, PhD, Associate Research Professor*[3]
*Yajarayma Tang-Feldman, MA, Research Specialist*[3]
*Heather M. Young, PhD, RN, FAAN, Associate Vice Chancellor for Nursing, Dean and Professor*[3]

[1]*College of Nursing, The Pennsylvania State University, State College, PA*
[2]*Clinical and Translational Science Center, UC Davis, Sacramento, CA*
[3]*Betty Irene Moore School of Nursing, UC Davis, Sacramento, CA*

**Background:** A large part of successful self-management of diabetes lies in the hands of those living with the disease. Daily decisions about food choices, activity and other behaviors have a vital impact on disease management. These choices are often restrictive, burdensome and difficult to sustain. While consumers are turning to commercially available mobile applications and tools to try to assist them to make changes, the adoption of this technology is often short lived and sustained results from the use of these tools has not been demonstrated.

**Objective:** As part of a project aimed at developing an intervention to assist persons living with diabetes better self-manage their condition and successfully work toward their personal health goals, focus groups were conducted to understand potential users' experience of living with and managing diabetes, their views about ways in which technology could support their efforts in health behavior change, and what they believed the impact would be of integrating personal goals and Patient-Generated Health Data (PGHD) into the electronic health record (EHR).

**Methods:** Our team conducted 4 focus groups with persons living with diabetes. Topics included experience living with diabetes, prior success and challenges faced in diabetes self-management and health behavior change, technology preferences, and perceived benefits or drawbacks of integrating daily activity data in the EHR. A combination of deductive and emergent coding strategies was used to identify themes from the focus groups.

**Results:** Participants described the experience of living with diabetes as uniquely stressful and lonely as they are facing constant decision points related to food, activity, medication and management of life events and stress. Findings suggest that while sensor technology alone (passive tracking of activity and sleep and logged tracking of nutrition) is likely to produce awareness of personal activity and motivation to improve, there is evidence that pairing technology with healthcare partnerships has the potential to sustain behavior change. Participants believe that sharing their PGHD with a healthcare partner would help them set health goals, provide feedback to assure them they were making the right choices, assist with course correction if they got off track, and provide help to synthesize data so they could understand how behavior choice impacts health outcomes. Finally, participants identified that integrating PGHD into the EHR would offer a more complete picture of their overall health and progress in self-management with their healthcare providers and may lead to personalized clinical decision making.

**Conclusions:** Technology solutions to improve health for those living with diabetes may be insufficient to accomplish the difficult work of daily health behavior choices individuals must make if they are not paired with a knowledgeable healthcare partner to provide timely, personal feedback. Healthcare partners can work with patients to identify goals and measure progress to inform clinical decision making and deepen mutual understanding of the patient's experiences.

**Funding:** Patient Centered Outcomes Research Institute (PCORI) Improving Healthcare Systems HIS-1310-07894

# ENGAGING PATIENTS IN TECHNOLOGY ENABLED HEALTH RESEARCH TO IMPROVE HEALTH IN DIABETES

## mHealth Technology and Clinical Integration of Patient-Generated Health Data (PGHD) for Improving Patient Engagement

*Madan Dharmar, MBBS, PhD, Associate Research Professor*[1]
*Sheridan Miyamoto, PhD, FNP, RN, Assistant Professor*[2]
*Sarina Fazio, MS, RN, Administrative Research Nurse*[1]
*Yajarayma Tang-Feldman, MA, Research Specialist*[1]
*Heather M. Young, PhD, RN, FAAN, Associate Vice Chancellor for Nursing, Dean and Professor*[1]

[1]*Betty Irene Moore School of Nursing, University of California, Davis, Sacramento, CA*
[2]*College of Nursing, The Pennsylvania State University, State College, PA*

**Purpose:** This presentation will demonstrate the processes involved in selecting sensors and mHealth technologies, collecting PGHD, and integrating relevant, right-sized data elements into the patients' EHR, displaying it along with relevant clinical data on a dashboard within the EHR, and conducting advanced analytics to summarize and generate meaningful nuggets of information to include in the dashboard to be used during the healthcare visit.

**Background:** mHealth technologies are becoming an integral part of everyday life; this is particularly true among people suffering from chronic health conditions. Sixty two percent of Americans with 2 or more chronic conditions track a health indicator; of those, 45% have Diabetes Mellitus. While using sensors and technology has the potential to empower patients to better understand their disease and help them in self-management, technologic limitations exist due to the lack of integration of patient generated health data (PGHD) into the Electronic Health Record (EHR) thereby limiting it's availability to their healthcare team. Focus group participants with live with diabetes identified that partnering with their healthcare professional by sharing PGHD could lead to a more meaningful support in establishing personalized health goals, monitoring progress, and getting targeted feedback to help shape their lifestyle choices to achieve their health goals.

**Methods:** The team compared and evaluated different commercially available sensors and apps which tracked physical activity and nutrition data. We also identified mHealth technology that can serve as a connector to direct the data collected by the sensors to the EHR. Using an iterative process, the Information Technology team at our institution developed the necessary platform and dashboard for the sensor data within the EHR. The advisory boards for this project (patient, provider and technology) were actively engaged in all phases of the technology development including: designing, implementation and testing of the technologies.

**Outcomes:** Among the different sensors evaluated, the Basis PEAK was selected for its data quality and compatibility with Apple HealthKit. The Basis PEAK tracked and shared physical activity data and My Fitness Pal, was determined to be best suited to collect information on the patient's daily nutritional choices. Apple HealthKit was chosen as the connector which directed the data to the EHR (EPIC) using the MyChart app. MyChart App will manage patient authentication and allow for control over what data elements from the sensor is shared with the healthcare provider. Within the dashboard, the patient and provider have the ability to choose and visualize PGHD and clinical parameters such as HbA1c, LDL, etc., to be displayed within the same graphical view which has the potential to lead to a more meaningful clinical conversation based on goals set by the patient and the associated metrics highlighting progress toward those goals.

**Conclusions:** mHealth technologies have the potential to support a person's effort to engage in sustainable lifestyle choices which can lead to better self-management of their disease. These technology solutions can play a critical role in improving the health of patients living with diabetes not only by empowering the patient but also by enhancing patient-centered healthcare interactions.

---

**Funding:** Patient-Centered Research Outcomes Institute (PCORI) HIS-1310-07894

# ENGAGING PATIENTS IN TECHNOLOGY ENABLED HEALTH RESEARCH TO IMPROVE HEALTH IN DIABETES

## Sensor Generated Health Data for Behavior Change in Nurse Coaching: A Case Study

*Sarina Fazio, MS, RN, Administrative Research Nurse*[1]
*Sheridan Miyamoto, PhD, FNP, RN, Assistant Professor*[2]
*Yajarayma Tang-Feldman, MA, Research Specialist*[1]
*Madan Dharmar, MBBS, PhD, Associate Research Professor*[1]
*Heather Young, PhD, RN, Associate Vice Chancellor for Nursing*
*Dean and Professor*[1]

[1]*Betty Irene Moore School of Nursing, University of California, Davis, Sacramento, CA*
[2]*College of Nursing, The Pennsylvania State University, State College, PA*

**Purpose:** This work presents a case study describing positive outcomes of two participants who engaged in a nurse coaching intervention using mobile health (mHealth), a wireless wearable sensor and patient generated health data (PGHD) in an effort to improve their health and physical fitness.

**Background:** In response to the growing burden of chronic disease, health coaching interventions targeting lifestyle management have become widely adopted among health systems and organizations. Motivational interviewing, a patient centered health coaching approach, has been shown to be effective in improving a number of health behaviors such as physical activity, nutritional habits, weight loss, and smoking cessation. Traditionally, health coaching has relied on patient self-report of behavior and activity patterns to guide coaching practices. The availability of commercial activity trackers and mHealth applications to capture health behaviors offers an objective view of daily activity not previously available.

**Methods:** The health coaching intervention was part of a randomized clinical trial in which intervention participants were assigned a nurse health coach and given a Fitbit One, a commercially available physical activity and sleep tracking sensor to wear over a three month period. Through bi-weekly telephone calls, the nurses utilized motivational interviewing techniques to support patients in setting health goals and to make sense of their PGHD passively collected by the Fitbit sensor. Two participants from the study, a 53 year old Latino woman (participant ML) and a 53 year old mixed race male (participant OB), were selected to illustrate two examples of how PGHD and mHealth technologies can be utilized to inform and improve health coaching and health behavior change.

**Results:** Throughout the intervention ML and OB set bi-weekly goals related to their physical activity (steps, stairs, active minutes), nutritional habits (calories consumed), and sleep (quality, duration) in an effort to improve their overall health and fitness. ML and OB reached varying degrees of success in accomplishing their self-identified goals. By the end of the three month intervention, both participants achieved meaningful improvements to their anthropometric measurements, cardiovascular fitness and exercise habits. Visualization of participants' PGHD demonstrated the increased level of weekly physical activity had improved over the course of the intervention. Both participants also self-reported higher quality of life and health status ratings through questionnaires.

**Implications:** Emerging mHealth technologies and other health applications can track relevant information to assist individuals in making and sustaining lifestyle change. Integrating PGHD and mHealth technologies into health coaching practice allows nurses to perform meaningful analysis and correlate patient data with health behaviors to evaluate patient goal progression and provide timely and personal feedback based on their health goals. These case studies highlight the positive outcomes of two individuals who participated in a clinical trial, suggesting that the addition of sensor data adds value to nurse health coaching practice. However, further research is necessary to determine the generalizability and effectiveness of pairing mHealth technologies with evidence-based nurse coaching interventions among larger numbers of diverse subjects.

---

Funding: UC Davis Office of Research, Research Investments in the Sciences and Engineering and Patient-Centered Research Outcomes Institute (PCORI) HIS-1310-07894

# ENGAGING PATIENTS IN TECHNOLOGY ENABLED HEALTH RESEARCH TO IMPROVE HEALTH IN DIABETES

## Engaging in Self-Management Support through Social Media

*Deborah A. Greenwood, PhD, RN, CDE,*
*BC-ADM, Research Scientist*
*Office of Patient Experience*
*Sutter Health*
*Sacramento, CA*

*Perry Gee, PhD, RN*
*Nurse Scientist*
*Nursing Research/Clinical Informatics*
*Dignity Health*
*Phoenix, AZ*

**Purpose:** The purpose of this project is to raise awareness of the potential benefits of social media for diabetes self-management support and identify the need for rigorous research in this field.

**Background:** The National Standards for Diabetes Self-Management Education and Support acknowledge the need for and value of ongoing support for people with diabetes. Diabetes is a chronic disease requiring self-management 24 hours a day, 7 days a week. However, the person with diabetes only engages with their healthcare provider <.1 % of their life. Seeking and engaging in support is necessary. Through social media platforms, communities of people with diabetes have been established where people living with diabetes, caregivers, and/or family members connect at a time that is convenient for them, in the right place, at the right time, in the most satisfying way. The type 1 diabetes community is actively engaged online and changing the way they learn about self-management and many view online support as a critical component of their care. However, type 2 diabetes can be a stigmatized condition, making it difficult to receive support and understanding from people not faced with the same challenges. These online communities create safe places where people can share experiences and combat fear and isolation. E-patients are individuals who use the Internet to gather information about their health using electronic platforms such as social media. The "e" in e-patient stands for empowered, engaged, equipped and enabled. They are active in their care and partnering with their healthcare team. E-patients share information that healthcare providers may not have, creating an opportunity for e-patients and providers to collaborate and for patients to learn from peers.

**Process:** The DIKW Collaborative Model is a framework for identifying opportunities for nursing informatics to support e-patients in the process of generating collaborative wisdom, greater than one's individual wisdom. This framework was reviewed and re-interpreted with the focus on social media. The goal was to enhance self-management and empower people with diabetes in the process of achieving wisdom-applying knowledge to manage and solve problems. This framework provides great opportunity to understand the benefits of partnering with e-patients in the hopes of truly creating a collaborative wisdom.

**Outcomes Achieved:** This project supports the application of the DIKW Collaborative Model as a framework to understand the potential benefits of partnering with patients and encouraging engagement through social media platforms for self-management support.

**Conclusions:** The e-patient, through the use of social media, is changing the way we educate and care for people with diabetes. Social media creates an opportunity to develop collaborative wisdom and be full partners in their care. Ongoing self-management support is possible through social media platforms, learning from peers living with the same challenges, and partnering with healthcare providers to ensure the best quality care. Research needs to be conducted to evaluate the benefits of social media on both health outcomes and quality of life, especially focusing on individuals with type 2 diabetes.

# ENHANCING STUDENT ENGAGEMENT: STRATEGIES FOR INNOVATIVE AND INTENTIONAL LEARNING

*Moderator:*
*Angie Docherty, NursD, MPH, RN*
*Assistant Professor*
*School of Nursing*
*Oregon Health & Science University - Monmouth Campus*
*Monmouth, OR*

## OVERVIEW: ENHANCING STUDENT ENGAGEMENT: STRATEGIES FOR INNOVATIVE AND INTENTIONAL LEARNING

*Angie Docherty, KellyAnn Garthe, Judy Borgen,*
*Patti Warkentin, Katherine F. O'Rourke*

---

## THEATER OF THE OPPRESSED: TRANSFORMING NURSING STUDENTS INTO ENGAGED PARTICIPANTS

*KellyAnn Garthe, Steven Buck*

---

## SIMULATION AS A CLINICAL SITE FOR ACTIVE ENGAGEMENT

*Judy Borgen, Patti Warkentin*

---

## LEGAL SIMULATION: ACTIVE AND PASSIVE LEARNING

*Patti Warkentin, Angie Docherty, Rana Halabi Najjar,*
*Nick Miehl, Adria Gredvig*

---

## CREATING STUDENT RESEARCHERS: A CAMPUS MODEL

*Katherine F. O'Rourke, Rana Halabi Najjar*

# ENHANCING STUDENT ENGAGEMENT: STRATEGIES FOR INNOVATIVE AND INTENTIONAL LEARNING

## Overview: Enhancing Student Engagement: Strategies for Innovative and Intentional Learning

*Angie Docherty, NursD, MPH, RN, Assistant Professor*
*KellyAnn Garthe, MSN, RN, Clinical Assistant Professor*
*Judy Borgen, BSN, RN, Clinical Instructor*
*Patti Warkentin, M.Ed., BSN, RN, Clinical Instructor*
*Katherine F. O'Rourke, BSN, RN, Clinical Instructor*
*School of Nursing*
*Oregon Health & Science University - Monmouth Campus*
*Monmouth, OR*

**Aim:** This symposium will outline four innovative and provocative teaching innovations that address the call for educational transformation. The specific aims are to:

- Foster active student engagement through a community of collaborative learning and research
- Enhance student learning through immersion in interactive and challenging educational strategies

**Rationale/Background:** In the current academic climate, there has been a number of 'calls' to transform nursing education, particularly at the baccalaureate level. Educators have been challenged to improve skills of inquiry and research, develop new models of simulation that focus attention towards the patients' experience, and rethink how we teach and explore ethical dimensions of nursing. At the heart of this transformation is the need to engage students in shaping and developing their own learning. Student engagement has been described as encompassing five key themes: 1) active and collaborative learning; 2) participation in challenging academic activities; 3) formative communication with academic staff; 4) involvement in enriching educational experiences; and 5) feeling legitimated and supported by university learning communities (Coates, 2007). Designing educational opportunities that meet each of these key themes requires considered and intentional planning and development to ensure meaningful, student centered participation.

**Brief Description of Project:** In a concept-based baccalaureate curriculum, four innovative and challenging learning modalities have been developed. Each modality adheres to the core themes underpinning student engagement bringing creativity and enrichment to the learning environment. The four modalities are:

- TOTO: Theatre of the Oppressed
- Active Engagement in Clinical Site Simulation
- Legal Simulation: Active v Passive Participation
- Creating Student Researchers: A Campus Model

**Outcomes Achieved/Documented:** The introduction of these four projects demonstrates commitment to student engagement and commitment to the transformation of undergraduate baccalaureate education. Outcomes achieved include:

- Student engagement in the creation and delivery of innovative teaching modalities
- Student immersion in unfolding and provocative simulation activities
- The promotion of undergraduate inquiry and research through a collaborative Learning and Research Community.

**Conclusions:** In this transformative period of undergraduate baccalaureate education, nurse educators must develop pedagogical approaches that equip students for nursing in the current health care climate. Students must be given an opportunity to find their voice and develop the necessary attributes to engage in evidence based care and patient advocacy. Creating a community of learning and research that is based on innovation, engagement, collaboration and inquiry is an important strategy in fostering these attributes. It is also an important strategy in demonstrating that undergraduate nurse education is more than able to meet the transformative challenges.

# ENHANCING STUDENT ENGAGEMENT: STRATEGIES FOR INNOVATIVE AND INTENTIONAL LEARNING

## Theater of the Oppressed: Transforming Nursing Students into Engaged Participants

*KellyAnn Garthe, MSN, RN*
*Clinical Assistant Professor*
*School of Nursing*
*Oregon Health & Science University*
*Monmouth Campus*
*Monmouth, OR*

*Steven Buck, MSN, RN*
*Instructor*
*School of Nursing*
*Oregon Health & Science University*
*Monmouth Campus*
*Monmouth, OR*

**Aims:**

1. To introduce nursing students to simulated unethical, uncomfortable, and inappropriate situations in healthcare.

2. To engage nursing students in observing, analyzing, and then taking action against unethical, uncomfortable, and inappropriate behaviors in healthcare experiences.

3. To guide students in evaluating their responses when confronted with unethical, uncomfortable, and inappropriate situations in healthcare.

**Rationale/Background:** Theater of the Oppressed was developed in the 1970s by a Brazilian director to give voice to the oppressive situations humans experience globally. The guiding premise is that humans, as active participants in our world, have a unique ability to observe action in ourselves and others and learn from the experiences we have for future application. In the healthcare system there will be many occasions in which students will be faced with ethical dilemmas surrounding their patients and fellow healthcare team members. By engaging in Theater of the Oppressed, students will have time to actively practice many ways in which they would approach these uncomfortable or even violent situations in a safe environment while guided by their faculty and peers.

**Brief Description of Project:** Undergraduate BSN students in small groups are presented with a scenario of oppression that is developed and acted out by senior nursing students. Examples include a patient who is being abused by family, workplace lateral violence, and the escalating aggressive patient. Sophomores observe the first few minutes of the scenario and, after getting a clear picture of the oppression that is occurring, will volunteer to replace the role of the nurse with themselves. Observer then becomes engaged participant and responds in a way they feel is appropriate for the situation. Multiple observers can rewind the scene and replace the role of the nurse until the scene plays out in a way that supports principles such as ethical behavior, professional demeanor, and advocacy for the oppressed. After the simulation the students debrief with faculty to discuss how they felt, what worked, and what didn’t work. It is an engaged exercise in advocacy.

**Outcomes:**

- Allows students to practice very difficult and uncomfortable situations and evaluate their actions in a safe and supported simulated environment
- Engages students in learning with their peers, upper class mentors, and faculty guides
- Immerses students in feeling the emotions involved in the scenario
- Invests students in the outcome because of their active engagement in the roleplay

**Conclusions/Recommendations:** Nursing students are not always exposed to unfolding unethical situations because of their limited or controlled clinical environment. Exposing students to simulated situations that may be unethical, violent, or inappropriate allows them to practice their response in a safe environment and active engagement allows students to feel the very real emotions that they may feel when these situations unfold in their reality.

# ENHANCING STUDENT ENGAGEMENT: STRATEGIES FOR INNOVATIVE AND INTENTIONAL LEARNING

## Simulation as a Clinical Site for Active Engagement

*Judy Borgen, BSN, RN*
*Clinical Instructor*
*School of Nursing*
*Oregon Health & Science University*
*Monmouth Campus*
*Monmouth, OR*

*Patti Warkentin, M.Ed., BSN, RN*
*Clinical Instructor*
*School of Nursing*
*Oregon Health & Science University*
*Monmouth Campus*
*Monmouth, OR*

**Aims:**

1. To enhance complex understanding through student driven case design and development of scenarios.
2. To promote active engagement of all students in group simulation through innovation and participation within traditional and non-traditional roles.
3. To immerse students in unique end-of-life and mental health case scenarios within a safe collaborative environment.

**Rationale/Background:** Research shows a relative absence of palliative and end-of-life curricula in nursing education. In addition, obtaining clinical sites for end-of-life and mental health rotations are scarce. Therefore, as the population ages and chronic health conditions increase, there is a palpable need for innovation and creation of learning opportunities.

A body of research demonstrates the ability of simulation to provide opportunities of direct and indirect learning for nursing students, while offering the student the chance to participate in an unfamiliar nurse role. The use of a dramatic framework within simulation is one technique which allows for the exploration of issues that may be too difficult to explore in reality. In addition, studies have indicated that students perceive higher levels of learning when they are in roles other than that of observer. Therefore, full student immersion in simulation as well as informal, real time debriefing provides in-depth reflection, probing, questioning and critiquing in a safe, learning environment.

**Brief Description of Project:** Two distinct simulation clinical sites were created on campus to provide a rotation for junior students to become safely immersed in both end- of-life and mental health scenarios. Through research, case development, applied theater/simulation, debriefing and active reflection, students lead and fully participated in four cases over four weeks. During this period, complexities were scaffolded to enhance student learning.

**Outcomes:**

- Recognition of biases and inexperience in a respectful approach to differences in clients and families
- Identified insight and understanding of case development within the chronic illness setting using case scenarios across the lifespan
- Interpret and demonstrate application of theories/research related to end-of-life and chronic illness
- Demonstration of leadership and facilitation skills with group dynamics
- Engagement in focused and higher levels of communication with end-of-life and mental health case scenarios

**Conclusions:** Students were fully immersed in all roles of nurse, case manager, client and family allowing for active group engagement and interactive facilitation with unfolding mental health and end-of-life case scenarios. Through blogs and group forums, students identified rich learning, meaningful interactions and development of chronic illness course outcomes. Feedback revealed robust support to incorporate student driven case design clinical simulations for chronic illness curriculums. Clinical site simulation provided a bridge for students to attain needed learning in an innovative setting.

# ENHANCING STUDENT ENGAGEMENT: STRATEGIES FOR INNOVATIVE AND INTENTIONAL LEARNING

## Legal Simulation: Active and Passive Learning

*Patti Warkentin, M.Ed., BSN, RN, Clinical Instructor & Student Placement Coordinator*
*Angie Docherty, NursD, MPH, RN, Assistant Professor & Campus Associate Dean*
*Rana Halabi Najjar, PhD, RN, PNP, Clinical Assistant Professor*
*Nick Miehl, MSN, RN, Clinical Instructor & Faculty Simulation Coordinator*
*Adria Gredvig, MA, Senior Campus Associate*

*School of Nursing*
*Oregon Health & Science University - Monmouth Campus*
*Monmouth, OR*

**Aims:**

1. To enhance student engagement in learning through immersion in a simulated legal case exploring safe and accountable nursing practice.
2. To evaluate the effectiveness of the simulation delivery model (active and passive participation) and its curricular positioning for optimal learning.
3. To explore the feasibility of an interprofessional education initiative on a rural campus.

**Rationale/Background:** Simulation has been shown to be an effective and rich learning environment for undergraduate nursing students. Currently the evidence base focuses on strengthening the student's clinical practice often in response to scarcity of clinical placement sites. Simulated learning experiences offer robust and safe opportunities for student immersion in learning whilst exploring and experiencing the impact of their nursing practice.

The rapidly expanding role of the RN in an increasingly complex healthcare delivery system amplifies nursing vulnerability and legal risk. Evidence shows that critical decision making competencies and interprofessional collaboration and communication support the safety of patients and accountable interprofessional practice. The mock trial legal simulation offers an ideal opportunity to bring health professions students together in a simulated environment focusing on the most important legal, ethical and interprofessional communication issues.

**Brief Description of Project:** Under the guidance of faculty, students participating in the simulation will engage with the legal implications of their nursing practice, dialogue with their professional vulnerability, and engage in learning to enhance both safety and accountability in their nursing practice.

One senior undergraduate nursing class will participate in the Legal Simulation. The course design allows for students to be randomly assigned as active participants in either a civil or criminal case. The students are active learners in their assigned case and passive learners in the non-assigned case. Each group will then progress through the legal simulation. Assessment of student learning and engagement will include both conceptual and experiential constructs. Interprofessional community partners will observe the simulation to assess it as a potential methodology for interprofessional education.

**Outcomes:** The undergraduate nursing student will:

- Experience the impact of professional vulnerability in a safe and supported learning environment.
- Engage and invest in learning through exploration of the legal implications of nursing practice.
- Immerse themselves in the lived experiences of safe/not safe and accountable/non accountable nursing practice.

Community partners will:

- Observe and explore the feasibility of interprofessional education using the Legal Simulation.

**Conclusions/Recommendations:** Nursing students transition into practice lacking understanding of the legal implications of their nursing role. The legal simulation provides students the opportunity to immerse themselves in the experience of professional practice breaches. This exposure to the legal implications of their emerging practice allows them to engage with critical concepts of safe and accountable nursing practice under the guidance of faculty in a safe learning environment. The simulated learning environment has educational impact beyond the scope of undergraduate nursing education. Using the legal simulation, community partners will explore the feasibility of future interprofessional educational collaboration. Future plans will include expanding the model as an interprofessional educational collaboration.

# ENHANCING STUDENT ENGAGEMENT: STRATEGIES FOR INNOVATIVE AND INTENTIONAL LEARNING

## Creating Student Researchers: A Campus Model

*Katherine F. O'Rourke, BSN, RN*
*Clinical Instructor*
*School of Nursing*
*Oregon Health & Science University*
*Monmouth Campus*
*Monmouth, OR*

*Rana Halabi Najjar, PhD, RN, CPNP*
*Assistant Professor*
*School of Nursing*
*Oregon Health & Science University*
*Monmouth Campus*
*Monmouth, OR*

**Aims:**

1. To create a learning and research community by encouraging student and faculty centered participation and collaboration in nursing research
2. To immerse undergraduate nursing students in research through faculty guided interaction and activities
3. To promote exploration of pathways to research and graduate education.

**Rationale/Background:** The Institute of Medicine's momentous reports "To Err is Human" and "Future of Nursing" stressed the importance of evidence-based practice (EBP) and the benefits of baccalaureate nursing education. In addition, the American Association of Colleges of Nursing stipulates that baccalaureate prepared nurses should be able to competently understand and apply research findings from nursing and other disciplines in practice. However, baccalaureate prepared nurses can demonstrate limited understanding and use of research, lack comfort in translating research to practice and display a lack of awareness and responsiveness to research that is required for EBP. Given the importance of EBP to quality and cost effective nursing care, educators must strive to facilitate comfort and competence in research, and promote interest and enthusiasm for nursing research.

Currently, the recommended approach is to integrate research into the curriculum. However, students often demonstrate a dislike and lack of appreciation for research, which is seen as complex and incomprehensible. The ultimate goal of this campus model is to engage students as active and lifelong researchers, through early reinforcement of knowledge and skills, and supported reflection and participation in the research process.

**Brief Description of Project:** Faculty and staff created the M- Innovation and Research Team (MIRT) several years ago to help support research endeavors on our campus. Since then MIRT members have presented at conferences, secured grant funding, and conducted several pilot studies focused on nursing education. A supplemental student group, Students of M- Innovation and Research Team (SMIRT), an outgrowth of MIRT, was developed to provide a forum for active and collaborative research education, encourage participation in faculty- and student-led research, facilitate formative communication, collaboration and interaction with faculty, and enrich and build on the fundamentals of research based in the curriculum in a supportive extracurricular environment. At monthly meetings led by MIRT faculty and staff, students engage in fun and innovative learning activities that reinforce research knowledge and skills including scientific inquiry, ethical standards and the ethical review process, levels of evidence, components of research articles, research methods and statistical analysis. Additionally, SMIRT members have the opportunity to prepare posters for a local student research conference.

**Outcomes:**

- Participation by all levels of students in extra-curricular research
- Increased engagement and collaboration in faculty- and student- led research
- Reinforcement of research curriculum

**Conclusions/Recommendations:** Research is crucial to nursing practice, and the importance of training future nurses to use and be excited about nursing research cannot be overemphasized. By giving students more exposure to research, they can begin to understand the concepts and the importance behind using research in their own nursing practice. Future research will include tracking participation in SMIRT in relation to research utilization and consumption of newly hired nurses, and students' attitudes towards research.

# EXAMINING PATTERNS IN PRESCRIBING ADHD MEDICATIONS

*Moderator:*
*Teri Woo, PhD, CPNP, FAANP*
*Associate Professor*
*School of Nursing*
*Pacific Lutheran University*
*Tacoma, WA*

## OVERVIEW: EXAMINING PATTERNS IN PRESCRIBING ADHD MEDICATIONS

*Teri Woo*

---

## NUANCES OF WORKING WITH MEDICAID CLAIMS AND PHARMACY CLAIMS DATA

*Tamara Odom-Maryon, Tracy Klein, Shannon Panther, Teri Woo, Kenn B. Daratha*

---

## PRESCRIBER VARIANCE IN CHILDHOOD ADHD TREATMENT: OREGON MEDICAID 2012

*Tracy Klein, Shannon Panther, Teri Woo, Tamara Odom-Maryon, Kenn B. Daratha*

---

## ON AND OFF-LABEL PRESCRIBING OF ADHD MEDICATIONS: OREGON MEDICAID 2012

*Shannon Panther, Tracy Klein, Teri Woo, Tamara Odom-Maryon, Kenn B. Daratha*

# EXAMINING PATTERNS IN PRESCRIBING ADHD MEDICATIONS

## Overview: Examining Patterns in Prescribing ADHD Medications

*Teri Woo, PhD, CPNP, FAANP*
*Associate Professor*
*School of Nursing*
*Pacific Lutheran University*
*Tacoma, WA*

**Purpose/Aims:** To disseminate methods and findings of contemporary research examining patterns of prescribing Attention Deficit Hyperactivity Disorder (ADHD) medications in children.

**Rationale:** ADHD is highly prevalent and rates of diagnosis are increasing. Guidelines exist for the use of ADHD medications in children with ADHD. A variety of physician and advanced nurse practitioner providers, including psychiatric, pediatric and family practice providers, manage and prescribe psychotropic medications for children with ADHD. In the State of Oregon, legal authority for prescribing ADHD medications is similar for both physician and nurse practitioner prescribers. However, research literature examining the patterns of ADHD prescribing among differing providers is lacking.

**Method:** The papers included in the symposia: 1) describe the process used to scrutinize encounter and pharmacy claims data to ensure the accuracy, acceptability and completeness of the data for subsequent analysis; 2) examine prescribing patterns between advanced nurse practitioner prescribers and physicians, and generalist or specialist prescriber in the treatment of patients with ADHD; and 3) compare on-label versus off-label prescribing of ADHD medications between advanced nurse practitioners and physicians, and generalists versus specialists providers.

**Results:** Each paper presents interesting and novel findings from studies in this new and very important area of research. The first paper presents the nuances of working with Medicaid encounter claims and pharmacy claims data. The second study examines prescriber variance in childhood ADHD treatment using Oregon Medicaid data from 2012. The final study reports on and off-label prescribing patterns of ADHD Medications among providers in Oregon.

**Implications:** The majority of children with ADHD are treated by generalists in primary care. The findings of the presented studies validate the prescribing practices of advanced nurse practitioners. Advanced nurse practitioners, given full prescriptive authority, prescribe ADHD medications in a manner similar to physicians. These studies can be used to inform further research regarding prescribing patterns among providers, as well as evidence of safe prescribing practices by advanced nurse practitioners to be used to broaden prescribing authority in states where advanced nurse practitioners do not have full prescriptive authority.

---

**Funding:** American Association of Nurse Practitioners and Sigma Theta Tau, Beta Psi Chapter

# EXAMINING PATTERNS IN PRESCRIBING ADHD MEDICATIONS

## Nuances of Working with Medicaid Claims and Pharmacy Claims Data

*Tamara Odom-Maryon, PhD, Research Professor, College of Nursing*[1]
*Tracy Klein, PhD, FNP, ARNP, FAANP, FAAN, Assistant Professor, College of Nursing*[1]
*Shannon Panther, PharmD, BCACP, Clinical Assistant Professor, College of Pharmacy*[1]
*Teri Woo, PhD, CPNP, FAANP, Associate Professor, School of Nursing*[2]
*Kenn B. Daratha, PhD, Associate Professor, College of Nursing*[1]

[1]*Washington State University, Spokane, WA*
[2]*Pacific Lutheran University, Tacoma, WA*

**Purpose/Aims:** Children with Attention Deficit Hyperactivity Disorder (ADHD) are prescribed numerous medications. Prior to comparing prescribing patterns for ADHD medications among and between advanced nurse practitioners and physician prescribers, Medicaid encounter and pharmacy claims data must be scrutinized to ensure the accuracy, acceptability and completeness of the data.
**Rationale:** The structure of Medicaid claim data files are complex. Available data span across several years. Mismatches between pharmacy and encounter claims datasets exist. Changes to the national drug codes (NDC) practice of use have occurred. Additionally, appropriate prescribing provider taxonomies must be identified. The nuances of these datasets require in depth screening of the data and the creation of clear definitions prior to analysis. Without such data screening, the interpretation and usefulness of a comparison of provider differences in prescribing practices is unclear.
**Method:** De-identified records were requested from the Oregon State Health Authority. Child-level encounter and pharmacy claims data for 2008-2013 were requested. The sample was restricted to youth age 3-18 who were continuously enrolled (at least 10 of 12 months in a given year) in the State's Medicaid insurance program. A number of study inclusions were applied to the full dataset in order to assemble a group of homogenous patients: 1) Prescriptions written in 2012 and filled in 2012 or 2013; 2) Only prescriptions for ADHD medications, as defined by the HEDIS measure entitled *Follow-up Care for Children Prescribed ADHD Medication*; 3) One of twenty-three designated provider taxonomies which included advanced nurse practitioners and physician prescribers; and 4) Only examine prescription claims in which an encounter claim existed for the child with an ADHD diagnosis (314, v62.3 or 313.83) within 730 days of the prescription fill date.
**Results:** Our original request resulted in 1,097,511 pharmacy claims records. To arrive at the final analysis dataset, pre-defined inclusion/exclusion criteria were established and applied. All prescriptions for non-ADHD medications (n=93,309) were excluded. Prescribing provider taxonomies other than nurse specialist, nurse generalist, physician specialist and physician generalist were excluded (n=15,905). To be included in the study, an encounter with a diagnosis of ADHD within 730 days prior to the date of the first prescription in 2012 was required (n=3,892). There were 84,258 pharmacy claims available for data analysis. These claims were converted into 30 day scripts using the number of days of supply field provided. A total of 82,754 thirty-day scripts from 10,753 unique individuals who met inclusion criteria for medications written for ADHD during the period of the study were available
**Implications:** The approach described in this study create clear definitions for data inclusion and exclusion criteria. Script dates and fill dates, definitions of condition specific medications, definitions of prescribing provider taxonomies, and alignment of prescription records to encounter records must be considered when examining administrative claims datasets for signals in differences in prescriber patterns.

---

**Funding:** American Association of Nurse Practitioners and Sigma Theta Tau, Beta Psi Chapter

# EXAMINING PATTERNS IN PRESCRIBING ADHD MEDICATIONS

## Prescriber Variance in Childhood ADHD Treatment: Oregon Medicaid 2012

*Tracy Klein, PhD, FNP, ARNP, FAANP, FAAN, Assistant Professor, College of Nursing*[1]
*Shannon Panther, PharmD, BCACP, Clinical Assistant Professor, College of Pharmacy*[1]
*Teri Woo, PhD, CPNP, FAANP, Associate Professor, School of Nursing*[2]
*Tamara Odom-Maryon, PhD, Research Professor, College of Nursing*[1]
*Kenn B. Daratha, PhD, Associate Professor, College of Nursing*[1]

[1]*Washington State University, Spokane, WA*
[2]*Pacific Lutheran University, Tacoma, WA*

**Purpose/Aims:** This study examined and compared prescribing patterns for Attention Deficit Hyperactivity Disorder (ADHD) medications among and between nurse practitioners and physician prescribers.
**Rationale:** Attention Deficit Hyperactivity Disorder (ADHD) is highly prevalent and rates of diagnosis are increasing. Guidelines exist for the use of ADHD medications in children with ADHD. However, few studies have examined potential provider differences in prescribing practices, particularly in states such as Oregon, where legal authority to prescribe is similar for both physician and nurse practitioner prescribers.
**Method:** A retrospective observational cohort study analyzed Oregon Medicaid pharmacy claims and medical claims data from 2012 identifying youth age 3-18 at time of prescription fill, who were continuously enrolled for at least 10 months of 2012. A total of 82,754 thirty-day scripts from 10,753 unique individuals met inclusion criteria for medications written for ADHD during the period of the study; by providers selected for treating similar patient populations; and for children being treated for ADHD. 1785 unique prescribers (n= 78 nurse specialists; 303 nurse generalists; 162 physician specialists and 1,242 physician generalist prescribers) were represented in the four provider cohorts of this study.
**Results:** Providers classified as physician generalists prescribed nearly 60% of all scripts for ADHD medications. More than 81% of all ADHD medications were prescribed by physicians. No substantial age and gender differences in patient prescribing were observed between provider type (physician vs. nurse) and specialty categorization (generalist vs. specialist). ADHD medications classified as controlled medications were prescribed in 64% of thirty-day supply scripts (52,679/82,754). Generalists more often prescribed controlled medications than specialists, for both nurse practitioners and physician prescribers. Rates of controlled medications generally increased by age of child for all four provider cohorts.
**Implications:** ADHD medication treatment of children served by Medicaid in Oregon is primarily managed by physician generalists. Nurse practitioners prescribe ADHD medications consistently with their physician colleagues, and no aberrant prescribing patterns were identified which would suggest misuse of their scheduled medication authority. The preponderance of controlled substance prescribing by generalists warrants further investigation. Data suggests an upward trend in controlled substance prescribing by age which should be confirmed with further sampling from prior and subsequent years.

---

**Funding:** American Association of Nurse Practitioners and Sigma Theta Tau, Beta Psi Chapter

# EXAMINING PATTERNS IN PRESCRIBING ADHD MEDICATIONS

## On and Off-Label Prescribing of ADHD Medications: Oregon Medicaid 2012

*Shannon Panther, PharmD, BCACP, Clinical Assistant Professor, College of Pharmacy*[1]
*Tracy Klein, PhD, FNP, ARNP, FAANP, FAAN, Assistant Professor, College of Nursing*[1]
*Teri Woo, PhD, CPNP, FAANP, Associate Professor, School of Nursing*[2]
*Tamara Odom-Maryon, PhD, Research Professor, College of Nursing*[1]
*Kenn B. Daratha, PhD, Associate Professor, College of Nursing*[1]

[1]*Washington State University, Spokane, WA*
[2]*Pacific Lutheran University, Tacoma, WA*

**Purpose/Aims:** This study examined and compared prescribing patterns among and between advanced nurse practitioner prescribers and physicians and generalists and specialists for off-label and on-label use of medications prescribed to treat Attention Deficit Hyperactivity Disorder (ADHD).

**Rationale:** In 2012, 5.9 million children ages 3 to 17 in the United States (US) were or had been previously diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), at a prevalence rate of 9.5% in this age group. An estimated 2 million more children were diagnosed with ADHD in 2011 than in 2003, with a 28% increase in children medicated for ADHD between 2007 and 2011. While guidelines exist for the use of ADHD medications in children with ADHD, no previous studies have examined the provider differences in off-label and on-label use of ADHD medications.

**Method:** A retrospective observational cohort study analyzed Oregon Medicaid pharmacy claims data from 2012 identifying children age 3 to 18 at time of prescription fill who were continuously enrolled for at least 10 months of the index year. A total of 82,754 thirty-day scripts from 10,753 unique individuals met inclusion criteria for medications written for ADHD during the period of the study, by providers included in the study, for children being treated for ADHD. 1785 unique prescribers (n= 78 nurse specialists; 303 nurse generalists; 162 physician specialists and 1,242 physician generalist prescribers) were represented in this study. HEDIS specifications defined ADHD medications included in the study. A total 272 of 712 ADHD medications within HEDIS specifications (38%) are not FDA approved for children in the treatment of ADHD.

**Results:** Of the 82,754 thirty-day supply scripts for ADHD medications, 70,074 thirty-day supply scripts (85%) were FDA approved for children in the treatment of ADHD. Rates of use of FDA approved medications increased as children aged. Rates of use of FDA approved medications were similar between nurses and physicians. However, generalists (both physician and nurse prescribers) had higher rates of use of FDA approved medications (87%) compared to specialists (both physician and nurse prescribers) at 80%.

**Implications:** Prescribers, regardless of license type, are prescribing FDA approved medications for ADHD at similar rates across the age range. A limited number of formulations have approval for children ages 3 to 5 resulting in a substantial number of prescriptions for non-FDA approved medications given to children ages 5 and younger. Further study as part of the drug approval process is warranted with the advent of new formulations for this youngest age group.

---

Funding: American Association of Nurse Practitioners and Sigma Theta Tau, Beta Psi Chapter

# IMPROVING PAIN PRACTICE THROUGH TARGETED EDUCATIONAL INITIATIVES

*Moderator:*
*Heather M. Young, PhD, RN, FAAN*
*Associate Vice Chancellor for Nursing and Dean*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

## OVERVIEW: IMPROVING PAIN PRACTICE THROUGH TARGETED EDUCATIONAL INITIATIVES

*Heather M. Young*

---

## INTEGRATING PAIN MANAGEMENT IN CURRICULA: ALIGNMENT WITH AACN STANDARDS

*Heather M. Young, Scott Fishman, Jennifer M. Mongoven, Amy McElroy*

---

## INTERPROFESSIONAL TELE-TELMENTORING FOR CHRONIC PAIN

*Virginia Hass, Debra Bakerjian, Jennifer M. Mongoven, Scott Fishman, David Copenhaver*

---

## STRENGTHENING PAIN MANAGEMENT CURRICULA THROUGH INTERPROFESSIONAL EDUCATION

*Debra Bakerjian, Heather M. Young, Deborah Ward, Scott Fishman, Mark Servis, Shelly Henderson, Jennifer Mongoven*

# IMPROVING PAIN PRACTICE THROUGH TARGETED EDUCATIONAL INITIATIVES

## Overview: Improving Pain Practice through Targeted Educational Initiatives

*Heather M. Young, PhD, RN, FAAN*
*Associate Vice Chancellor for Nursing and Dean*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

**Aim:** The purpose of this symposium is to demonstrate the significant need for improved pain management education, as well as strategies for improving pain education for all levels of learners, including pre-licensure, graduate and practicing clinicians.

**Background:** Over 100 million US adults suffer from chronic pain at an estimated cost of $600 billion annually. Even though pain is a significant health issue that touches nearly one in three adults in this country, the topic of pain is incorporated inconsistently in health professional curricula, including nursing. In 2012, an interdisciplinary consensus expert panel established competencies in pain management for all health professions prelicensure students. This resource provides a standard for programs to identify deficits in curricula so that they might target educational activities to address areas of need.

**Approach:** This symposium highlights three initiatives that were launched subsequent to the development of the pain management core competencies. These consensus-derived pain competencies provide a foundation for developing and revising curricula. The first project describe a crosswalk of pain competencies with the American Association of Colleges of Nursing's (AACN) Essentials of Baccalaureate Education for Professional Nursing Practice which outlines potential resources and teaching strategies for each competency. This resource will allow programs to strengthen their pain curricula without adding additional requirements to their already full programs. Two educational programs that incorporate the pain competencies will be described that target learners at multiple levels. The first targets practicing clinicians. The second program targets pre-licensure and graduate level learners and includes a series of interprofessional case-based learning modules that provide clinical learning activities to address the pain management competencies.

**Outcomes:** These programs illustrate how learning resources and approaches can be used within existing curricula or clinical education programs to improve knowledge about pain management and to increase learner appreciation for the importance of such mastery.

**Conclusions:** Improved pain education is paramount to addressing the chronic pain crisis in the United States. There are diverse programs that target learners of all levels that can be relatively easily implemented and target specific areas of need within curricula.

# IMPROVING PAIN PRACTICE THROUGH TARGETED EDUCATIONAL INITIATIVES

## Integrating Pain Management in Curricula: Alignment with AACN Standards

*Heather M. Young, PhD, RN, FAAN*
*Associate Vice Chancellor for Nursing and Dean*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Scott Fishman, MD*
*Professor of Anesthesiology and Pain Medicine; Chief, Division of Pain Medicine*
*UC Davis School of Medicine*
*Sacramento, CA*

*Jennifer M. Mongoven, MPH*
*Program Manager*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Amy McElroy, BS*
*Research Junior Specialist*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

**Aim:** The purpose of this project is to identify how well pain management core competencies for prelicensure learning align with the American Association of Colleges of Nursing's (AACN) Essentials of Baccalaureate Education for Professional Nursing Practice (elements) to determine areas of strength and potential areas for greater pain emphasis within clinical curricula.

**Background:** Pain is the most common reason for seeking health care and over 100 million people in the US suffer from chronic pain. Yet, pain education is fragmented in nursing education. As an "orphan topic", it is incorporated into a variety of courses from basic science to end of life care. This inconsistency makes it difficult to determine whether the pain management core competencies are adequately addressed in nursing curricula. By mapping the pain competencies to the elements of nursing, we were able to identify a resource that nursing programs can use to easily assess and identify how pain management is integrated within their programs and identify potential deficits within curricula.

**Approach:** A draft matrix comparing the core pain management competencies and nursing Essentials was developed by leaders of the Interprofessional Pain Management Competency Program. A core group of clinical and education leaders from nursing programs throughout the U.S. collaborated to evaluate the matrix to identify areas of overlap, as well as recommend core topics within pain management for curriculum enhancement and development.

**Outcomes:** The concepts within the Nursing's Essentials of Baccalaureate Education for Professional Nursing Practice mapped closely with the Pain Management Core Competencies. The core concepts of the competency and nursing essentials were complementary for many of the topic areas, such as the pain competency to "Assess patient preferences and values to determine pain-related goals and priorities," related to the nursing element "Assess health/illness beliefs, values, attitudes, and practices of individuals, families, groups, communities, and populations." This forms the basis for recommended content and teaching strategies to improve preparation for nurses in pain management.

**Conclusions:** The core clinical care concepts overlap significantly between the pain management core competencies and the nursing essentials of the AACN. Stronger integration of pain content into nursing curricula could address requisite competencies in pain management while focusing on the essentials of nursing practice.

---

Funding: Supported through a grant from the Milbank Foundation and the Mayday Fund.

# IMPROVING PAIN PRACTICE THROUGH TARGETED EDUCATIONAL INITIATIVES

## Interprofessional Tele-Telmentoring for Chronic Pain

*Virginia Hass, DNP, RN, FNP-C, PA-C*

*Director for Nurse Practitioner Program*
*Assistant Clinical Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Debra Bakerjian, PhD, FNP, RN*
*Assistant Adjunct Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Jennifer M. Mongoven, MPH*
*Program Manager*
*Betty Irene Moore School of Nursing*
*UC Davis Health System*
*Sacramento, CA*

*Scott Fishman, MD*
*Professor of Anesthesiology and Pain*
*Medicine; Chief, Division of Pain Medicine*
*UC Davis School of Medicine*
*Sacramento, CA*

*David Copenhaver, MD, MPH*
*Associate Professor, Education Director*
*Anesthesiology and Pain Medicine*
*UC Davis School of Medicine*
*Sacramento, CA*

**Purpose:** The Pain Management TeleMentoring project provides primary care clinicians the opportunity to hone their skills and expertise in caring for individuals with pain through weekly video-mentoring sessions led by a multidisciplinary team from an academic medical center.

**Methods:** Each session is led by a multidisciplinary team and includes a 25-minute presentation on a pain care essentials covering such topics as conducting physical exams, collaborating with patients on developing treatment plans, and identifying patient-centered functional goals. Following the presentation, interactive case discussions are held with an interdisciplinary team of faculty and clinical staff that allows for in-depth discussions. Direct patient care is not provided. No cost continuing education credits are provided.

**Outcomes:** From project launch in February 2014 through August 2015, 218 community-based clinicians participated in the sessions from 23 clinics that serve disadvantaged populations in California. Approximately a third (31%) of participants indicated they were from the nursing profession [RN (14.22%); NP (15%); BSN or MSN (1.38%)]. Physicians (MD/DO) made up the majority of participants (56%) with the remaining participants identified as from various other professions [PA (8%); PhD (3%); other (2%)]. Among those participants (all professions) who completed a post-session survey, 98% reported that the session helped them care for their patients with pain, while 97% reported that the mentoring activities increased their competence in pain management.

**Conclusions:** This project suggests that nursing staff are interested in continuing educational activities that help build skills in the area of pain management. Moreover, supporting clinicians serving rural and disadvantaged populations through telementoring is well received and may help increase clinical competence.

---

Funding: This project is funded through a grant from the California HealthCare Foundation.

# IMPROVING PAIN PRACTICE THROUGH TARGETED EDUCATIONAL INITIATIVES

## Strengthening Pain Management Curricula through Interprofessional Education

*Debra Bakerjian, PhD, APRN, FAAN, FAANP, Senior Director for Nurse Practitioner and Physician Assistant Program, Associate Adjunct Professor*[1]
*Heather M. Young, PhD, RN, FAAN, Associate Vice Chancellor for Nursing and Dean*[1]
*Deborah Ward, PhD, RN, FAAN, Professor*[1]
*Scott Fishman, MD, Professor of Anesthesiology and Pain Medicine;*
*Chief, Division of Pain Medicine*[2]
*Mark Servis, MD, Senior Associate Dean, Medical Education*[2]
*Shelly Henderson, PhD, Associate Professor*[1]
*Jennifer Mongoven, MPH, Senior Project Manager*[2]

[1]*Betty Irene Moore School of Nursing, University of California, Davis, Sacramento, CA*
[2]*School of Medicine, University of California, Davis, Sacramento, CA*

**Aims:** The aim of this project is to collaboratively develop and test a specialized interprofessional training experience with a focus on the practice of relieving pain.

**Background:** While pain is reported as the most common reason people visit a clinician, pain management is not emphasized in the curricula of most health professional schools. Pain management education is inadequate and is traditionally taught in silos across health professions. Improved interprofessional education that incorporates competencies recommended by the Interprofessional Education Collaborative (2011) along with pain competencies should be required for every profession that interacts with patients. However, incorporating additional material into already packed curricula is extremely difficult. Creating a model in which chronic pain management is the prism in which interprofessional, team-based care is taught provides an opportunity to enhance curriculum on two key topics within a single module.

**Approach:** This module was collaboratively developed by faculty from the Betty Irene Moore School of Nursing at UC Davis and the UC Davis School of Medicine. The focal pain competencies were selected at a consensus-based summit, followed by a second summit to identify learning objectives and evaluation strategies. Both summits were attended by experts in education science, pain medicine, primary care, pharmacy, social work, psychology, as well as resident physicians and nursing and medical students. Three diverse case-based scenarios were designed that integrated 4-5 pain management and interprofessional practice competencies. The first pilot of the module was conducted in July 2015 with thirty learners from medicine, pharmacy, social work, nurse practitioner and physician assistant programs.

**Outcomes:** Feedback from summit participants stressed the need for flexible learning modules that incorporate a holistic approach and target the appropriate learner level for each profession. Participants noted the importance of faculty development to ensure that all session facilitators are comfortable with the topics and interprofessional learning. Response from learners (N=28) regarding the first pilot of the module were very positive with 96.43% reporting that the session improved their understanding of the need for interprofessional collaboration, and 82.15% reporting that it improved their understanding of pain management. Findings also indicated that learners were very receptive to an interprofessional learning activity. Feedback from the learners indicated a preference for a more in-depth orientation to the scopes of work of other professions to prepare care plan as a team. The module will be revised and a 2nd pilot will be conducted in January 2016.

**Conclusion:** Pain management and interprofessional practice competencies can successfully be integrated into a single module and may be well received by learners. The resulting module will be available for use by other institutions and can serve as a model for developing interprofessional education activities that emphasize team-based communication focusing on a variety of clinical conditions.

---

**Funding:** The project was funded through a grant from the Josiah Macy Jr. Foundation (grant #B14-05).

# JAPAN-U.S. INVESTIGATIONS OF FAMILY-CENTERED CARE IN PEDIATRIC ICUS

*Moderator:*
*Ardith Z. Doorenbos*
*Professor*
*University of Washington*
*Seattle, WA*

## OVERVIEW: JAPAN-U.S. INVESTIGATIONS OF FAMILY-CENTERED CARE IN PEDIATRIC ICUS

*Ardith Z. Doorenbos, Helene Starks, Shigeko Saiki-Craighill, Ryouhei Nishina, Taryn Lindhorst, Ross Hays*

## IDENTIFYING SOURCES OF STRESS FOR PARENTS WITH A CHILD IN THE PEDIATRIC ICU

*Shigeko Saiki-Craighill, Ryohei Nishina, Masayuki Iwata, Yuriko Honda*

## "KEEPING WITH THE CHILD'S PACE" DURING PROCEDURES IN THE PICU

*Masayuki Iwata, Shigeko Saiki-Craighill, Ryouhei Nishina, Ardith Z. Doorenbos*

## "THERE'S GOTTA BE SOME BALANCE": NURSE REFLECTIONS ON FAMILY-CENTERED CARE

*Heather Coats, Erica Bourget, Shigeko Saiki-Craighill, Ross Hays, Ardith Z. Doorenbos, Helene Starks*

# JAPAN-U.S. INVESTIGATIONS OF FAMILY-CENTERED CARE IN PEDIATRIC ICUS

## Overview: Japan-U.S. Investigations of Family-Centered Care in Pediatric ICUs

*Ardith Z. Doorenbos, PhD, RN, FAAN*
*Professor*
*University of Washington*
*Seattle, WA*

*Helene Starks, PhD*
*Associate Professor*
*University of Washington*
*Seattle, WA*

*Shigeko Saiki-Craighill, PhD, RN*
*Professor*
*Keio University*
*Tokyo, Japan*

*Ryouhei Nishina, RN, MS*
*Instructor*
*Keio University*
*Tokyo, Japan*

*Taryn Lindhorst, PhD, MSW*
*Associate Professor*
*University of Washington*
*Seattle, WA*

*Ross Hays, MD*
*Professor*
*University of Washington*
*Seattle, WA*

**Purposes/Aims:** To identify sources of and responses to family stress in Pediatric Intensive Care Units (PICUs) in Japan and the U.S. and create a conceptual model to guide clinical responses and interventions.

**Background:** Advances in medicine have transformed the care of children with life-threatening conditions, offering hopes of cure or management of chronic illness for what were formerly terminal conditions. Yet, these advances in medicine also create stressful dilemmas for children and their families. The PICU is an emotionally charged atmosphere that places significant demands on patients and families. This environment can have negative effects on short- and long-term psychosocial outcomes for both the child and parent. Unfortunately, because of power differentials and structures of the PICU settings, families remain at a disadvantage when negotiating care in this stressful environment. The PICU is still a very technologically focused environment and has yet to become a family-friendly place. Better understanding of the PICU environment is necessary to meet the needs of children and their families by reducing unnecessary burdens associated with stress and conflict within PICU settings. There is a need to investigate the processes within these environments that promote or detract from family-centered care in the PICU.

**Approach:** Through a collaborative research partnership, this symposium will present a series of findings from a number of qualitative studies conducted in PICUs in both Japan and the United States. Presentations will include children, parental and provider perspectives of the PICU experience in both Japan and the U.S.

**Framework:** The organizing framework was the Ecological Model. The ecological model assumes that each level (person, family, local community and society) is nested within increasingly more complex organizational and contextual level(s) and that each level of the ecological model, and ultimately the effectiveness of the parent's response or the PICU environmental health response, depends on the interplay of the various levels. In our study, the person was the child; the family was most often the parents, but could be anyone identified as a caregiver for the child; the local community was the PICU; and the society was the Children's hospitals in Japan and the U.S. **Implications:** With this ecological frame, an understanding of the PICU environment and the interactions among each level of this frame will support nurses to better meet the needs of children their families while simultaneously decreasing nursing distress. The knowledge gained can contribute to creating a PICU environment that contributes to family-centered care in the PICUs.

---

Funding: This work is supported by JSPS KAKENHI Grant Numbers 25670981, 15H05089 and the National Institute of Nursing Research of the National Institutes of Health under award numbers R01NR011179 and K24NR015340.

# JAPAN-U.S. INVESTIGATIONS OF FAMILY-CENTERED CARE IN PEDIATRIC ICUS

## Identifying Sources of Stress for Parents with a Child in the Pediatric ICU

*Shigeko Saiki-Craighill, RN, PhD*
*Professor*
*Keio University*
*Tokyo, Japan*

*Ryohei Nishina, RN, MS*
*Instructor*
*Keio University*
*Tokyo, Japan*

*Masayuki Iwata, RN*
*PhD Student*
*Keio University*
*Tokyo, Japan*

*Yuriko Honda, RN, CNS*
*Staff Nurse*
*Jichi Medical University*
*Tochigi, Japan*

**Purpose:** To identify the stressors and alleviators for parents with children in the PICU that will either cause fear and uncertainty or sustain them through the experience.
**Rationale:** An earlier study indicated that 22% of parents who had children in the PICU suffered from PTSD, and that this did not have a direct correlation to the medical outcome of the treatment. The researchers sought to identify the reasons for such high levels of stress, why some but not all parents suffer from it, and what can and is being done in the PICU environment to alleviate it.
**Methods:** The researchers arranged to conduct participant observation at two PICUs in Japan, followed by interviews with 26 parents that had a child in the PICU. The observations were used to select and request interviews, and provide the context for the interview questions. The interview data was coded and analyzed using a grounded theory approach to identify concepts. These concepts were built based on the properties and dimensions found in the data, and to discover the interactive relationships between them.
**Results:** A pattern of episodic cycles was identified, with ten interactive concepts that either led the parents into a sense of fear of an uncertain future or led them to a sense that somehow things will work out. A preliminary list of the concepts that were developed from the data and verified in the context of other incidents in the data include: “unexpected situation”, “support from family members and health professionals”, “understanding the situation”, “evaluating the ICU environment”, “change in outlook”, “protecting the child”, “believing in the vitality of the child”, “overcoming challenges one step at a time”, “feeling that somehow things will work out”, and “fear of not knowing the future”. With each episode, this interaction would reoccur and the sense of either fear or sustainability would be reinforced or diluted, depending on the interactions that occurred each time.
**Implications:** Within this pattern of interactions, several signposts can be identified that would indicate which direction the parents were headed. In addition, several properties which the health care professionals have some degree of control over were identified as critically effecting whether the parents felt fear and uncertainty or felt that they could sustain and carry on. Considering the effect that the sustained psychological trauma of parents can have on the long term family health and well-being, it is important for health care professionals to take note and implement any methods they have at their disposal for reducing such trauma.

---

Funding: This work is supported by JSPS KAKENHI Grant Numbers 25670981, 15H05089.

# JAPAN-U.S. INVESTIGATIONS OF FAMILY-CENTERED CARE IN PEDIATRIC ICUS

## “Keeping with the Child’s Pace” during Procedures in the PICU

*Masayuki Iwata, RN, MS*
*PhD student*
*Keio University*
*Tokyo, Japan*

*Shigeko Saiki-Craighill, PhD, RN*
*Professor*
*Keio University*
*Tokyo, Japan*

*Ryouhei Nishina, RN, MS*
*Instructor*
*Keio University*
*Tokyo, Japan*

*Ardith Z. Doorenbos, PhD, RN, FAAN*
*Professor*
*University of Washington*
*Seattle, WA*

**Purpose/Aims:** To explore providers’ interactions with children during painful procedures done in the pediatric intensive care unit (PICU).

**Background:** A child’s admission to the PICU is very stressful for the child. One specific stressor for both children and their providers is when the child undergoes potentially painful procedures. Cultivating acceptance of nursing care in a way that builds trust and cooperation of the child is an important aspect of pediatric family-centered care.

**Methods:** This study used a grounded theory approach in PICUs in an academic teaching hospital and in a prefectural (county) pediatric hospital in urban city. Data were collected through participant observation and interviews, with consent obtained from parents before the procedure was done. One researcher (MI) observed provider-child interactions when the procedures were performed mainly by nurses and physicians and took detailed notes about the behavioral action and reaction of the child and providers. These interactions were also audio recorded for later review. Following the participant observation, nurses were interviewed about their intentions, feelings, and emotions during the procedure.

**Results:** Providers were able to improve the child’s acceptance of potentially painful procedures by “keeping with the child’s pace.” Pacing involved explaining what was being done to the child each step of the way, soothing the child by patting their arm or holding them, acknowledging their emotions, and encouraging the child by letting them know they are doing ok, all of which affected the child’s degree of acceptance of nursing care. Nurses adapted how they kept pace with the child based on the priority and urgency of getting the procedure done and the degree of resistance expressed by the child. More pacing behaviors led to an increased chance of the child remaining calm vs. refusing treatment.

**Implications:** Understanding what provider behaviors influence the child’s degree of acceptance of nursing care in the PICU not only may decrease the amount of pain the child experiences, but may also support the nurses in providing better patient-centered care.

---

Funding: This work is supported by grants from JSPS KAKENHI 25670981, 15H05089 (SS-C, MI, RN) and the National Institute of Nursing Research K24NR015340 (AZD).

# JAPAN-U.S. INVESTIGATIONS OF FAMILY-CENTERED CARE IN PEDIATRIC ICUS

## “There’s Gotta Be Some Balance”: Nurse Reflections on Family-Centered Care

*Heather Coats, PhD, APRN-BC*
*Senior Fellow Trainee*
*University of Washington*
*Seattle, WA*

*Erica Bourget, MPH*
*Project Director*
*Seattle Children’s Research Institute*
*Seattle, WA*

*Shigeko Saiki-Craighill, PhD, RN*
*Professor*
*Keio University*
*Tokyo, Japan*

*Ross Hays, MD*
*Professor & Project P.I.*
*University of Washington*
*Seattle, WA*

*Ardith Z. Doorenbos, PhD, RN, FAAN*
*Professor*
*University of Washington*
*Seattle, WA*

*Helene Starks, PhD, MPH*
*Associate Professor*
*University of Washington*
*Seattle, WA*

**Aims:** To explore nurse perceptions of the challenges to providing care for patients and families in the pediatric ICU (PICU).

**Background:** Family-centered care in pediatrics involves a partnership between healthcare staff and family, working together to best meet the needs of the child. Nurses play a critical role in supporting family-centered care, yet few studies have explored nurse perceptions of the impact family-centered care has on nursing practices.

**Methods:** Semi-structured interviews were conducted with ten nurses with experience in a PICU before and after a transition from an open floor plan with little privacy to individual sound-proof rooms with glass doors. Changes were made to support a customer service approach to care and accommodate family visitation 24/7. Nurses were asked about the benefits and challenges of family-centered care in the open floor vs. private room environments.

**Results:** Nurses described a balancing act between prioritizing the needs and safety of the child while also supporting parents. Parents are encouraged to rate nurses’ performance and nurses commented that parents’ evaluations are often based on subtle behaviors, such as how the nurse holds the baby or when they get a blanket for the parents. Nurses recognized the benefits for parents of the private rooms and 24-hour access, including increased opportunities for family involvement in communication, decision-making, and caring for their child. But nurses also reported that this new PICU structure limits opportunities for monitoring multiple patients at once and mentoring new nurses. Nurses also report feeling they could no longer ask parents to step out for procedures or shift hand-offs, creating perceived barriers to communication with other nurses.

**Implications:** These results highlight some of the perceived challenges for nurses that add to their work processes and may inhibit performance. Recognizing and addressing these issues is important to assure that the child receives the best care possible, parents feel supported and nurses maintain job skills and satisfaction.

---

Funding: This project is supported by grants from the National Heart Lung and Blood Lung Institute (T32 HL125195; HC) and National Institute of Nursing Research (R01NR011179; RH, EB, AZD, HS and K24NR015340; AZD).

# MEETING THE BIOMARKER CHALLENGE: OMICS, MODEL SYSTEMS AND TRANSLATIONAL RESEARCH

*Moderator:*
*Helena Morrison, PhD, RN*
*Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

## OVERVIEW: MEETING THE BIOMARKER CHALLENGE: OMICS, MODEL SYSTEMS AND TRANSLATIONAL RESEARCH

*Helena Morrison, Charles A. Downs, Matthew J. Gallek*

---

## USING PROTEOMICS TO DEMONSTRATE THE PHYSIOLOGIC IMPORTANCE OF A BIOMARKER IN ARDS

*Charles A. Downs*

---

## BIOMARKERS OF BRAIN INJURY IN MODEL SYSTEMS OF ISCHEMIC STROKE

*Helena Morrison*

---

## GENE EXPRESSION AS A BIOMARKER OF SURGICAL OUTCOME FOR INTRACTABLE SEIZURES

*Matthew J. Gallek*

# MEETING THE BIOMARKER CHALLENGE: OMICS, MODEL SYSTEMS AND TRANSLATIONAL RESEARCH

## Overview: Meeting the Biomarker Challenge: Omics, Model Systems and Translational Research

*Helena Morrison, PhD, RN*
*Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

*Charles Downs, PhD, ACNP-BC*
*Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

*Matthew Gallek, PhD, RN CNRN*
*Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

**Purpose:** Complex disease paradigms and limited access to relevant biologic samples requires knowledgeable and savvy use of biomarkers in health sciences research in order to gain diagnostic or predictive insight to patient outcomes. The purpose of this symposium is to illustrate the process and challenges of biomarker development, application, and validation in model systems and translational research.

**Background:** Biomarkers provide an objective measure of bio-behavioral processes: physiology, pathophysiology and restoration to health. However, we are challenged to appropriately associate biomarkers to health conditions while concurrently considering limitations presented by confounding variables, specificity, assay limitations, and limited access to relevant biological samples. We are challenged to broaden both our knowledge and application of biomarkers to health science research as stewards of such precious specimens.

**Methods:** Each paper presented in this symposium will emphasize a vital element in the process of establishing and/or employing biomarkers as an objective measure of health outcomes. Dr. Downs will present the role of proteomics in biomarker discovery and validation in pre-clinical and clinical pulmonary research. Access to relevant biologic samples is a challenge within some disease paradigms. Addressing this, Dr. Morrison will present unique challenges and solutions connecting biomarkers to brain injury after ischemic stroke. Last, Dr. Gallek will present a unique application of gene expression as a prognostic biomarker for seizure outcomes in epileptic patients.

**Results:** Symposium attendees will recognize that biomarkers continually evolve as our understanding of the mechanisms that underlie physiology and pathophysiology are revealed. We show that scientists meet this challenge trough diligent research informed by both the bench and bedside.

**Implications:** Biomarkers are an indispensable tool to assess bio-behavioral outcomes in model systems and translational research. Nurses are integral to health science research as both author and consumer. As such, we meet the challenge to critically assess, apply and validate the use of biomarkers in our ongoing and future research endeavors.

# MEETING THE BIOMARKER CHALLENGE:
# OMICS, MODEL SYSTEMS AND TRANSLATIONAL RESEARCH

## Using Proteomics to Demonstrate the Physiologic Importance of a Biomarker in ARDS

*Charles A. Downs, PhD, ACNP-BC*
*Assistant Professor*
*College of Nursing*
*The University of Arizona*
*Tucson, AZ*

**Purpose:** Proteomics, the large-scale study of proteins and their function, is a powerful method used in establishing the physiologic relevance of a biomarker. The purpose of this presentation is to demonstrate the application of the proteomics approach used in our laboratory to establish the physiological relevance of a biomarker used in acute lung injury.

**Background:** Acute respiratory distress syndrome (ARDS) is a severe form of lung injury characterized by profound inflammation and pulmonary edema that impede gas exchange. ARDS has no cure; mortality rates are excessive, and treatment is supportive and costly. Discovering a pertinent biomarker to aid in management or as a potential therapeutic target could have significant implications for ARDS morbidity and mortality. The receptor for advanced glycation end-products (RAGE) is a member of the immunoglobulin superfamily that functions to amplify and perpetuate the inflammatory response. Plasma levels of sRAGE, a RAGE signaling antagonist, have been correlated with poor clinical outcomes in ARDS. However, the role of RAGE and RAGE signaling in the evolution and resolution of ARDS is unclear.

**Methods:** We utilized proteomics (2D gel electrophoresis followed by HPLC/MS/MS) to first identify increased RAGE expression in a rat model susceptible to lung injury/ARDS. Then, using proteomics coupled with genetic knockdown of RAGE, we identified critical RAGE-dependent signaling proteins that may affect gas and fluid exchange in the lung. Finally we performed physiological studies (e.g. lung fluid clearance) testing the effect of RAGE signaling on the regulation of lung fluid balance. In addition, sRAGE levels were correlated to epithelial lung fluid (ELF) volume in humans.

**Results:** 2D gel electrophoresis analysis of alveolar epithelial cells demonstrated 44 unique protein spots that were differentially expressed in a mouse model of lung injury compared to controls. Mass spectroscopy (MS) identified RAGE as one of these differentially up-regulated proteins. Next, using a cell culture mode, RAGE expression was knocked-down to assess the response to a RAGE ligand. Subsequent HPLC/MS/MS identified many proteins that regulate critical signaling cascades involved in fluid homeostasis and barrier integrity. In mice given an intratracheal delivery of saline with a RAGE agonist ± a RAGE inhibitor, we observed that RAGE inhibition significantly attenuates lung fluid clearance (N=10/group, $P<01$). Finally, to demonstrate the importance of RAGE signaling in the maintenance of lung fluid balance, banked human broncholalveolar lavage fluid was assayed for sRAGE levels, and using established methods, the volume of ELF was quantified. Elevated levels of sRAGE, the RAGE antagonist, correlated with higher volumes of ELF ($r=0.37$, $P=0.07$, $N=30$).

**Implications:** Using a proteomics approach our laboratory demonstrated the physiological importance of a RAGE signaling in ARDS to support the use of a RAGE biomarker in ARDS.

---

Funding: Francis Families Foundation Parker B. Francis Fellowship

# MEETING THE BIOMARKER CHALLENGE:
# OMICS, MODEL SYSTEMS AND TRANSLATIONAL RESEARCH

## Biomarkers of Brain Injury in Model Systems of Ischemic Stroke

*Helena Morrison, PhD, RN*
*Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

**Purpose:** Convention states that the brain's niche environment is protected by the blood brain barrier (BBB)—a barrier that must be overcome to make relevant brain biomarkers measured in the blood. Yet, in humans and animal models, brain cell specific small molecular messengers and inflammatory proteins are elevated in blood after brain injury. The purpose of this paper is to present current data, collected in mouse models, that brain biomarkers are increased *in situ* after ischemic stroke and discuss recent challenges to the role that the BBB has in brain biomarker research.
**Background:** The BBB is comprised of endothelium, pericytes, and astrocyte endfeet which sheath the vasculature to, conventionally speaking, keep separate both brain and systemic environments. With brain injury and BBB disruption, brain biomarkers may eventually appear in the blood. Brain inflammatory proteins such as S100β and glial fibrillary acidic protein (GFAP) are candidate biomarkers of injury severity in human ischemic stroke and traumatic brain injury. However, biomarker data in mouse models and human populations are variable and much is yet to be revealed regarding mechanisms by which these proteins appear in the blood in relation to injury. One such mechanism, the glympnatic system, has only recently been revealed and sheds new light on the field. The glymphatic system is named for the integral role of astrocytes (a glial cell); polarized expression of water channel aquaporin 4 (AQP4) to astrocyte endfeet is necessary for glymphatic clearance of brain fluid and solutes. Thus, the brain glymphatic system is a pathway for brain solutes, such as biomarkers, to reach the blood via the lymphatic system.
**Methods:** A mouse model of ischemic stroke was used to study brain biomarkers, *in situ*, immediately following focal ischemic stroke in male and female mice. Brain tissue was collected and prepared for immunohistochemistry and western blot methods in order to quantify the presence of S100β in brain tissue with and without stroke. Endfeet expression of AQP4 was measured after IHC staining and confocal imaging. AQP4 polarization to astrocyte endfeet, as opposed to non-endfeet processes, was quantified using image J software. Such mal-distribution of AQP4 is indicative of an inefficient glymphatic system and clearance of soluble proteins such as biomarkers.
**Results:** We illustrate that S100β, a brain cell specific biomarkers of interest in human brain injury populations, is immediately increased in male and female mice after ischemic stroke ($F(2,40) = 3.7$, $p = 0.03$). We also show that astrocyte AQP4 polarity to endfeet, integral to an efficient brain glymphatic system, is disrupted immediately following ischemic stroke ($F(2,42) = 6.6$, $p = 0.003$).
**Implications:** Combined, these data illustrate that brain biomarkers of current interest have physiologic importance to ischemic stroke in male and female model systems. However, confounding variables such as the efficiency of the glymphatic system to clear these proteins to the brain, calls into question the direct association of these biomarkers as reliable associates of brain injury.

---

Funding: NINR (1F32NR013611)

# MEETING THE BIOMARKER CHALLENGE: OMICS, MODEL SYSTEMS AND TRANSLATIONAL RESEARCH

## Gene Expression as a Biomarker of Surgical Outcome for Intractable Seizures

*Matthew J. Gallek, PhD, RN*
*Assistant Professor*
*College of Nursing*
*Department of Surgery*
*University of Arizona*
*Tucson, AZ*

**Purpose:** Outcomes following surgery for intractable epilepsy are not easily predicted. The purpose of this paper is to present current data, collected as part of an ongoing study of epilepsy patients. Whole genome analysis was performed to test the hypothesis that temporal cortical gene expression could be used to predict surgical outcomes following anterior temporal lobectomy with amygdalohippocampectomy (ATL/AH) for the treatment of medically intractable seizures.

**Background:** Epilepsy is one of the most common neurological disorders affecting 2 to 4 million people or approximately 1% of the population of the United States. Treatment of epilepsy may include antiepileptic medications, diet modifications, vagus nerve stimulation, surgical disconnection of epileptic pathways, or resective surgery. Appropriate medications can control seizures in approximately 70% of cases. The remaining 30% of patients, with refractory seizures, may consider surgical intervention for treatment of their epilepsy resulting in 52% -84% of patients with remission of seizures. The most commonly performed operation for treatment of medically intractable seizures is amygdalohippocampectomy with or without resection of additional temporal lobe tissue, such as anterior temporal lobectomy. Approximately 65% of patients with medically intractable temporal lobe epilepsy treated with (ATL/AH) are rendered seizure-free. Human brain tissue obtained during ATL/AH surgery provides unique opportunities to study fundamental biological processes involved in the pathophysiology of medically intractable temporal lobe epilepsy.

**Methods:** Twenty four patients underwent ATL/AH to treat medically intractable seizures of temporal lobe origin (mean age 35.5 years, mean follow up 42.2 months), they were then dichotomized into seizure-free and non-seizure-free groups. Tissue RNA was isolated from the lateral temporal cortex and gene expression analysis was performed. Whole genome data were analyzed for prognostic value for seizure-free outcome following ATL/AH by logistic regression. Genes that could distinguish seizure outcome groups were identified based on providing an accuracy of >0.90 judging by area under the receiver operating characteristic curve, AUC, with a $P$ value of the slope coefficient of <0.05. Fisher exact tests were used to elucidate the biological process pathways (BPPs) significantly over-represented among these ($P < .05$).

**Results:** Four genes and seven RNA probes were with prognostic value for post-operative seizure-free outcome. Gene expression associated with seizure-free outcome included relative down-regulation of: zinc finger protein 852 (ZNF852); CUB domain containing protein 2 (CDCP2); proline-rich transmembrane protein 1 (PRRT1); hypothetical LOC440200 (FLJ41170); RNA probe 8047763; RNA probe 8126238; RNA probe 8113489; RNA probe 8092883; RNA probe 7935228; RNA probe 806293 and RNA probe 8104131.

**Implications:** This study describes the predictive value of temporal cortical gene expression for seizure-free outcome after ATL/AH. These findings support the use of gene expression as a biomarker of surgical outcome.

---

Funding: Robert Wood Johnson Nurse Faculty Scholar Grant # 70318 RO1MH065151

# AN OVERVIEW OF INNOVATIONS TO ENGAGE NURSES IN EFFECTIVE COMMUNICATION

*Moderator:*
*Jane M. Carrington, PhD, RN*
*Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

## OVERVIEW: AN OVERVIEW OF INNOVATIONS TO ENGAGE NURSES IN EFFECTIVE COMMUNICATION

*Jane M. Carrington, Katherine M. Dudding, Brooke A. Finley*

---

## INNOVATIONS IN ENGAGING THE TRAUMA TEAM IN COMMUNICATION USING THE EHR

*Ryan J. Rasmussen, Jane M. Carrington*

---

## INNOVATIONS IN ENGAGING NURSES IN EFFECTIVE COMMUNICATION USING THE EHR

*Monte L. Roberts, Jane M. Carrington*

---

## INNOVATIONS IN ENGAGING NURSES IN COMMUNICATION WITH DECISION MAKING

*Christine Nibbelink, Jane M. Carrington*

---

## INNOVATIONS IN ENGAGING NURSES AND PROVIDERS IN EFFECTIVE COMMUNICATION IN LONG-TERM CARE

*Susan M. Renz, Jane M. Carrington*

# AN OVERVIEW OF INNOVATIONS TO ENGAGE NURSES IN EFFECTIVE COMMUNICATION

Overview: An Overview of Innovations to Engage Nurses in Effective Communication

*Jane M. Carrington, PhD, RN*
*Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

*Katherine M. Dudding, RN*
*Doctoral Student*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

*Brooke A. Finley, RN*
*Doctoral Student*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

**Purpose:** Threats to patient safety due to miscommunication are well documented. The Health Information Technology for Economic and Clinical Health Act (HITECH) of 2009 was intended to in part, address miscommunication and consequential patient deaths through the electronic health record (EHR). Unfortunately, the current EHR design poses unintended consequences that threaten nurses' engagement in effective communication using the EHR. Here we present early work from four doctoral students who are using theory guided research building on the Effective Nurse-to-Nurse Communication Framework (Carrington, 2012). This work will lead to increase engaged nurse communication and increase patient safety.

**Background:** The Effective Nurse-to-Nurse Communication Framework was developed as the result of scientific research literature and the blending of Information and Symbolic Interaction Theories. This framework begins with a clinical event (CE) as the stimulus to send a message. A CE is a sudden and unexpected change in patient condition or fever, pain, bleeding and changes in level of consciousness, respiratory status, and output.[1] Nurses communicate and receive the message based on their individual characteristics and they classify the CE. The message is transferred via electronic (EHR) and verbal (hand-off) communication methods. The message is received by another nurse and is interpreted by their individual characteristics and how they too classify the event. Resolution of the clinical event or patient safety is the desired end point of the message. The framework also accounts for the influence of unit and organizational culture on communication.

**Symposium Organization:** Each presenter has constructed or applied a theory that will be used to test features of the communication framework. Dr. Roberts has blended theories to explore CE information synthesis for communication via the EHR. Ms. Nibbelink will use decision-making theory to explore the nurse's understanding and communication of the CE. Mr. Rasmussen has also blended theories to explore communication via the EHR and system characteristics of the trauma room. Dr. Renz will also use the IROM to guide research exploring provider-nurse communication and system characteristics of long-term care. These projects represent innovative thinking that will lead to redesign of the EHR to engage nurses in communication and increase patient safety.

---

Reference:

Carrington, J. M. (2012). Development of a conceptual framework to guide a program of research exploring nurse-to-nurse communication. *CIN: Computers, Informatics, Nursing, 30*(6), 293-299.

# AN OVERVIEW OF INNOVATIONS TO ENGAGE NURSES IN EFFECTIVE COMMUNICATION

## Innovations in Engaging the Trauma Team in Communication Using the EHR

*Ryan J. Rasmussen, MSN, FNP-C*
*Doctoral Student*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

*Jane M. Carrington, PhD, RN*
*Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

**Purpose:** The trauma room is unique and employs complex communication patterns within a among trauma team members. Despite its promise to increase effective communication, the electronic health record (EHR) has yet to be effectively designed to meet the needs of the trauma team. The nurse communication framework describes nurse-to-nurse communication of a clinical event (Carrington, 2012). Here we describe the theory that will guide research to build on the nurse communication framework and increase our understanding of communication in the trauma room that will lead to informed EHR interface design.

**Description of Theory:** The theory that blends Information and Communication Accommodation Theories (CAT) will guide this work. Information theory posits that every message has three parts: sender, device and receiver. Factors that can effect how well a message reaches receiver include entropy, negentropy, noise, redundancy, and probability. CAT explores how people change communication behaviors due to their interactions with each other. CAT provides better understanding and prediction of both verbal and nonverbal changes in communication that occur while interacting with different people. By blending these theories, we will gain a better understanding of how and why communication occurs in the trauma room and the factors that influence the delivery and acceptance of a message.

**Process Used:** The concepts for Information Theory and CAT were aligned and arranged to guide the research seeking to understand both the message and predictable message content to understand communication in the trauma room and inform EHR interface design.

**Logic Linking Theory to Research Problem:** Effective communication is essential in the successful care of any patient especially those victims of trauma. The trauma room is an environment that is unique to any other care area in the hospital. The trauma team is multidisciplinary consisting of: surgeons, emergency physicians, nurses, respiratory therapists, radiology technicians, and laboratory technicians. This work will test the communication framework that trauma fits as a system characteristics and lead to increase patient safety and effective trauma team communication. We hypothesize that by better understanding the communication pattern in the trauma room, message content and its transmission will lead to improved EHR design and adoption in the trauma room.

**Conclusion:** By understanding what influences communication in the trauma room we believe that EHR's can be designed and adopted in the trauma room to increase effective communication between trauma team members and continued patient care.

---

Reference:
Carrington, J. M. (2012). Development of a conceptual framework to guide a program of research exploring nurse-to-nurse communication. *Computers Informatics Nursing, 30*(6), 293-299.

# AN OVERVIEW OF INNOVATIONS TO ENGAGE NURSES IN EFFECTIVE COMMUNICATION

## Innovations in Engaging Nurses in Effective Communication Using the EHR

-

*Monte L. Roberts, DNP, RN*
*Doctoral Student*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

*Jane M. Carrington, PhD, RN*
*Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

**Purpose:** Utilizing the nurse-to-nurse communication framework, the purpose of this project is to analyze how the nurse synthesizes information from the EHR to communicate a clinical event (CE). The EHR should portray patient information in a manner that is effective in continuing care. Here we describe a model used to guide the research seeking to understand how nurses' synthesize patient information to inform the design of an interface that supports effective nurse communication.

**Description of Theory:** Two theories will be blended to guide research in studying the patterns of EHR accessibility and effectiveness as a communication tool are Nursing Information Management and Processing Model (NIMP) and Informatics Research Organization Model (IROM). The NIMP model discusses how nurses calculate raw data into information and create knowledge from the information. The NIMP model illustrates the process for data collection, combination, presentation, and, "the decision and action taken," derived from nursing care. The IROM model consists of four construct analyses, cognitive work, work domain, control tasks and strategies, and social-organization and worker competencies. IROM uses the four construct analyses to evaluate the system within the system from multiple perspectives to visualize system integrity, accessibility and communication error.

**Process Used:** NIMP and IROM model concepts were aligned and operationalized for the study of nurse information processing and communication using the EHR. Combining both models evaluates communication barriers and breakdowns from nurse workflow and accessibility, to how the system communicates and portrays documented information to the nurse. This research will then inform the nurse communication framework to increase our understanding of the nurses' data entry and retrieval using the EHR to improve nurse and system communication.

**Logic Linking to Research Problem:** The literature identifies an ineffectual interface between the nurse and the EHR. The inconsistency creates charting discrepancies through different charting styles and language used. There is an emerging need for the EHR to display synthesized, on demand, information for the nurse to communicate. A redesign of the current EHR may decrease nursing bypasses, workarounds and unethical behavior. Using IROM to evaluate the system we plan on designing an EHR that can synthesize and communicate patient information to the nurse by design or on command.

**Conclusion:** A blended theory combining NIMP and IROM will support research seeking to understand the synthesis of information associated with a CE to engage nurses in communication using the EHR. Redesigning how the EHR interfaces with the nurse to provide synthesized information prior, during, or post CE will increase effective communication and increase patient safety.

# AN OVERVIEW OF INNOVATIONS TO ENGAGE NURSES IN EFFECTIVE COMMUNICATION

## Innovations in Engaging Nurses in Communication with Decision Making

*Christine Nibbelink, RN, MSN*
*Doctoral Student*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Jane M. Carrington, PhD, RN*
*Assistant Professor*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

**Purposes:** Research indicates that as many as 98,000 patient deaths occur each year as a result of ineffective communication and decision-making. Effective decision-making requires acute care nurses to be aware of patient status, understand significant changes in patient condition, and anticipate future consequences. According to the nurse communication framework, patients experience clinical events (CE) (fever, pain, changes in level of consciousness, changes in respiratory status, changes in output, and bleeding) requiring the nurse to classify and communicate the event requiring effective decision-making. The communication required in this decision making process is further influenced by characteristics of the nurse and the electronic communication system or electronic health record (EHR). [1] Here we describe the possible relationship between nurse characteristics and theory guided communication and decision-making to build on the nurse communication framework.

**Theory Description:** Naturalistic Decision Making (NDM) has been found useful in describing the decision making process used by experts facing poorly structured problems, uncertain and complex environments, not well defined goals, action-reaction feedback loops, small timeframe, high risk for decision maker, multiple players (i.e. health care team) , and influenced by organizational goals and norms. In circumstances such as decision-making while caring for a patient with a CE, NDM finds that experienced decision makers assess their environment and pattern match in order to formulate a plan of action based on the identified pattern. The decision maker often is not consciously aware of having used a decision making process.

**Internal Consistency of the Theory Developed:** The key factors of NDM, the importance of experience, and the involvement of pattern matching the decision making process demonstrate clarity and congruence. The constructs of NDM are abstract and non-profession specific allowing for application to many decision-making environments.

**Link to Nursing Practice:** NDM has not been widely applied in nursing. We will present a model that can be used to guide research that will explore the applicability of NDM in nurse-to-nurse communication of a clinical event. We hypothesize that when a nurse perceives a CE, they then enter a decision-making process that consists of the elements of NDM. These elements, along with other nurse experiences, influence communication and decision-making for continuing care and increased patient safety. This research will then lead to the development of NDM theory based clinical decision support systems to increase effective nurse communication and decision-making.

**Conclusions:** We contend that by better understanding nurse decision-making, we will be able to design innovative clinical decision support systems for the EHR that will engage nurses in effective communication and decision-making.

---

Reference:

[1] Carrington, J. M. (2012). Development of a conceptual framework to guide a program of research exploring nurse-to-nurse communication. CIN: Computers, Informatics, Nursing,30(6), 293-299.

# AN OVERVIEW OF INNOVATIONS TO ENGAGE NURSES IN EFFECTIVE COMMUNICATION

## Innovations in Engaging Nurses and Providers in Effective Communication in Long-Term Care

*Susan M. Renz, DNP, RN, GNP-BC*
*Doctoral Student*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

*Jane M. Carrington, PhD, RN*
*Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

**Purpose:** The well cited report from the Institute of Medicine stated that nearly 100,000 deaths in acute care are largely due to miscommunication. Residents in nursing homes are transported for acute care three times higher than those under the age of 65. Approximately 25 percent of these hospital transfers are avoidable. The impact of miscommunication towards these figures is not well understood. Building on the nurse communication research framework, we will describe the application of theory guided research to study nurse-provider communication for long-term care residents experiencing a clinical event to increase patient safety and outcomes.

**Theory Description:** The communication framework describes nurse-to-nurse communication of a clinical event using electronic and verbal communication systems. The framework also describes communication influenced by system characteristics. We will operationalize the framework for nurse to provider communication, in nursing homes, using electronic and verbal communication systems. This research will be guided with the use of the Informatics Research Organizing Model (IROM), which provides a framework for examining the interface/dynamics between systems, interventions, and clinical outcomes. This research will expand on existing research that has identified barriers to communication, the use of communication protocols, and the impact of communication on avoidable hospital transfers in the nursing home setting. The impact of nursing home culture (system), the utility of the electronic health record (intervention), and the communication of clinical data for change in resident status (intervention and outcome) have not been studied in this setting using the IROM framework.

**Internal Consistency of the Theory Developed:** Poor communication has emerged as a growing concern for patient safety in healthcare. There is a need for a clear and common understanding of the concept to assist in the development of effective strategies and policies to eradicate the multi-dimensional aspects of the communication phenomena affecting the nursing practice arena. The concept of nurse-provider communication will be presented with the attributes, antecedents, and consequences of poor communication.

**Link to Nursing Practice:** Communication barriers, communication protocols, and impact of communication on clinical outcomes impact effective communication in long-term care. Using the IROM to inform the communication framework, we intend to then design an interface for the electronic health record (EHR) to increase effective provider-nurse communication and decision-making to improve resident outcomes.

**Conclusions:** Improving nurse-provider communication in the nursing home setting has been shown to increase nurse and provider satisfaction with communication and improve the timeliness and quality of clinical interventions. Further examination of the impact of nursing home culture and the interface between nurse and computer language is warranted to identify barriers within this process. This study will ultimately lead to an electronic interface that supports nurse-provider communication.

# PATIENT/FAMILY ENGAGEMENT IN ACUTE CARE ADVERSE EVENT RISK REDUCTION

*Moderator:*
*Cindy Corbett, PhD, RN*
*Professor, College of Nursing*
*Washington State University*
*Spokane, WA*

## OVERVIEW: PATIENT/FAMILY ENGAGEMENT IN ACUTE CARE ADVERSE EVENT RISK REDUCTION

*Cindy Corbett*

---

## THE APPROACH: EXPLORE PATIENT-CENTERED INTERVENTIONS TO REDUCE ACUTE CARE HARM

*Tamara Odom-Maryon, Ruth Bryant, Beth Schenk, Kara Fitzgerald, Huey-Ming Tzeng*

---

## THE PROCESS: IDENTIFY BENEFITS & BARRIERS TO A PATIENT-CENTERED ADVOCACY INTERVENTION

*Beth Schenk, Ruth Bryant, Tamara Odom-Maryon*

---

## THE INTERVENTION: SPEAKUP-MAPS (MY ADVOCATE FOR PATIENT SAFETY)

*Ruth Bryant, Beth Schenk, Tamara Odom-Maryon, Huey-Ming Tzeng,*
*Kara Fitzgerald*

# PATIENT/FAMILY ENGAGEMENT IN ACUTE CARE ADVERSE EVENT RISK REDUCTION

## Overview: Patient/Family Engagement in Acute Care Adverse Event Risk Reduction

*Cindy Corbett, PhD, RN*
*Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

**Purpose/Aims:** Over the last 10 years, a growing emphasis has been placed on patient-centered outcome research. Patient-Centered Outcomes Research (PCOR) helps "people and their caregivers communicate and make informed health care decisions, allowing their voices to be heard in assessing the value of health care options." This symposium presents the process used to build capacity for conducting patient-centered outcomes research and define patient centered interventions intended to reduce acute care adverse events.

**Rationale:** Current care standards for reducing preventable patient harm and safety risks are ineffective. Despite attempts at the systems level and individual provider level to reduce these safety risks, which are nearly always *preventable,* serious adverse events still occur. Strategies to maximize the involvement of patients and their family members are critically needed to reduce preventable patient harm. An approach that allows patients and their family members to engage with the health care team to express concerns and have their concerns be valued and addressed by healthcare providers is particularly desired.

**Method:** The studies outlined in this symposium represent the process followed to bring together patients, family members, health care providers and researchers to achieve a common goal: developing a patient centered intervention to reduce acute care adverse events.

**Results:** Collectively, the studies presented here demonstrate a successful approach for developing s patient-centered intervention targeting acute care adverse events. This includes: 1) the approach and logistics required for creating a Patient Safety Advisory Panel (PSAP) charged with identifying potential intervention ideas; 2) the process for identifying benefits and barriers to a patient centered advocacy intervention; and 3) the intervention developed by the PSAP involving a modified version of the Joint Commission's SPEAKUP initiative that includes My Advocate for Patient Safety.

**Implications:** The research presented explores an important aspect of patient safety, specifically engagement of patients and family members in reduction of harm in acute care settings. The approach for developing patient-centered interventions can be implemented at other institutions.

# PATIENT/FAMILY ENGAGEMENT IN ACUTE CARE ADVERSE EVENT RISK REDUCTION

## The Approach: Explore Patient-Centered Interventions to Reduce Acute Care Harm

*Tamara Odom-Maryon, PhD*
*Research Professor, College of Nursing*
*Washington State University*
*Spokane, WA*

*Ruth Bryant, PhD (Candidate), RN*
*Scholar in Residence*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Beth Schenk, PhD, MHI, RN*
*Nurse Scientist*
*Providence Health & Services*
*St. Patrick Hospital*
*Missoula, MT*

*Kara Fitzgerald, BSN, RN*
*Nurse, Kootenai Health*
*Coeur d'Alene, ID*

*Huey-Ming Tzeng, PhD, RN, FAAN*
*Dean, College of Nursing*
*Tennessee Technological University*
*Cookeville, TN*

**Purpose/Aims:** The purpose of this project was to form a Patient Safety Advisory Panel (PSAP) to jointly explore and discover interventions that engage patients and family members in promoting patient safety in acute care settings. PSAP members worked together to identify patient-centered interventions designed to decrease adverse events (infections, falls, pressure ulcers, and medication errors) during hospital stays.

**Rationale:** There are multiple opportunities for patients, patients' family members, nurses, other clinicians, hospital administrators and other staff to improve the quality and safety of patient care during hospitalizations. While patients may serve an important role in preventing harm, little is known about how to engage patients and family members in the reduction of adverse events.

**Method:** Panel members were recruited from two hospitals a large regional medical center and two community hospitals that are part of a single health system. Patients or family members (1-3 per site) and nurses (1-3 per site) with an interest in improving the quality and safety of patient care and contributing to the design of a research project were recruited to join a team of six researchers. Four two-hour meetings were held. The aims for the first three meetings were to introduce lay panel members to the problem of adverse events in healthcare and discuss with the nurses present, define the role of panel members, analyze real life examples, explore workable solutions, and propose potential interventions. The aim for the fourth meeting was to select a patient-centered intervention that could be further explored and refined for future testing.

**Results:** The membership of the PSAP (15 total) included 1 hospital volunteer, 2 patients, 1 clergy, 5 nurses and 6 university researchers. Summaries of emerging themes from the prior meetings were used to guide conversation forward at subsequent meetings while simultaneously fostering the patient-centered focus of the interventions being discussed. Four common themes to guide the selection of a patient safety intervention emerged from these group discussions: 1) Patient education through communication; 2) Technology based education that is tailored to the patients' needs; 3) Empowerment of patients to speak up about safety concerns; and 4) Presence of a "Navigator" or advocate during hospitalization. The third meeting included a discussion of three potential ideas to consider for a later intervention. The final meeting culminated with an analysis of the challenges of patient/family engagement related to each of the ideas as a means for selecting the intervention to advance into testing.

**Implications:** The approach presented here demonstrates a process for developing patient centered interventions where patients and family members are engaged in acute care adverse event reduction.

# PATIENT/FAMILY ENGAGEMENT IN ACUTE CARE ADVERSE EVENT RISK REDUCTION

## The Process: Identify Benefits & Barriers to a Patient-Centered Advocacy Intervention

*Beth Schenk, PhD, MHI, RN*
*Nurse Scientist, Providence Health & Services*
*St. Patrick Hospital*
*Missoula, MT*

*Ruth Bryant, PhD (Candidate), RN*
*Scholar in Residence*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Tamara Odom-Maryon, PhD*
*Research Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

**Purpose/Aims:** Engagement of patient and family members in acute care adverse event risk reduction is needed. Two primary barriers to the success of this approach include patients' abilities to advocate for themselves while navigating through the healthcare system and a culture in which healthcare professionals tend to be unreceptive to the patients' self-advocacy role. The purpose of this study was to conduct a series of sequential focus groups and interviews with patients, family members, and interdisciplinary teams, and hospitalists. Findings from these focus groups and interviews provided key information required to inform the refinement of the SPEAKUP-MAPS (My Advocate for Patient Safety) intervention. The advocate teaches patients how to speak up about their health needs and helps the healthcare professional embrace the role of the patient as an advocate in preventing safety failures.

**Rationale:** To maximize the involvement of patients and their family members to reduce preventable patient harm and safety risk, interventions targeting this goal must address barriers to the success of this approach. Identifying an approach that allows patients and their family members to speak up and feel that their concerns are valued and addressed by healthcare professionals is critically needed. The success of this approach hinges upon healthcare professionals' willingness to embrace the patient's self-advocacy role.

**Methods:** Three discipline specific focus groups/interviews (nurses, patients/families, hospitalists) and one interdisciplinary team were assembled. Two sessions were conducted with each focus group. An innovative approach to conduct the focus groups was used where the themes collated from one focus group were shared with subsequent focus groups. This facilitated awareness among all groups of opinions, attitudes, fears, needs and preferences relative to patient engagement. Data collection culminated with a single interdisciplinary focus group.

**Results:** Patient focus group participants identified several barriers around general themes including communication, intimidation and lack of knowledge. Staff focus group participants identified several barriers around general themes including complexity and lack of time. All focus group participants identified patient engagement as a valuable tool for patient safety.

**Implications:** Focus groups can be used to address gaps in knowledge required for developing successful interventions. Findings from these focus groups facilitated the identification of barriers to a patient-centered advocacy intervention.

---

**Funding:** Sigma Theta Tau International/Hill-Rom Quality Improvement/Patient Safety Nursing Research Grant

# PATIENT/FAMILY ENGAGEMENT IN ACUTE CARE ADVERSE EVENT RISK REDUCTION

## The Intervention: SPEAKUP-MAPS (My Advocate for Patient Safety)

*Ruth Bryant, PhD (Candidate), RN*
*Scholar in Residence, College of Nursing*
*Washington State University*
*Spokane, WA*

*Beth Schenk, PhD, MHI, RN*
*Nurse Scientist*
*Providence Health & Services*
*St. Patrick Hospital*
*Missoula, MT*

*Tamara Odom-Maryon, PhD*
*Research Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Huey-Ming Tzeng, PhD, RN*
*Dean, College of Nursing*
*Tennessee Technological University*
*Cookeville, TN*

*Kara Fitzgerald, BSN, RN*
*Nurse, Kootenai Health*
*Coeur d'Alene, ID*

**Purpose/Aims:** This paper describes preparing the SPEAKUP-MAPS intervention, designed to engage patient and family members in the reduction of acute care adverse events. This intervention empowers patients and families to advocate for themselves with the assistance of a navigator.

**Rationale:** Patient engagement is used as a strategy to address preventable patient harm and safety. Little is known about the perceptions and beliefs of patients and family members regarding patient engagement. In addition, it is not known how the patient should communicate their needs and preferences to the health care professionals in a nonthreatening manner that will be positively received. The Joint Commission Speak Up initiative is one of many initiatives that focus on promoting patient engagement, but it has not been empirically tested. It is important to include patients and families to identify and modify a testable intervention to engage patients in risk reduction in acute care settings. To do so, the multi-step process described here was undertaken.

**Method:** A previously formed Patient Safety Advisory Panel (PSAP) identified the elements of The Joint Commission's SPEAKUP initiative as valuable and suggested the addition of a patient safety advocate (My Advocate for Patient Safety- MAPS). In order to refine this suggested intervention, a series of focus groups were convened to explore stakeholders' perceptions of barriers and benefits to a SPEAKUP-MAPS intervention. Results from the focus groups were used to guide a second round of modifications to the intervention. Interested members of the PSAP were reconvened to review and finalize these changes.

**Results:** The SPEAKUP-MAPS intervention is ready for testing. Barriers identified by patients and families, including communication challenges, intimidation and lack of knowledge were addressed in the final design by using more clear communication methods and coaching. Barriers identified by staff, including complexity of care and lack of time, were addressed by delegating communication and education about patient advocacy for safety to the MAPS role.

**Implications:** Evidence demonstrates that engagement of patients and family in their health care decision-making has a positive effect on level of trust, confidence with their providers, and reduced overall costs of care and litigation against health professionals. With the results of this study, researchers can now test the intervention described to determine its efficacy in increasing patient engagement and reducing harm.

# PATIENT PERSPECTIVES ON HEALTH INFORMATION SHARING AND PRIVACY

*Moderator:*
*Janice F. Bell, PhD, MPH, RN*
*Associate Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

## OVERVIEW: PATIENT PERSPECTIVES ON HEALTH INFORMATION SHARING AND PRIVACY

*Janice F. Bell, Katherine K. Kim*

## HEALTH INFORMATION SHARING PREFERENCES AMONG VETERANS IN CALIFORNIA

*Sarina Fazio, Michelle Burke Parish, Jacquie DeMellow, Janice F. Bell, Katherine K. Kim*

## VETERANS' ATTITUDES TOWARDS SHARING ELECTRONIC HEALTH INFORMATION FOR RESEARCH

*Michelle Camicia, Sarah Brown Blake, Claire Valderama-Wallace, Janice F. Bell, Katherine K. Kim*

## FACTORS AFFECTING CALIFORNIA CONSUMERS' CONSENT FOR ELECTRONIC DATA SHARING

*Katherine K. Kim, Machelle D. Wilson*

# PATIENT PERSPECTIVES ON HEALTH INFORMATION SHARING AND PRIVACY

## Overview: Patient Perspectives on Health Information Sharing and Privacy

*Janice F. Bell, PhD, MPH, RN*
*Associate Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Katherine K. Kim, PhD, MBA, MPH*
*Assistant Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

This symposium session highlights recent and ongoing research focused on patient perspectives related to health information sharing and privacy. With the increasing reliance on technology-enabled health care quality initiatives—from providing patients with access to their electronic health records to developing distributed research networks for large scale comparative effectiveness studies—questions arise about the perspectives of patients related to sharing their electronic information for health care and research purposes.

This session examines patient views on health information sharing and privacy from the perspectives of veterans receiving health care from a Southern California Department of Veterans Affairs (VA) clinic and from those of Californians generally. In light of recent breaches of patient information—including the 2015 breach of the VA e-Benefits portal and the 2014 breach of Anthem health insurance affecting civilians—the perspectives of both populations are critical. Together, the presentations in this symposium illustrate some of the complexities of health information sharing for patients, including distinctions about the purpose for which information is being shared and the level of permission required. These issues are of importance to nurses, who in many cases are on the front line in terms of obtaining consent and answering related patient queries.

Two of the presentations in the session also serve to highlight work from an innovative research methodology course designed to introduce doctoral nursing students to data management and analysis for studies of health and health care as part of their training in quantitative research methods. In this course, doctoral students at the Betty Irene Moore School of Nursing work collaboratively with faculty mentors and their peers to analyze health survey data and prepare co-authored manuscripts for publication. The course supports the rapid trajectory required for future academic success by assisting students to: develop proficiency in data management and analysis; understand the peer review and publication process; gain experience working collaboratively in teams; and build their curriculum vitae through development of presentations and papers for publication.

This session will be useful to health professionals and researchers interested in broad issues related to health information sharing, and patient perspectives in particular. It will also be of interest to faculty members developing courses in quantitative methodology with similar aims.

# PATIENT PERSPECTIVES ON HEALTH INFORMATION SHARING AND PRIVACY

## Health Information Sharing Preferences among Veterans in California

*Sarina Fazio, RN, MS, Doctoral Student*
*Michelle Burke Parish, MA, Doctoral Student*
*Jacquie DeMellow, RN, MS, Doctoral Student*
*Janice F. Bell, PhD, MPH, RN, Associate Professor*
*Katherine K. Kim, PhD, MBA, MPH, Assistant Professor*
*Betty Irene Moore School of Nursing*
*University of California Davis*
*Sacramento, CA*

**Purpose:** The purpose of this study was to explore veterans' attitudes and perspectives toward sharing their electronic health information for healthcare purposes.

**Background:** The development of health related technologies has facilitated health information exchanges (HIE), providing the opportunity to improve collaboration and coordination between providers, patients and caregivers. Support for affording patients access to their health information through personal health records, telehealth, secure electronic messaging, scheduling and ePrescribing is growing. The Department of Veterans Affairs (VA), one of the largest integrated healthcare systems in the United States (U.S.), initiated MyHealtheVet (MHV), an online personal health record system for patients in 2003. Despite the potential of MHV to increase access to health services and patient engagement in care, in 2012, only 33% of veterans had registered for MHV demonstrating that further patient engagement is necessary. In order to fully realize the potential of HIE, widespread adoption of these health technologies by patients and communities is required.

**Methods:** In 2013, 160 English speaking veterans were surveyed at a VA primary care clinic in Southern California. In a paper and pencil survey they were asked about demographic information, access and use of technology, and attitudes about sharing electronic health information between providers and health systems. Veteran characteristics for the sample were compared to data for California and U.S. veterans on age, sex, income, education, health status and online technology use. Descriptive statistics were performed to assess the association of veteran characteristics on attitudes about sharing and consent preferences for HIE.

**Results:** Veterans who participated in the survey were slightly more ethnically diverse and less educated than the U.S. veteran population, but reported higher technology access and use. Chi square analyses for likelihood to consent to HIE showed statistically significant differences in those likely to share by race, gender and age ($p<0.05$). A significant relationship was found indicating a greater proportion of veterans who reported being likely to share health information also believe that the electronic heath record will improve privacy (73% versus 23%; $p = 0.01$) and improve security (77% versus 9%; $p = 0.01$). For HIE consent preferences (opt-out, opt-in except in emergency, always opt-in), older adults (ages 65 and older) were more likely to choose opt-out (63%) versus opt-in except in an emergency (56%) or always opt-in (27%; $p=0.01$ for the pairwise differences). A greater proportion of veterans who perceived the electronic health record would improve security preferred the opt-out consent option (63%) compared to the opt-in except in an emergency (56%) and always opt-in (27%; $p=0.01$ for the pairwise differences).

**Implications:** Veterans' willingness to share health information electronically appears to be affected by their attitudes towards health information technology privacy and security. In order to leverage existing health technologies and more collaboratively engage veterans in their healthcare, healthcare systems should develop mechanisms to improve HIE privacy and security in order to assure patient trust.

---

**Funding:** The authors were partially funded by grants from AHRQ R01HS019913 (KK) and Gordon and Betty Moore Foundation grant to the Betty Irene Moore School of Nursing at UC Davis (SF, MBP, JD).

# PATIENT PERSPECTIVES ON HEALTH INFORMATION SHARING AND PRIVACY

## Veterans' Attitudes towards Sharing Electronic Health Information for Research

*Michelle Camicia, MSN, CCRN, CCM, FAHA, Doctoral Student*
*mecamicia@ucdavis.edu*
*Sarah Brown Blake, RN, MS, Doctoral Student*
*Claire Valderama-Wallace, RN, MSN, MPH, Doctoral Student*
*Janice F. Bell, MN, MPH, PhD, Associate Professor*
*Katherine K. Kim, MPH, MBA, PhD, Assistant Professor*
*The Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

**Purpose/Aims:** The purpose of this study was to explore technology use and other factors related to consent preferences and use of electronic health records (EHR) data for research among veterans, while controlling for important confounding variables including socioeconomic characteristics and health status.

**Background:** The widespread utilization of EHRs may provide valuable information for research while raising numerous concerns regarding privacy and individual control over data use. It is essential that the privacy concerns and consent preferences of veterans be considered as the nation moves quickly to adopt the use of EHR data for research.

**Methods:** The study utilized sequential sampling to administer an in-person paper and pencil survey to veterans who visited a southern California clinic during a 3 week period. The data were explored descriptively and logistic regression was utilized to examine the association of the independent variables (including socio-demographics, technology access, consent preferences and attitudes about the information being shared) with the likelihood of agreeing to share EHR data for medical research and consent preference.

**Results:** The sample consisted of 169 veterans, the majority of whom were male (91%), white non-Hispanic (62%), 65 or older (51%) and reported their health status as good or fair (60%). The mean age was 60. A number of demographic characteristics were associated with the likelihood of sharing health information for research or more or less permission required. Age ($p<0.01$) was associated with strictness of permission while race/ethnicity was associated with both the likelihood of sharing health information for research ($p=0.02$) and sharing health information for large research networks ($p<0.01$). Health status was also found to be associated with a likelihood of sharing health information for research networks ($p=0.01$). Technology use and trust in an organization were significantly associated ($p < .05$) with likelihood of sharing health information for research. In fully adjusted logistic regression models including technology use as the primary predictor of the two study outcomes, education level use was significantly associated with a participant's likelihood of agreeing to share health information for large studies (OR=0.02; 95% CI: 0.00, 0.35). Among those who identified as white, non-Hispanic race, compared to those who did not, the odds of agreeing to share information for large studies was far greater (OR=14.5; 95% CI: 2.05, 102.16].

**Implications:** Demographic characteristics, technology use and trust in the organization were associated with likelihood of veterans agreeing to the use of their EHR data for research. These findings support the need to address individual preferences to consent, and illustrate the potential for greater support for EHR use for research as technology use increases in the population.

---

Funding: The authors were partially funded by grants from AHRQ R01HS019913 (KK) and Gordon and Betty Moore Foundation grant to the Betty Irene Moore School of Nursing at UC Davis (MC, SBB, CVW).

# PATIENT PERSPECTIVES ON HEALTH INFORMATION SHARING AND PRIVACY

## Factors Affecting California Consumers' Consent for Electronic Data Sharing

*Katherine K. Kim, PhD, MPH, MBA*
*Assistant Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Machelle D. Wilson, PhD*
*Senior Statistician*
*Public Health Sciences, Biostatistics*
*University of California, Davis*
*Sacramento, CA*

**Background and Aims:** As national attention has arisen on learning healthcare systems that seek to improve quality, access, and cost, the need for robust technology infrastructure has also risen to prominence. Such infrastructure relies on the trust and confidence of individuals to share their health data in health information exchanges for healthcare purposes and distributed research networks for research. Few studies have consumers' views on privacy, security, and consent in electronic data sharing and fewer still have explored the dual purposes of healthcare and research together. The objective of this study was to explore the factors that impact California consumers' attitudes on electronic data sharing for both these purposes.

**Methods:** The survey was a representative, random-digit dial telephone survey of 800 Californians, performed in Spanish and English. Univariate tests were performed to assess the association of each explanatory variable with the binary outcome variable (likely to consent). The likelihood ratio chi square test was used for categorical covariates and the Wilcoxon rank sum test was used for the Likert scale variables. A logistic regression was performed using backward selection to test for significant associations of each explanatory variable with the outcome variable. A $p$-value $\leq 0.05$ was considered significant. All analyses were performed using SAS® software version 9.3.

**Results:** For the univariate tests on consent to data sharing for healthcare, health status and attitudes about EHR impacts on privacy, security, and quality were significant at the 0.05 level, while race was significant at the 0.1 level. The odds of consent decreased as likert scale ratings increased from improve to worsen for EHR impact on privacy, odds ratio (OR) = 0.74, 95% CI [0.60, 0.90]; security, OR = 0.80, 95% CI [0.66, 0.98]; and quality, OR = 0.59, 95% CI [0.46-0.75]. For the univariate tests on consent for research, race/ethnicity, income, education, having a regular provider, emailing a provider, and PHR characteristics were significant at the 0.05 level. Significantly, the odds of consent of those who think EHR will improve research quality compared to worsen was 11.26, 95% CI [4.13, 30.73]; those who value research benefit over privacy are 2.72 times those who don't, 95% CI [1.55, 4.78]; and those who value control over research benefit are 0.49 those who don't, 95% CI [0.26, 0.94].

**Implications:** Consumers' choices about electronically sharing health information are affected by their attitudes toward EHRs as well as beliefs about research benefit and individual control. These perspectives may differ among subgroups. Electronic healthcare and research networks may support the multiple aims of our healthcare system by making data more accessible and reusable for nursing research. However, design of these networks should be flexible to take into account the potential diversity of views and preferences among consumers, and policies governing the use of electronic data should be responsive to the expectations of the public.

---

Funding: Provided by AHRQ R01HS019913 (KK); National Center for Advancing Translational Sciences, National Institutes of Health, grant #UL1 TR000002 (MDW); and for survey costs, California Health and Human Services Agency grant #90HT0029 from Office of the National Coordinator for Health Information Technology.

# THE POWER OF ACADEMIC-PRACTICE PARTNERSHIPS IN ADVANCING CLINICAL INITIATIVES

*Moderator:*
*Ashley Roach, MS, RN, CNL*
*Clinical Instructor*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

## OVERVIEW: THE POWER OF ACADEMIC-PRACTICE PARTNERSHIPS IN ADVANCING CLINICAL INITIATIVES

*Ashley Roach, Sherrill Hooke, Anastasia Rose*

## BRINGING AWARENESS OF AN OUTPATIENT INITIATIVE TO THE INPATIENT SETTING

*Ashley Roach, Mary Lloyd-Penza, Patrick McAndrew*

## FALL PREVENTION PRACTICE AND PROTOCOL GAP: IDENTIFYING IMPROVEMENT AREAS IN ACUTE CARE

*Anastasia Rose, Hiroko Kiyoshi-Teo*

## IMPROVING THE HEALTH CARE EXPERIENCE OF WOMEN VETERANS: AN INQUIRY

*Sherrill Hooke, Lisa Oken, Layla J. Garrigues*

# THE POWER OF ACADEMIC-PRACTICE PARTNERSHIPS IN ADVANCING CLINICAL INITIATIVES

## Overview: The Power of Academic-Practice Partnerships in Advancing Clinical Initiatives

*Ashley Roach, MS, RN, CNL*
*Clinical Instructor*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

*Sherrill Hooke, MEd, RN*
*VANAP Clinical Faculty*
*Nursing Professional Services*
*VA Portland Health Care System*
*Portland, OR*

*Anastasia Rose, MEd, MSN/MHA, RN*
*VANAP Clinical Faculty*
*Nursing Professional Services*
*VA Portland Health Care System*
*Portland, OR*

**Purpose:** There is growing evidence that supports the benefit of collaboration between academic and practice institutions. The purpose of this presentation is to describe the unique relationship between a school of nursing and a Veterans Affairs (VA) Health Care System. In particular, this presentation will highlight the involvement of school of nursing faculty in facilitating quality improvement initiatives to improve patient care in a variety of care settings at the VA Health Care System.

**Background:** The VA Nursing Academic Partnership (VANAP) is an education and practice collaboration between VA facilities and schools of nursing designed to ensure quality veteran care now and in the future. Through the partnership between academic and clinical areas VANAP seeks to address the complex and unique care needs of the veteran population though promotion of safe and effective care within and across health care settings. Not only do VANAP faculty educate nursing students on veteran specific care concepts, they work with VA staff to address care issues to improve patient outcomes and reduce cost of care.

**Process:** Through the academic-practice partnership school of nursing faculty are working with teams on three specific care areas identified by VA staff: fall reduction in the inpatient setting, women veterans health, and amputation prevention. Faculty collaborate with direct care nursing staff, nurse leaders, and interdisciplinary team members to develop and implement plans to address these practice challenges. Faculty in collaboration with the practice sites utilize a variety of interventions to address problems. Specifically, an analysis has been conducted to identify gaps between fall prevention practice and protocols, focus groups have been held to determine women veterans health care needs, and patient and staff education has been developed to raise awareness of amputation prevention.

**Outcomes:** Faculty have been successful in identifying specific areas of need and implementing several interventions to address these needs. In addition, faculty are able to strengthen the relationship between the school of nursing and the health care system. VA staff have requested further involvement by school of nursing faculty to continue the collaboration between the two institutions. Long term outcomes on specific practice initiatives are continually being evaluated to promote positive patient outcomes.

**Conclusions:** Successful academic-practice partnerships add value through faculty involvement in leadership positions in the practice institution. Faculty are able to contribute through key roles in designing and implementing quality improvement initiatives at the practice institution while maintaining teaching positions at the school of nursing. Further work includes developing strategies to assure long term sustainability of this partnership.

# THE POWER OF ACADEMIC-PRACTICE PARTNERSHIPS IN ADVANCING CLINICAL INITIATIVES

## Bringing Awareness of an Outpatient Initiative to the Inpatient Setting

*Ashley Roach, MS, RN, CNL*
*Clinical Instructor*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

*Mary Lloyd-Penza, MSN, RN*
*VANAP Clinical Faculty*
*Nursing Professional Services*
*VA Portland Health Care System*
*Portland, OR*

*Patrick McAndrew, MSN, RN, CCNS, CCRN*
*VANAP Clinical Faculty*
*Nursing Professional Services*
*VA Portland Health Care System*
*Portland, OR*

**Purpose:** The purpose of this presentation is to describe a Veterans Affairs Nursing Academic Partnership (VANAP) nursing faculty's involvement in interventions to increase awareness of methods to prevent amputations in the inpatient setting at a VA Health Care System.

**Background:** Amputations and treating disease processes which can lead to amputation represent a significant economic burden to health care systems. The Veteran Affairs (VA) has issued a national directive, focused on the outpatient setting, to decrease amputation rates. The local VA Health Care System rate still represents one of the highest in the nation. Through a class assignment VANAP Scholars (nursing students committed to completing their clinical rotations in a VA setting) discovered that at the local VA Health Care System there was little awareness of amputation rates and initiatives that were in place to decrease amputations among nursing staff in the inpatient setting.

**Process:** VANAP nursing faculty collaborated with health care system staff to implement several opportunities to increase awareness of amputation prevention measures. An evidence-based fact sheet was developed and disseminated to all VA Health Care System staff that outlined the current problem and areas for intervention including information on how to assess patients and provide patient education. Faculty provided nurse in-services and conducted a virtual journal club on an inpatient vascular surgery floor in order to increase awareness and facilitate discussion. Partnering with health care system staff, VANAP faculty held a "Peripheral Arterial Disease Awareness Day" event in the hospital lobby. This event drew staff and patients and included distribution of cookbooks and patient education materials. In addition, faculty delivered individualized patient education on an inpatient floor, and developed a learning activity for student nurses to use to assess and teach patients.

**Outcomes:** Surveys of inpatient nursing staff (n=28) on a vascular surgical floor conducted after initial education efforts found a significant increase in awareness of amputation prevention initiatives and 100% of surveyed staff agreed or strongly agreed that this information was highly relevant to their work as inpatient nurses. Future outcomes measures will include long-term assessments of amputation rates and number of referrals of patients for foot care.

**Conclusions:** A directive targeted to the outpatient setting has relevance to inpatient nurses as well. Through collaboration with hospital staff, faculty were able to significantly impact awareness of amputation prevention. Providing this needed education also has potential to relieve the economic burden associated with amputation because of inpatient nurses' ability to intervene by assessing patients, providing education, and making referrals. Additionally, the academic-practice partnership between these two institutions was strengthened and ground work was laid for further collaboration.

# THE POWER OF ACADEMIC-PRACTICE PARTNERSHIPS IN ADVANCING CLINICAL INITIATIVES

## Fall Prevention Practice and Protocol Gap: Identifying Improvement Areas in Acute Care

*Anastasia Rose, MEd, MSN/MHA, RN*
*VANAP Clinical Faculty*
*Nursing Professional Services*
*VA Portland Health Care System*
*Portland, OR*

*Hiroko Kiyoshi-Teo, PhD, RN*
*Clinical Assistant Professor*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

**Purpose:** The purpose of this project was to understand current fall prevention practices on two acute care floors at a Veterans Affairs (VA) hospital and to identify any gaps between current practices and the institutional fall prevention nursing protocol. This project was developed as part of a VA Nursing Academic Partnership (VANAP) quality improvement initiative.

**Background:** Patients' falls are the most common adverse events reported in hospitals and can lead to hospital-acquired injuries, prolonged hospital stays, medical complications, increase in health care cost, death, litigation, loss of confidence of mobility, disabilities, and even mortality for elderly patients. Veterans have a greater chance of falls when compared with the civilian sector. Most falls are preventable and nurses play a critical role identifying patients at risk for falls and keeping patients safe. The VA hospital was a Magnet-designated hospital and at the time of the project had not meet the Magnet fall prevention benchmarks.

**Methods:** Information was collected from February to April 2015 at two medical-surgical units. Patient interviews, hospital chart reviews, and environmental assessment were completed. Veteran interview data were collected by two trained graduate-level RN VANAP faculty who worked with unit staff to identify patients who were high risk for fall and who were cognitiviely oriented. Patients using bed alarms, with safety attendants, or who were assessed as being medically inappropriate were interviewed. Hospital chart reviews were conducted to identify demographic data including primary and secondary diagnosis. Environmental assessments were conducted for items noted in the fall prevention protocol.

**Results:** Information was obtained from 37 veterans: 20 patients from a medical-surgical unit and 17 patients from a vascular unit. Mean age was 67 and all were male. Approximately 90% of interviewed patients had a Morse Fall Scale score higher than 45 and were alert and oriented. During the interviews only 29% of patients considered themselves to be at high fall risk. Only half of veterans indicated receiving fall prevention education on admission and during their inpatient stay. Seventy-seven percent of patients remembered being asked to use the call-light upon mobility; however, 69% of veterans had trouble finding and pushing the call-light. The environmental assessment revealed variation in adherence to the fall prevention nursing protocol. For example, some recommendations had high adherence: more than 90% of patients had skid-free footwear and call-light within reach. Other recommendations had lower adherence. Sixty percent of patients had urinals at bedside and 50% had a fall-risk sign posted outside of the room.

**Implications:** Gap analysis identified fall prevention patient education and nursing adherence to fall prevention protocol as needed areas for quality improvement strategies. Patient education that better engages patients in safe mobility practices and informing nurses about the gaps in fall prevention practices may be effective in strengthening the fall prevention program. Faculty anticipate working further with unit staff on these initiatives.

# THE POWER OF ACADEMIC-PRACTICE PARTNERSHIPS IN ADVANCING CLINICAL INITIATIVES

## Improving the Health Care Experience of Women Veterans: An Inquiry

*Sherrill Hooke, MEd, RN*
*VANAP Clinical Faculty*
*Nursing Professional Services*
*VA Portland Health Care System*
*Portland, OR*

*Lisa Oken, MSN, RN*
*VANAP Clinical Faculty*
*Nursing Professional Services*
*VA Portland Health Care System*
*Portland, OR*

*Layla J. Garrigues, PhD, RN*
*VANAP Clinical Assistant Professor*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

**Purpose:** Nationally, the Department of Veterans Affairs (VA) has identified the care of women veterans as one of its priority initiatives. Women comprise the fastest growing demographic within the veteran population and there are known care disparities between men and women veterans. Discovering the top issues women veterans report locally will lead to identifying the best ideas for improving their care and satisfaction. Implementing collaborative practice is a primary aim of a VA Nursing Academic Partnership (VANAP) practice improvement initiative.

**Background:** The local VA added a women's clinic within the last two years, and each of their other outpatient clinics now has a designated women's health team. The women veterans program manager for the facility conducts regular audits to assure adherence to VA directives regarding women veteran care. These audits have indicated that there are still improvements needed. Three undergraduate nursing students in Spring 2015 studied women veterans specifically in a population health course. They identified military sexual trauma (MST) as the most compelling issue facing women veterans after interviewing many of the local VA providers and reviewing the literature. Three VANAP nurse faculty in collaboration with VA staff continued a needs assessment in the summer of 2015.

**Process:** Three focus groups targeting women veterans were conducted in July 2015. The list of questions used was developed by the workgroup with input from the women veterans program manager. Focus group participants were invited via social media, posted flyers, announcements at meetings/conferences, and targeted phone outreach. The women veterans were not required to be enrolled at the VA to participate. The one-hour focus groups were held at different sites within the VA Health Care System.

**Outcomes:** Over the course of the three focus groups, a total of 11 women veterans participated. The largest group was at an outlying campus (n=7) comprising women veterans who stayed after an already scheduled therapy group. The other two groups had two attendees each. The women all were very willing to share stories of their experiences and make suggestions that could improve their health care. Three main themes emerged: 1) discomfort with the preponderance of men in waiting areas at the VA, 2) lack of female providers and women-only groups/services, and 3) problems accessing information about coverage and available services for women veterans.

**Conclusions:** The topic areas expressed by the women confirmed those identified nationally throughout the VA. Several intervention ideas grew from this information and plans for addressing the concerns are driving new initiatives. VANAP faculty, VA staff, and nursing students are working collaboratively to develop women veteran care improvement projects.

These projects link courses across the nursing school curriculum, continuity is enhanced over time, and the academic-practice partnership is strengthened.

# CARDIOVASCULAR ISSUES

## SYMPTOM TRAJECTORIES AFTER EMERGENT EVALUATION FOR ACUTE CORONARY SYNDROME

*Elizabeth P. Knight, Kimberly Shea, Sarah Schmiege,*
*Anne G. Rosenfeld, Chiu-Hsieh Hsu, Holli A. DeVon*

## RISK AND PROTECTIVE FACTORS FOR CARDIOMETABOLIC HEALTH IN KOREAN AMERICANS

*Cha-Nam Shin*

## INTERVENTIONS TO IMPROVE PSYCHOLOGICAL OUTCOMES IN HEART FAILURE CAREGIVERS

*Lorraine Evangelista, Anna Strömberg, J. Nicholas Dionne-Odom*

## NURSE SURVEY ON VENOUS THROMBOEMBOLISM PREVENTION IN KOREA

*Jung-Ah Lee, Hyunjin Oh, Sunjoo Boo*

# CARDIOVASCULAR ISSUES

## Symptom Trajectories after Emergent Evaluation for Acute Coronary Syndrome

*Elizabeth P. Knight, DNP, PhD, FNP-C*
*Nurse Practitioner, Mobile Health Program*
*Clinical Assistant Professor, College of Nursing*
*University of Arizona*
*Tucson, AZ*

*Kimberly Shea, PhD, RN*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Sarah Schmiege, PhD*
*University of Colorado- Denver*
*College of Nursing*
*Denver, CO*

*Anne G. Rosenfeld, PhD, RN*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Chiu-Hsieh Hsu, PhD*
*University of Arizona*
*College of Public Health*
*Tucson, AZ*

*Holli A. DeVon, PhD, RN*
*University of Illinois at Chicago*
*College of Nursing*
*Chicago, IL*

**Background:** Many patients evaluated for acute coronary syndrome (ACS) in emergency departments (EDs) experience ongoing or recurrent symptoms after discharge, regardless of their ultimate medical diagnosis. A comprehensive understanding of post-ED symptom trajectories is lacking.
**Aim:** To identify common trajectories of symptom severity in the six months after an ED visit for potential ACS.
**Methods:** This was a secondary data analysis from a study conducted in five U.S. EDs. Patients (n=1002) who had abnormal electrocardiogram or biomarker testing and were identified by the triage nurse as potentially having ACS were enrolled. Symptom severity was assessed in the hospital and 30 days and six months post-discharge using the 13-item ACS Symptom Checklist. Severity of the eight most commonly reported symptoms (chest pressure, chest discomfort, unusual fatigue, chest pain, shortness of breath, lightheadedness, upper back pain, and shoulder pain) was modeled across the three study time points using growth mixture modeling. Models with increasing numbers of classes were compared, and final model selection was based on a combination of interpretability, theoretical justification, and statistical fit indices.
**Results:** The sample was 62.6% male with a mean age of 60.17 years, and 57.1% ruled-out for ACS. Between two and four distinct trajectory classes were identified for each symptom. Identified trajectories were labeled “tapering off,” “mild/persistent”, “moderate/persistent,” “moderate/worsening”, “moderate/improving,” “late onset”, and “severe/improving.”
**Implications:** Research on the individual nature of symptom trajectories can contribute to patient-centered, rather than disease-centered, care. Further research is needed to verify the existence of multiple symptoms trajectories in diverse populations and to assess the antecedents and consequences of individual symptom trajectories.

---

Funding: R01 NR012012 (NINR); Sigma Theta Tau International, Beta Mu Chapter

# CARDIOVASCULAR ISSUES

## Risk and Protective Factors for Cardiometabolic Health in Korean Americans

*Cha-Nam Shin, PhD, RN*
*Assistant Professor*
*College of Nursing and Health Innovation*
*Arizona State University*
*Phoenix, AZ*

**Purpose:** The purpose of this study was to describe level of dietary practices and cardiometabolic health; and identify the most effective combination of factors influencing healthy dietary practices that would promote cardiometabolic health in a sample of Korean American adults.

**Background:** Health disparities in ethnic minority populations made health and health behaviors among immigrant populations important area of research. Pender's Health Promotion Model (HPM) guided the current study.

**Methods:** A prospective, descriptive, cross-sectional design study was conducted in a convenience sample of 112 Korean Americans in a Southwestern city using a survey questionnaire that assessed the role of collectivism, social support, and self-efficacy in healthy dietary practices that were known to be associated cardiometabolic health of Korean American adults. We analyzed data using descriptive statistics and path analysis.

**Results:** The sample was 65.2% female with a mean age of 68.5±10.57, married (87.5%), had college education (83%), and had annual family income of $50,000 or more (59.8%). The sample revealed prehypertension (systolic blood pressure =120.92±15.06, diastolic blood pressure=81.52±10.61) and borderline high triglycerides (157.89±77.17). Social support showed a direct relationship, with healthy dietary practices (family encouragement $r$=.32; friends encouragement $r$=.63; family discouragement $r$=-.62; friends discouragement $r$=-.36). Healthy dietary practices were partially related to cardiometabolic health, evidenced by a negative correlation with triglycerides ($r$=-.23), body mass index ($r$=-.23), and waist circumference ($r$=-.23). Additional regression analyses showed that dietary practices were related to gender (β=-1.050), age (β=1.054), income (β=.973), self-efficacy (β=.544), and gender interaction with collectivism (β=1.302). The model explained 52.4% of variance in healthy dietary practices.

**Implications:** The findings indicated that poor dietary practices and cardiometabolic health. The model explained more than half of variance in healthy dietary practices. However, no direct and indirect relationships existed among collectivism, social support, and self-efficacy. These findings are different from HPM propositions and further replication studies in larger and more diverse Korean Americans are recommended.

---

**Funding:** This project is supported by the Sigma Theta Tau International Honor Society of Nursing Small Grant.

# CARDIOVASCULAR ISSUES

## Interventions to Improve Psychological Outcomes in Heart Failure Caregivers

*Lorraine Evangelista, PhD, RN, FAHA, FAAN*
*Professor & Associate Director of the PhD Program*
*Program in Nursing Science*
*University of California, Irvine, CA*

*Anna Strömberg, PhD, RN, NFESC, FAAN*
*Professor, Department of Medical and Health Sciences and Department of Cardiology*
*Linköping University, Linköping, Sweden*

*J. Nicholas Dionne-Odom, PhD, RN, ACHPN*
*Postdoctoral Fellow, School of Nursing*
*University of Alabama at Birmingham, Birmingham, AL*

**Purpose/Aims:** To examine interventions aimed at improving psychological outcomes (e.g., caregiver burden, quality of life, anxiety, depression, perceived control, stress mastery, caregiver confidence and preparedness, and caregiver mastery) in family caregivers of patients with heart failure (HF).

**Background:** Caregivers of patients with HF have been found to often lack necessary resources to meet patients' complex needs and report feeling unprepared for the caregiving role and inadequately supported by the healthcare team. Given the substantial time allocated to performing caregiving tasks, caregivers often have less time for caring for themselves and their relationships which can ultimately have a marked impact on their psychosocial and physical health. Therefore, it is vital to support family caregivers with evidence-based, field tested programs, not only for their own mental and physical well-being, but also because of the critical role they play in delivering daily care to the patient with HF.

**Methods:** Using the methodology and criteria recommended by Ganong (1987) (e.g., purpose, inclusion criteria, literature search sampling decisions, systematic analysis and reporting), we conducted an integrative review of the literature to identify studies of original research focusing on interventions to support family caregivers of patients with HF published between January 2005 and September 2015. Publications were screened using the following criteria: (i) implementation of a randomized controlled trial of a non-pharmacological intervention to improve psychological outcomes in caregivers of persons with HF; (ii) caregivers received an intervention with or without the involvement of the patient with HF; (iii) written reports in the English language; and (iv) measurement of psychological outcomes in caregivers of patients with HF. Studies were excluded that focused on evaluation of interventions for caregivers of patients requiring surgical interventions or left ventricular assist devices to manage HF. Data extracted from identified studies included study design, sample and setting characteristics, outcomes assessed, and main findings.

**Results:** Eight studies meeting the inclusion criteria were included in the review. The most common intervention involved psychoeducation facilitated by a nurse (6/8) and supplemented with a combination of follow-up face-to-face sessions (2/6), home visits (2/6), telephone calls (3/6), and telemonitoring (3/6). Two studies used a support group intervention of 4-6 sessions. The duration of the intervention (including follow-up) for the 8 studies ranged from 1 to 12 months. Half of the interventions reported a significant effect on one or more primary outcomes, including caregiver burden (n=4), depressive symptoms (n=1), stress mastery (n=1), caregiver confidence and preparedness (n=1), and caregiver mastery (n=1).

**Implications:** Compared to dementia and cancer family caregiving, few interventions have been evaluated in caregivers of patients with HF. Of the existing interventions identified in this review, considerable variability was observed in aims, intervention content, delivery methods, duration, intensity, methodological rigor, outcomes, and effects. Given this current state of the science, direct comparison of HF caregiver interventions and recommendations for clinical practice are premature. Thus, research priority is strongly warranted for intervention development and testing to enhance HF caregiver support and education.

---

Funding: The authors would like to acknowledge funding from the National Heart, Lung, and Blood Institute (1R01HL093466-05) and from the Swedish Research Council for Medicine and Health and the Swedish Research Council for Health, Working Life and Welfare.

# CARDIOVASCULAR ISSUES

## Nurse Survey on Venous Thromboembolism Prevention in Korea

*Jung-Ah Lee, PhD, RN*
*Associate Professor*
*Program in Nursing Science*
*University of California, Irvine, CA*

*Hyunjin Oh, PhD, RN*
*Assistant Professor*
*College of Nursing, Gacheon University*
*Incheon, Korea*

*Sunjoo Boo, PhD, RN*
*Assistant Professor*
*College of Nursing, Ajou University*
*Suwon, Korea*

**Background:** Venous thromboembolism (VTE) is a preventable clinical disorder among hospitalized patients. However, untreated VTE can increase the morbidity and mortality of patients during the transition period from hospital discharge to the community. Although the annual incidence of VTE is relative low among the Asian population (15.9/100,000 in Taiwan, 12.6 in Japan, 13.83 in South Korea) compared to Caucasians (103/100,000) or African Americans (141/100,000), the incidence of VTE has consistently and rapidly increased in Korea from 8.83/100.000 in 2004 to 13.83 in 2008. The care for VTE requires coordination across multiple providers and settings. Hospital nurses can play a major role in improving VTE prevention care, assessing VTE risk and providing appropriate prophylactic measures in those who are at risk for VTE.
**Purpose:** The purpose of this study was to examine Korean registered nurses'(RNs) 1) level of perceived knowledge and practice of VTE assessment and prevention, 2) level of self-efficacy in VTE care, and 3) level of actual knowledge of VTE.
**Methods:** A cross-sectional descriptive study using anonymous paper-based survey methods was conducted for RNs from two academic medical centers in South Korea.
**Results:** A total of 452 hospital RNs completed the surveys (90.4% of response rate). The mean age was 29 years old, and 96% were females. The mean years of being an RN was 5.8 years (±4.8). The majority (74.3%) indicated their overall self-rated VTE knowledge as 'fair' while only 2.4% rated as 'very good' or 'excellent'. The overall mean score of VTE knowledge questions was 50.9 (±13.0) of 100, including VTE risk factor questions (61.01 ± 17.91), prophylaxis (46.98 ±15.30), and diagnostic tests (30.09 ± 32.14). The mean score of self-efficacy in practicing VTE prevention care was 3.0 (based on1-5 Likert scale). In self-reported frequency of VTE assessment, only 6% of participants reported completing a VTE risk assessment on all of their patients. The self-reported VTE assessment performance on patients varied according to clinical units ($p < .001$); approximately half of ICU nurses performed the VTE risk assessment while 5-12 % of RNs in medical and surgical units performed the assessment. Approximately 9.3% participants reported they had received in-service VTE education from their hospital.
**Conclusions/Implications:** The findings showed that the overall VTE knowledge and self-efficacy in VTE prevention practice of Korean hospital nurses were not highly rated. Korean nurses showed lack of knowledge of VTE, particularly VTE prophylaxis measures and VTE diagnosis methods. Focused education of VTE prevention and risk assessment should be considered as part of continuing education for Korean hospital nurses.

# CHALLENGES IN THE CARE OF CHILDREN AND ADOLESCENTS

## ENGAGING EVIDENCE BASED POLICY FOR TEEN PREGNANCY PREVENTION IN NEW MEXICO

*Elizabeth Dickson, Marie Lobo*

---

## ENJOYMENT OF PHYSICAL ACTIVITY AMONG 5TH–8TH GRADE URBAN GIRLS

*Eman Bajamal, Lorraine B. Robbins*

---

## PARENT'S CHALLENGES IN CARING FOR YOUNG CHILDREN WITH JUVENILE IDIOPATHIC ARTHRITIS

*Weichao Yuwen, Frances M. Lewis, Amy J. Walker, Teresa M. Ward*

---

## QUALITATIVE STUDY OF FOSTER CAREGIVERS' VIEWS ON ADHERENCE TO PEDIATRIC APPOINTMENTS

*Janet U. Schneiderman, Andrea K. Kennedy, Caitlin S. Sayegh*

## Engaging Evidence Based Policy for Teen Pregnancy Prevention in New Mexico

*Elizabeth Dickson, MSN, RN*
*PhD Candidate*
*RWJF Nursing and Health Policy Fellow*
*University of New Mexico*
*College of Nursing*
*Albuquerque, NM*

*Marie Lobo, PhD, RN, FAAN*
*Professor*
*University of New Mexico*
*College of Nursing*
*Albuquerque, NM*

**Purpose/Aims:** This presentation describes health policy research at the Department of Health and Human Services, Office of Adolescent Health (OAH) with the aim to use national, evidence-based policy supporting teen pregnancy prevention (TPP) to inform research of New Mexico local policy supporting TPP.

**Rationale/Background:** The United States has the highest teen pregnancy rate of all developed countries; New Mexico has the highest teen pregnancy rate in the United States (Kost & Krenshaw, 2014). While most teen pregnancies are unplanned and unintended (Finer & Zolna, 2014), it can place significant health, social, and financial burdens on adolescent populations, their families, and communities (National Campaign to Prevent Teen and Unplanned Pregnancy, 2013). Established in 2010, OAH is 1 of 6 federal, evidence-based policy initiatives designed to rigorously administer, support, and evaluate TPP interventions across the country. OAH program interventions can make a direct impact on adolescent populations most at risk for unplanned pregnancy throughout the country. Historically, evidence has not strongly impacted policy (Haskins, 2015). However, OAH policy initiatives concentrate resources on evidence-based, intervention programs that have shown to significantly impact teen pregnancy rates. New Mexico communities face complex economic, social, and health challenges that can contribute to, and be effected by, the disparity of unplanned teen pregnancy including poverty (over 25% of New Mexicans live in poverty), low levels of education (54% of high school seniors do not graduate high school), employment (one-third of available jobs are low-wage positions), and lack of access to reproductive health services (New Mexico Department of Health, 2013). The success of the OAH national policy initiative could significantly impact on population health in New Mexico.

**Methodology:** Methods used for this policy research included: observation of federal evaluation of TPP grant programs, creating new performance measurement indicators for grantees, planning dissemination of evaluation outcomes, and collaboration with national research focused TPP advocacy groups.

**Results:** Immediate outcomes included development of new performance indicators for new federal TPP grantees, and dissemination of federal grantee impact reports (national conference presentations, peer-reviewed journal submission, and improved website access for communities without academic privileges). Long term outcomes will include increased networks of support for TPP in New Mexico, and evidence-based resources to inform local community level policy research focused on TPP in New Mexico.

**Implications:** Implications for this policy research will include the increased use of evidence to inform state and local policy research supporting TPP; increased involvement of nursing within national and local evidence based policy research; and additional dissemination of federal-level resources, evidence-based programs, and networks of support for New Mexico communities addressing the risk for unplanned teen pregnancy.

---

Funding: Support for this project was provided by the Robert Wood Johnson Foundation Nursing and Health Policy Collaborative, Grant Number: 71849

## Enjoyment of Physical Activity among 5th–8th Grade Urban Girls

*Eman Bajamal*
*PhD Student*
*Michigan State University*
*College of Nursing*
*East Lansing, MI*
*bajamale@msu.edu*

*Lorraine B. Robbins, PhD, RN, FAAN, FNP-BC*
*Associate Professor*
*Michigan State University*
*College of Nursing*
*East Lansing, MI*

**Purpose:** To identify racial/ethnic, socioeconomic status (SES), and pubertal stage differences in enjoyment of physical activity (PA); and to examine relationships among enjoyment of PA and sedentary activity, light PA (LPA) and moderate-to-vigorous PA (MVPA).

**Rationale:** Research is needed to determine whether biological and sociocultural differences in cognitive and affective factors related to PA underlie subgroup variations in PA.

**Conceptual Basis:** The Health Promotion Model indicates enjoyment is related to PA.

**Background:** Despite health benefits of PA, only 17.7% of U.S. adolescent girls meet USDHHS recommendations calling for 60 minutes of PA daily. Understanding girls' perceptions of enjoyment of PA, along with biological (pubertal stage) and sociocultural (ethnic/racial and SES) differences in these perceptions, is essential to inform interventions.

**Methods:** Girls from low SES urban areas (N = 1,012) participated. Data on demographics, pubertal stage, and enjoyment were collected via survey. Minutes per hour of MVPA were assessed by accelerometers.

**Results:** Mean age was 12.20 years (*SD* = 0.96, min-max: 10-15). The majority of the girls were Black (*n* = 529, 52.3%) and non-Hispanic (*n* = 849, 83.9%). Most were in 6th (*n* = 414, 40.9%) and 7th grade (*n* = 412, 40.7%) and enrolled in the free or reduced-price lunch program at school (*n* = 804, 79.4%). Over half of the girls (*n* = 520, 51.4%) were in late/post-puberty.

Girls in early/pre- and middle puberty reported significantly higher enjoyment of PA (*M* = 2.39, *SD* = 0.52, $t_{(489)}$= 5.63, *p* = .093) than those in late/post puberty (*M* = 2.19, *SD* = 0.57). Black girls reported significantly greater enjoyment of PA (*M* = 2.36, *SD* = .53) than White (*M* = 2.17, *SD* = .58) and mixed/other race girls (*M* = 2.23, *SD* = .57).

Girls of low and those of high SES did not differ in enjoyment (*M* = 2.28, *SD* = .56; *M* = 2.30, *SD* = .55, respectively), LPA (*M* = 17.85, *SD* = 3.55; *M* = 17.56, *SD* = 3.52, respectively), and MVPA (*M* = 2.86, *SD* = 1.29; *M* = 2.66, *SD* = 1.25, respectively). Enjoyment of PA was positively correlated with LPA (*r* = .111, $p < 0.01$) and MVPA (*r* = .168, $p < 0.01$).

**Implications:** Decreasing enjoyment of PA, as girls advance in pubertal stage, may be one reason for the sharp decline in PA reported to occur among girls across adolescence. Reasons for racial differences in perceived enjoyment of PA deserve exploration. Assisting girls in advanced stages of puberty to increase their enjoyment of PA is important for helping them attain adequate PA as one means to address the high overweight and obesity prevalence noted in this population.

---

Funding: The project described was supported by Grant Number R01HL109101 from the National Heart, Lung, and Blood Institute (NHLBI) at the National Institutes of Health (NIH); PI: L. B. Robbins, Michigan State University College of Nursing. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NHLBI or NIH. The "Girls on the Move Intervention" study was also funded by the Michigan State University (MSU) College of Nursing. The funding bodies did not have a role in or influence the various phases of the project.

# CHALLENGES IN THE CARE OF CHILDREN AND ADOLESCENTS

## Parent's Challenges in Caring for Young Children with Juvenile Idiopathic Arthritis

*Weichao Yuwen, BSN, RN*
*PhD Candidate*
*School of Nursing*

*Frances M. Lewis, PhD, RN, FAAN*
*Professor*
*Department of Family & Child Nursing*

*Amy J. Walker, PhD, MSN, RN*
*Assistant Professor*
*Department of Family & Child Nursing*

*Teresa M. Ward, PhD, RN*
*Associate Professor*
*Department of Family & Child Nursing*

*University of Washington*
*Seattle, WA*

**Background:** Juvenile idiopathic arthritis (JIA) is a common pediatric autoimmune condition with no cure. The cause of JIA is not completely understood and children experience unpredictable and fluctuating episodes of active and inactive disease. JIA not only affects the child, but it also affects the family. Parents must learn to manage the illness, diagnostic and treatment demands, disruptions in daytime and nighttime routines, and balance family and other caregiving demands. There is a paucity of research on the illness related demands and challenges parents encounter when caring for their young children newly diagnosed with JIA.
**Purpose:** The purpose of this study is to describe parents' perceived challenges in caring for 2- to 5-year-old children newly diagnosed with JIA.
**Methods:** A qualitative study using single-occasion semi-structured interviews was conducted. Nine parents participated in the study (eight mothers and one father). Parents were interviewed in-person or via telephone. Interview data were analyzed using inductive content analysis. Data analysis occurred in six phases: 1) transcription and verification of interview data; 2) unitizing data; 3) open coding and identification of initial categories; 4) refining and defining categories using participant's own words; 5) identifying and defining higher order domains that more parsimoniously organized the categories; and 6) peer debriefing. Constant comparative analysis was carried out throughout all six phases.
**Results:** Parents ranged in age from 31 to 39 years (median age 34). The median time since their child's JIA diagnosis was 18 months. Inductive content analysis resulted in four domains of parent's challenges. *Not knowing:* Parents felt totally alone and in the dark when their child was diagnosed with JIA. It was hard to discern between arthritis-related and other causes of the child's behavior and symptoms when their child was too young to describe how they felt. Information on the Internet scared them and was hard to sift through. *JIA changed everything*: Parents felt that things got out of order after the JIA diagnosis. Parents disagreed with each other on treatment and management decisions, leading to feelings of estrangement and resentment that built up over time. Parents said they missed time together as a family. Sleep was disrupted in both parents and children. Parents reported feeling they and their child were being judged by other people. *Feeling powerless*: Parents felt overwhelmed and blindsided by the decisions they had to make, with no resources to draw on. Parents said they could feel their child's pain, blamed themselves for what happened, and felt that they had betrayed their child. *Battling with JIA together:* Parents felt traumatized by having to give injections to their child, and did not know what to do with the medication side effects. Parents were extra vigilant and some felt paranoid about their child getting sick because their child was immunocompromised after JIA treatment.
**Implications:** Study findings are the first to shed light on the day-to-day lived challenges parents face when caring for a young child newly diagnosed with JIA. Future research with a larger sample is needed to inform future intervention trials.

---

Funding: This work was funded by the Sigma Theta Tau International Psi Chapter-at-Large Small Grant, the University of Washington Warren G. Magnuson Scholarship, and the University of Washington Hester McLaws Nursing Scholarship.

# CHALLENGES IN THE CARE OF CHILDREN AND ADOLESCENTS

## Qualitative Study of Foster Caregivers' Views on Adherence to Pediatric Appointments

*Janet U. Schneiderman, PhD, RN, MN*
*Research Associate Professor, School of Social Work*
*University of Southern California*
*Los Angeles, CA*
*juschnei@usc.edu*

*Andrea K. Kennedy, MSW*
*PhD Student*
*School of Social Work*
*University of Southern California*
*Los Angeles, CA*

*Caitlin S. Sayegh, PhD*
*Postdoctoral Psychology Fellow*
*Division of Adolescent and Young Adult Medicine*
*Children's Hospital Los Angeles*
*Los Angeles, CA*

**Purpose:** This study was designed to explore caregivers' views on their role and responsibilities in assuring attendance at their foster child's pediatric health care return appointments.

**Background:** Children in foster care have more health problems than other low-income children not in foster care. Health care access is problematic for children in foster care, both in receiving initial health assessment appointments and on-going health care for chronic and acute health conditions. Caregivers are the gatekeepers and are responsible for assuring that foster children attend their health appointments. Some foster caregivers feel unprepared in their abilities to meet their child's physical and mental health care needs and also are overburdened with caregiving responsibilities. Related foster caregivers identify that they receive fewer case management services and less health history information than unrelated caregivers, which may affect appointment barriers.

**Methods:** Semi-structured telephone interviews with 28 foster caregivers (15 unrelated and 13 related) were conducted after their scheduled return appointment at a pediatric clinic. Interviews were conducted in English or Spanish and lasted approximately 15-20 minutes. The interviews were recorded during the telephone conversation and the interviewers read the responses back to the caregivers to assure accuracy. Questions included what helps and prevents caregivers from attending appointments, and how they viewed the value of these appointments. Using ATLAS.ti 6.2, the qualitative data were entered and organized, and two coders employed content analysis to identify themes in the interview transcriptions. Discrepancies were resolved through discussion, adding complexity to the themes. Interviews were separated by caregiver type (unrelated vs. related) and by adherence (kept appointment vs. missed appointment) to identify differences in themes.

**Results:** Of the study population, 67.9% attended their return appointment and 32.1% missed the appointment. Universally, caregivers identified that a reminder would be helpful for them. The caregivers suggested using the telephone (78.6%), text message (67.9%), email (21.4%), or postal mail (10.7%). (Some caregivers included multiple methods.) One theme identified was use of "multiple methods to remember appointments," and included caregivers' own organization skills and problem-solving, e.g. rescheduling appointments when emergencies occurred. A second theme of "positive health care experiences" included caregivers' personal relationships with providers/staff and clinic organization as important in improving adherence. The third theme was "pediatric care necessary" and included the recognition of the need of health care, especially timely immunizations. Unrelated caregivers more often said that appointment attendance was facilitated by clinic organization and was necessary to avoid repercussions from child welfare workers than related caregivers. Non-adherent caregivers mentioned their own need to problem-solve to attend appointments more than attenders. Also caregivers who attended appointments noted that relationships with clinic staff and their own organization helped them more than non-adherent caregivers.

**Implications:** Nurses working in pediatric community clinics need to acknowledge foster caregivers' difficulties adhering to scheduled pediatric appointments and advocate for a reminder system for these overburdened caregivers. Nurse practitioners increasingly provide primary health care for children in foster care and can use their interpersonal skills to engage foster caregivers and make sure that the clinic organization facilitates attendance.

**Funding:** This study was supported by Eunice Kennedy Shriver National Institute of Child Health & Human Development K01-HD05798.

# CHILDBIRTH: UPS, DOWNS, AND ATTITUDES

## THE COSTS OF NURSE-MIDWIFERY CARE DURING CHILDBIRTH

*Molly R. Altman, Sean Murphy, Cynthia Fitzgerald, H. Frank Andersen, Kenn B. Daratha*

---

## CHILDBIRTH PERCEPTIONS OF HMONG WOMEN LIVING IN VIETNAM

*Cheryl Corbett, Jamie Peterson Gettys, Lynn Clark Callister*

---

## PERINATAL DEPRESSION AND RISK FACTORS FOR PERINATAL POSTTRAUMATIC STRESS DISORDER

*Julie Vignato, Cynthia D. Connelly*

---

## PREDICTORS OF POSTPARTUM DEPRESSION IN EMERGING ADULT WOMEN WHO ARE FIRST TIME MOTHERS

*Rosamar Torres, Kathryn A. Lee, Caryl Gay*

# CHILDBIRTH: UPS, DOWNS, AND ATTITUDES

## The Costs of Nurse-Midwifery Care during Childbirth

*Molly R. Altman, PhD, CNM, MPH*
*Postdoctoral Fellow, Preterm Birth Initiative*
*University of California, San Francisco*
*San Francisco, CA*

*Sean Murphy, PhD*
*Assistant Professor*
*Health Policy and Administration*
*Washington State University*
*Spokane, WA*

*H. Frank Andersen, MD*
*Chief Medical Informatics Officer*
*Providence Regional Medical Center*
*Everett, WA*

*Cynthia Fitzgerald, PhD, RN*
*Associate Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Kenn B. Daratha, PhD*
*Associate Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

**Purpose/Aims:** The purpose of this study was to explore differences in hospital birth care provided by nurse-midwives and obstetricians in a large multi-payer population. This study specifically aimed to compare health care cost, resource utilization, and intervention use in the labor and birth setting. The research question was: Does nurse-midwifery care for women who experience in-hospital births contribute to lower intervention use, lower cost, and comparable patient-oriented outcomes, as compared to care provided by their OB/GYN counterparts?

**Rationale/Conceptual Basis/Background:** Approximately one in four hospital admissions is for pregnancy-related care, including childbirth. Often hospitalizations for childbirth result in multiple elective and expensive interventions, such as labor analgesia, labor induction, or cesarean delivery, adding to health care utilization and cost burden. In the U.S., certified nurse-midwives have been shown to provide care with comparable outcomes using fewer unnecessary interventions than their obstetrician counterparts. The assessment of hospital cost, resource utilization, and maternal-neonatal outcomes among a contemporary population may further inform care delivery strategies with a goal to provide quality obstetric care at a decreased cost to health care institutions and payers.

**Methods:** This retrospective study used data collected from one Pacific Northwest hospital. Subjects were 1,103 women, all deemed to be medically low risk and experiencing a term, singleton, vertex pregnancy in the absence of complications. Multivariable regression methods and generalized linear modeling techniques were used to evaluate dichotomous outcomes and cost analyses respectively, and multi-level modeling was considered to control for between-provider differences in care delivery.

**Results:** Women attended by certified nurse midwives had lower attributable facility costs, decreased length of stay, and lower overall use of interventions during labor and birth than women attended by obstetricians. Both provider groups were comparable for maternal, neonatal, and safety outcomes.

**Implications:** In the study institution, women cared for by nurse midwives were shown to have comparable maternal and neonatal outcomes while using less hospital resources and accruing fewer costs than their obstetrician counterparts. This research provides evidence that supports ongoing efforts for more widespread availability and utilization of nurse midwives in low-risk labor and birth care in the hospital setting.

# CHILDBIRTH: UPS, DOWNS, AND ATTITUDES

## Childbirth Perceptions of Hmong Women Living in Vietnam

*Cheryl Corbett, APRN, MSN, FNP-C*
*Associate Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Jamie Peterson Gettys*
*Student Nurse*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Lynn Clark Callister, PhD, RN, FAAN*
*Professor Emerita*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

**Purpose:** The purpose of this qualitative study is to describe the perceptions of the childbirth experience in the lives of Hmong women living in the highlands of Vietnam.

**Background:** Hmong originate from southeast Asia, specifically Thailand, Vietnam and Laos. Following the Vietnam War thousands of Hmong refugees immigrated to the United States. Currently there are over 260,000 Hmong living in the US with large concentrations in the Midwest and California. Hmong culture is characterized by religious beliefs in animism and ancestor worship. Like many other cultures, childbirth is an important sociocultural aspect of life in Hmong culture. Bearing children is crucial as traditional Hmong believe in reincarnation with many ancestor's souls waiting for rebirth. Hmong women take an active role in childbirth with birth frequently occurring in the home.

**Methods:** Following IRB approval and informed consent, in-depth interviews were conducted with eight Hmong women living in the highlands of Vietnam regarding their pregnancy and childbirth experience. Interviews were digitally recorded, transcribed and themes were generated by the research team.

**Results:** This research provides insights into the perceptions of the birth experience of Hmong women living in the highlands of Vietnam. Themes identified from these interviews include: highly valuing motherhood, laboring and giving birth silently, giving birth surrounded by family, feeling anxiety to provide for a new baby, and embracing cultural traditions.

**Implications:** A culturally competent nurse understands the importance of social and cultural influences on women's health beliefs and practices. Learning more about the meaning of childbirth in other cultures will increase nursing knowledge and promote cultural competency. With a large population of Hmong living in the US, it is important for health care providers to be aware of cultural variances specific to this population during childbirth. Nurses should address needs and wishes regarding traditional practices to assure quality health care.

# CHILDBIRTH: UPS, DOWNS, AND ATTITUDES

## Perinatal Depression and Risk Factors for Perinatal Posttraumatic Stress Disorder

*Julie Vignato, MSN, RNC-LRN, CNE*
*Doctor of Philosophy in Nursing Candidate*
*University of San Diego Hahn School*
*of Nursing and Health Science*
*San Diego, CA*

*Cynthia D. Connelly, PhD, RN, FAAN*
*Professor and Director of Nursing Research*
*University of San Diego Hahn School*
*of Nursing and Health Science*
*Beyster Institute for Nursing Research*
*San Diego, CA*

**Purposes/Aims:** The purpose of this study was to identify factors that increase the risk for Perinatal Posttraumatic Stress Disorder (PPTSD) among a sample of racially/ethnically diverse women with depressive symptomatology during the perinatal period. **Rationale/Conceptual Basis/Background:** PPTSD is estimated to be in 9 – 18% of the national population. A meta-analysis of postpartum PTSD suggested perinatal depression and PPTSD may be comorbid conditions. Nonetheless, there is limited information on PPTSD risk factors and their relationship with perinatal depression in racially/ethnically diverse women. *The Integrated Perinatal Health Framework* was used to identify multiple determinates affecting perinatal mental health: distal determinants (prior sexual abuse, genetic factors, physical environment, and social environment), proximal determinants (biomedical responses like infections and behavioral responses such as nutrition), process (preconception and pregnancy), and outcomes (maternal infant disease, health, and functioning).

**Method:** Descriptive cohort study using data from RO1 MH075788, a randomized controlled trial using repeated measures. Sampling from 10 community health clinics in the San Diego region, 1,868 pregnant women were screened, 1099 interviewed in Spanish (58.8%) and 769 interviewed in English (41.2%), 381 (20.4%) screened positive for depressive symptoms based on an EPDS score of 10 or above and were followed from the time of study entry through the first year of birth of the child from 2009 to 2013. PPTSD symptomology was measured by the Davidson Trauma Scale (DTS) and Trauma Events Questionnaire (TEQ).

**Results:** Eighty-four (30%) of the completed 276 DTS and 267 TEQ presented with PPTSD symptomology with no variances between the groups. Of those with PPTSD, 58 (69%) were Latina, 11 (13.1%) Caucasian, and 13 (15.5%) African-American. Using the DTS, logistic regression analysis was statistically significant [-2 Log Likelihood = 72.980, $\chi^2(5) = 26.851$, p < 001], identifying the predictors of one traumatic event, partner abuse, and infant behavior with odds ratios (95% CI) of .216 (.059 -.951), 4.512 (1.144 – 4.120), and 4.873 (1.655 – 15.318) respectively. The Nagelkerke's $R^2$ of .395 indicated a predictor model with an overall prediction success of 83.1%. Logistic regression of the TEQ yielded nonsignificant results.

**Implications:** Although perinatal depression and PPTSD may be comorbid conditions, one traumatic event, partner abuse, and unfavorable infant behavioral outcomes may increase the risk for PPTSD in a predominately Latina population. Early screening and intervention for PPTSD perinatal patients with depressive perinatal symptomology should be considered to prevent adverse infant behavioral outcomes. Further research is need to evaluate the TEQ in the Latina population as Latina's may self-report trauma differently versus PTSD symptoms such as nightmares. Integrating mental health (PPTSD) into The Integrated Perinatal Health Framework assisted in identifying contributing factors that occur in a woman's lifespan, not just conception through postpartum.

---

**Funding:** National Institute of Mental Health Grant funded RO1(MH075788, Connelly PI, 9/08 – 6/14)
Dean's Research Scholar Award University of San Diego Hahn School of Nursing and Health Sciences

---

References:

Leight, K. L., Fitelson, E. M., Weston, C. A., & Wisner, K. L. (2010). Childbirth and mental disorders. *International Review of Psychiatry, 22*(5), 453-471. doi:10.3109/09540261.2010.514600

Misra, D. P., Guyer, B., & Allston, A. (2003). Integrated perinatal health framework: A multiple determinants model with a life span approach. *American Journal of Preventive Medicine, 25*(1), 65-75. doi:10.1016/S0749-3797(03)00090-4

# CHILDBIRTH: UPS, DOWNS, AND ATTITUDES

## Predictors of Postpartum Depression in Emerging Adult Women Who Are First Time Mothers

*Rosamar Torres, PhD, RN*
*Post-Doctoral Fellow*
*Research Center for Symptom Management*
*University of California, San Francisco, School of Nursing*
*San Francisco, CA*

*Kathryn A. Lee, PhD, RN, FAAN*
*Professor and Associate Dean for Research*
*University of California, San Francisco*
*School of Nursing*
*San Francisco, CA*

*Caryl Gay, PhD*
*Research Associate*
*University of California, San Francisco*
*School of Nursing*
*San Francisco, CA*

**Purpose:** This presentation addresses the relationships between infant temperament, stress, subjective sleep symptoms and depressive symptoms at approximately 1 month postpartum in emerging adult women ages 18-24.

**Background:** Postpartum depression (PPD) has been shown to affect maternal functioning, adversely affect the infant-mother bond and is associated with delayed infant development. Several risk factors have been identified that are associated with the development of PPD including altered hormone levels, disruptive sleep, difficult infant temperament, antenatal depression, lower educational attainment and income, being unmarried and comorbid conditions. However, there are few studies that examine the role of infant temperament, stress and disrupted sleep on mood.

**Methods:** This secondary analysis is based on data collected from two longitudinal studies and includes 74 emerging adult women who are first-time mothers. These women were recruited from antepartum clinics during the third trimester. Postpartum data were also collected 13-52 days ($m$ = 23 days) after delivery in participants' homes. Instruments included the General Sleep Disturbance Scale, The Center for Epidemiologic Studies Depression Scale, Cohen's Perceived Stress Scale and a 12-item Infant Temperament scale based on the Early Infant Temperament Questionnaire. A hierarchical multiple regression analysis was used to determine the relationship between infant temperament, subjective sleep, stress and depressive symptoms at approximately 1 month postpartum controlling for demographic variables and prenatal depressive symptoms.

**Results:** Twenty four percent of participants met criteria for depression. Twenty-year-old women had the highest rates of depressive symptoms (18%) compared to other age groups. Demographic variables explained 25% of the variance in depressive symptoms at one month postpartum. Maternal race, age and education were not significant predictors of postpartum depressive symptoms. However, partnered status $(\beta = -.21, p < 0.001)$, infant gender $(\beta = -.18, p < 0.05)$ and delivery type $(\beta = -.28, p < 0.001)$ were significant predictors. Prenatal depressive scores were entered in step 2 of the regression model and accounted for 13% of the variance in postpartum depressive score and was statistically significant. Infant temperament was added in step 3 of the model and explained only 0.4% of the variance and was a statistically significant predictor of postpartum depressive symptoms. Perceived stress was entered into step 4 of the model and explained an additional 32% of the variance in postpartum depression scores and was statistically significant $(p<0.001)$. Subjective disrupted sleep explained 1% of the variance in postpartum depressive scores and was not a significant predictor of postpartum depressive symptoms.

# COMMUNITY HEALTH

## COMMUNITY MEMBERS' PERCEPTIONS OF COMMUNITY-BASED RESEARCH

*Alice M. Tse, Donna-Marie Palakiko, Ephrosine Daniggelis, Emily Makaha*

---

## ACCESS TO SPECIALTY CARE FOR COMMUNITY HEALTH CLINIC PATIENTS

*Mabel Ezeonwu*

---

## A MEDICAL ASSISTANT HEALTH COACHING TRAINING IN COMMUNITY HEALTH CENTERS

*Victoria Ngo, Katherine K. Kim*

---

## CUMULATIVE INCIDENCE OF ACUTE KIDNEY INJURY IN CALIFORNIA'S AGRICULTURAL WORKERS

*Sally Moyce, Jill Joseph, Daniel Tancredi, Diane Mitchell, Marc Schenker*

---

## OVERWEIGHT OR OBESITY RISK IN COLLEGE STUDENTS RESIDING IN DISTRESSED RURAL APPALACHIA

*Demetrius A. Abshire, Terry A. Lennie, Gia T. Mudd-Martin, Debra K. Moser*

# COMMUNITY HEALTH

## Community Members' Perceptions of Community-Based Research

*Alice M. Tse, PhD, RN APRN, FAAN*
*Associate Professor*
*Department of Nursing*
*School of Nursing & Dental Hygiene*
*University of Hawaiʻi at Mānoa*
*Honolulu, HI*

*Donna-Marie Palakiko, MS, RN, APRN*
*Director, Community Engagement*
*& Outreach Core*
*Department of Native Hawaiian Health*
*John A. Burns School of Medicine*
*Honolulu, HI*

*Ephrosine Daniggelis, PhD, MPH*
*Facilitator & Researcher*
*Ke Ola Mamo, Native Hawaiian Health*
*Care System on Oʻahu*
*Honolulu, HI*

*Emily Makaha, MSW*
*Cultural Integration Specialist, Family*
*Treatment Services*
*The Salvation Army*
*Honolulu, HI*

**Purposes/Aims:** To describe the perspectives of community participants about engaging in community-based participatory research (CBPR), and then to use the information to develop a model to depict the community participants' perceptions of interfacing with academic researchers.

**Rationale/Conceptual Basis/Background:** The ultimate goal of translational research is to improve health outcomes and reduce disparities by forming partnerships between academic researchers and members of community groups. The partnerships then translate evidence-based health interventions into meaningful and realistic group/community-based health improvement activities. Although decreasing, the gap continues to exist between research knowledge and its translation into everyday use. The present study assessed the perspectives of community participants about engaging in the CBPR process.

**Methods:** A diverse group of community-dwelling Native Hawaiian participants engaged in open-ended and semi-structured focus group interviews, addressing community members' perceptions of community-based participatory research. Participants were purposively sought to represent diversity in SES and research participation experience.

**Results:** Fifty-six participants participated. Twenty focus groups ranging in duration from 30 to 60 minutes were accomplished. Three themes results: (1) reciprocal trust is needed between the academic researcher and the community partners; (2) perceptions about the purpose, research intent and expectations led to the vetting of researchers; and (3) expectations of roles and responsibilities of the researcher(s) reflected meaningfulness of the interaction. A model explaining the influence of the themes to the overall dynamics in a CBPR relationship was developed:

**Implications:** Community research facilitators must be attuned to the concept of "readiness of an academic-community partnership" in terms of the goodness of fit (shared values, compatible climate and mutual beneficial commitment); capacity (effective leadership, inclusive membership complementary competencies and adequate resources); and operations (congruent goals, transparent communication, conflict resolution and equal power). The results of this study indicate that trustable communication processes are needed between the academic researcher and the community, there is a need for locating researchers that fit the community, and delineation of expectations about the roles and responsibilities of the researcher(s) is important. These types of expectations would inform the types of training that would best facilitate both academic and community partner's participation in CBPR.

# COMMUNITY HEALTH

## Access to Specialty Care for Community Health Clinic Patients

*Mabel Ezeonwu, PhD, RN*
*Assistant Professor*
*School of Nursing and Health Studies*
*University of Washington Bothell*
*Bothell, WA*

**Purpose:** 1) To examine barriers that limit community health clinic (CHC) patients from accessing specialty care services outside the community health centers; 2) to explore strategies to enhance specialty care referral process and care coordination for CHC patients.

**Background:** Community health clinics constitute a critical part of the United States health care system. Washington State is 5th in the nation with the highest number of people served by community health centers or clinics. These health centers provide primary care to anyone that walks through their doors. They are however limited in their abilities to provide specialty services that go beyond primary care. Majority of patients served are from vulnerable populations such as the homeless, low income, people with limited English proficiency, ethnic and racial minorities, uninsured and the underinsured. These individuals on average have poor health status and higher prevalence of chronic disease conditions than the general population. They often need follow-up care with specialists for continued recovery or health maintenance. Studies suggest that CHC patients have difficulty accessing specialty and diagnostic services that are not provided at the health clinics or centers. Referral coordinators play central roles in facilitating their specialty care coordination and referral, and their views as frontline workers are outlined.

**Methods:** In this qualitative descriptive study, face-to-face and phone interviews were conducted with personnel that oversee and conduct specialty care coordination and referrals (referral coordinators) at community health clinics/centers in Washington State. A convenient sample of 37 referral coordinators, representing 37 CHCs was recruited and interviewed for this study. Qualitative content analysis was used to analyze the data.

**Results:** Several *barriers* that account for limited specialty care access for CHC patients include 1) Lack of insurance or acceptable insurance; 2) lack of connection through contract with tertiary institutions (clinic-hospital affiliations); 3) lack of CHC-specialty clinic communication; 4) shortage of clinical (particularly specialists) and non-clinical personnel; 5) language issues/lack of adequate interpreters; 6) cost/low income; and 7) transportation issues and location of specialists in relation to the patient. *Improvement strategies* include 1) Ensure 100% coverage through the Patient Protection and Affordable Care Act (ACA); 2) increase clinic-hospital affiliations; 3) increase the number of specialists; 4) incentivize the use of electronic medical records to enhance communication and care coordination between facilities.

**Implications:** For low income clients, increased access to primary care does not translate into increased access to specialty care. Although the ACA helps to improve access to primary care for vulnerable populations, there is still a clear disparity in access to specialty services between the uninsured, under-insured, and private insurance holders seen at the CHCs. There are no clear provisions under the law to extend the same coverage mandate to specialty care. An integrative model of care is therefore critical in all policy agenda to systematically link primary and specialty care providers in order to enhance CHC patients' clinical outcomes through timely access to appropriate specialty care providers.

## A Medical Assistant Health Coaching Training in Community Health Centers

*Victoria Ngo*
*PhD Graduate Student*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Katherine K. Kim, PhD, MPH, MBA*
*Assistant Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

**Introduction and Purpose:** The number of patients diagnosed with diabetes continues to grow in the United States. Affecting approximately 29 million people and 9% of the overall U.S. population, it is the seventh leading cause of death. In California's agricultural Central Valley, close to one-third of the residents hospitalized live with this condition. Supporting lifestyle and behavior change through health coaching has been demonstrated to be an effective way to build self-management capacity for diabetes and other chronic conditions. With many community health centers focused on transforming themselves into patient-centered medical homes, the care team roles have been re-examined to improve care and patient-centeredness. Medical assistants (MAs) may be an untapped workforce for supporting people living with diabetes but few training programs are available to enhance their skills. The purpose of this project was to develop a health coaching curriculum that would allow MAs to fill these gaps.

**Materials and Methods:** The medical health coaching (MAHC) curriculum was developed by UC Davis in collaboration with clinical leaders of the two community health centers (CHC). The customization of the curriculum allowed the training to be relevant to each of the CHCs. The 84 hour training was a hybrid of in-person and online modules including extensive skills practicums. The curriculum included introduction to health coaching, motivational interviewing, action planning, setting agendas, basic background on diabetes and hypertension, medication reconciliation, active listening, resource navigation, and inter-professionalism. Trainees were assessed by written exam and observation of behaviors and skills during scenario role-playing.

**Results:** The MAHC curriculum was implemented in four sites with 13 trainees participating—11 medical assistants and 2 licensed vocational nurses. All 13 trainees passed the written exam with a score of 70% or greater (*m* = 83%, range 71% to 94%). During the observation assessment trainees were required to demonstrate all behavioral and knowledge competencies within a 60-minute comprehensive health coaching scenario.

**Implications:** The MAHC demonstrated that MAs can acquire the necessary knowledge and skills to be effective health coaches. Challenges in training included securing coverage for MAs to release them for training, connectivity and technical capacity to allow for remote, online participation. Future work will explore streamlining the training to see if shorter timeframe is possible, evaluating effectiveness of health coaching on improving patient outcomes, and developing an ongoing funding stream via workforce development partners.

---

Funding: Provided by a grant from the California Endowment to Golden Valley Health Centers.

# COMMUNITY HEALTH

## Cumulative Incidence of Acute Kidney Injury in California's Agricultural Workers

*Sally Moyce, RN, BSN*
*Doctoral Candidate*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Jill Joseph, PhD, MD*
*Associate Dean of Research*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Daniel Tancredi, PhD*
*Associate Professor*
*Department of Pediatrics*
*University of California, Davis*
*Sacramento, CA*

*Diane Mitchell, PhD*
*Research Associate*
*Center for Occupational*
*and Environmental Health*
*University of California, Davis*
*Davis, CA*

*Marc Schenker, MD, MPH*
*Distinguished Professor*
*Public Health Sciences*
*University of California, Davis*
*Davis, CA*

**Purpose:** To investigate the cumulative incidence of acute kidney injury (AKI) and associated risk factors over one work shift in a sample of agricultural workers in California.

**Background:** In areas of Central America, an epidemic of chronic kidney disease, termed Mesoamerican Nephropathy (MeN), is estimated to be the cause of 20,000 deaths. While chronic kidney disease (CKD) typically affects men and women older than 60 years old with previous history of diabetes or hypertension, MeN disproportionately affects men in their 30s-40s who work in agricultural jobs and lack a history of traditional risk factors. One risk factor for the development of CKD is the closely related condition, acute kidney injury (AKI). Few studies have examined the incidence of AKI among agricultural workers, despite the associations between AKI and CKD and the apparently increasing prevalence of CKD among agricultural workers in Central America. No studies of AKI have been conducted in California which employs approximately 400,000 agricultural workers from Mexico and Central America.

**Methods:** A cohort of agricultural workers in California's Central Valley was recruited during the 2014 summer harvest. Serum creatinine measurements were collected both before and after a work shift to estimate incident AKI. Select clinical and behavioral factors including weight, blood pressure, diabetes status and history of kidney disease were also collected. Associations of incident AKI were compared by various traditional risk factors using chi-square, trend tests, and logistic regression models.

**Results:** In 295 agricultural workers, AKI after a work shift was detected in 35 participants (11.8%). Diabetes was associated with 4.18 times the odds of AKI (95% confidence interval 1.12-15.56). None of the other traditional risk factors including age, obesity, or hypertension were significantly associated with AKI.

**Implications:** The cumulative incidence of AKI after a single day of agricultural work is alarming due to the increased risk of long-term kidney damage this infers. The significant association with diabetes indicates AKI in California workers may not be related to MeN in Central American agricultural workers. However, the lack of association with other traditional risk factors suggests that incident AKI may be associated with an occupational or environmental risk factor that was not included in our analysis. Assessment of renal function in agricultural workers may help identify early signs of AKI in this vulnerable population.

---

Funding: Western Center for Health and Safety seed grant, Health Initiatives of the America's PIMSA dissertation award

## Overweight or Obesity Risk in College Students Residing in Distressed Rural Appalachia

*Demetrius A. Abshire, PhD, RN*
*Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Terry A. Lennie, PhD, RN*
*Professor*
*College of Nursing*
*University of Kentucky*
*Lexington, KY*

*Gia T. Mudd-Martin, PhD, RN*
*Associate Professor*
*College of Nursing*
*University of Kentucky*
*Lexington, KY*

*Debra K. Moser, PhD, RN*
*Professor*
*College of Nursing*
*University of Kentucky*
*Lexington, KY*

**Purpose:** To determine if living in economically distressed rural Appalachia is independently associated with overweight or obesity in college students.

**Background:** The college years represent an important period where many young adults engage in behaviors associated with greater risk for overweight and obesity. Many college students also experience psychological distress that increases their risk for weight gain. College students living in economically distressed rural areas may particularly be at risk for overweight or obesity. Rurality has been associated with increased risk for excess body weight in other populations, and living in a disadvantaged area has been associated with unfavorable health outcomes including cardiovascular disease and diabetes. With rural Eastern Appalachian Kentucky having some of the poorest socioeconomic conditions in the state, residing in this area may be associated with greater overweight or obesity risk in college students who are already at high risk.

**Methods:** This was a cross-sectional comparative study in which health behaviors, psychological factors, and adiposity were compared between college students living in rural Eastern Appalachian Kentucky (n = 55, 19.7 ± 1.7 years, 51% female) and urban Central Kentucky (n = 54; 20.7 ± 1.7 years, 63% female). Data on sociodemographics, health behaviors, and depressive symptoms were obtained using self-reported questionnaires. Students underwent a brief physical exam in which height and weight were objectively measured to calculate body mass index (BMI; $kg/m^2$). Overweight or obesity was defined as a BMI $\geq 25 kg/m^2$. Binary logistic regression was used to determine if living in rural Appalachian Kentucky was associated with overweight or obesity controlling for sociodemographics, health behaviors, and depressive symptoms.

**Results:** The median BMI was greater in students living in rural Appalachian Kentucky compared to those in urban Central Kentucky ($25.4 kg/m^2$; IQR = 22-35.1 vs. $23.2 kg/m^2$; IQR = 22-24.9; $p = 0.037$). A greater proportion of students in the rural Appalachian group were also overweight or obese (50% vs. 24%, $p < 0.001$). Living in rural Appalachia was associated with more than a five-fold increased risk for overweight or obesity independent of other factors (OR = 5.8, 95% CI = 1.79-18.82, $p = 0.003$).

**Implications:** Findings from this study are consistent with existing research that living in rural and disadvantaged areas are associated with unfavorable health outcomes. Nurses should recognize the increased risk for overweight or obesity among college students living in these areas and encourage appropriate lifestyle changes to reduce excess risk. Nurse researchers are ideally suited to examine additional factors that may be associated with overweight or obesity risk in high-risk rural residents.

---

Funding: This study was supported by the Delta Psi Chapter of Sigma Theta Tau International.

# COMMUNITY HEALTH AND HEALTH POLICY

## CHALLENGES IN HEALTH CARE ACCESS AND UTILIZATION IN OLDER KOREAN IMMIGRANTS

*Jane Chung, Jongwon Lee, Jin Young Seo*

---

## SEX DIFFERENCES IN HEALTH AND FUNCTIONING OF INDIVIDUALS WITH PHYSICAL DISABILITY

*Manu Thakral, Andrea LaCroix, Ivan Molton, Amanda E. Smith*

---

## DETERMINANTS OF HEALTH PROMOTING LIFESTYLE BEHAVIORS AMONG ARAB AMERICAN WOMEN

*Kholoud Khalil*

---

## ATRIAL FIBRILLATION IN RURAL ADULTS: AN EVALUATION OF CLINICAL GUIDELINES ADHERENCE

*Melinda Klug, Shu-Fen Wung, Carrie Merkle, Ted Rigney*

---

## USING WORKFLOW FOR EXAMINING HEALTH MANAGEMENT IN DAILY LIVING SETTINGS

*Mustafa Ozkaynak, Jacqueline Jones, Jason Weiss*

---

## MANAGING ORAL HEALTH: PERCEPTIONS OF CALIFORNIA ADVANCED PRACTICE REGISTERED NURSES

*Eileen K. Fry-Bowers, Paul Gavaza*

# COMMUNITY HEALTH AND HEALTH POLICY

## Challenges in Health Care Access and Utilization in Older Korean Immigrants

*Jane Chung, PhD, RN*
*Assistant Professor*
*College of Nursing*
*University of New Mexico*
*Albuquerque, NM*

*Jongwon Lee, PhD, RN*
*Associate Professor*
*College of Nursing*
*University of New Mexico*
*Albuquerque, NM*

*Jin Young Seo, PhD, WHNP-BC, RN*
*Assistant Professor*
*Hunter-Bellevue School of Nursing*
*Hunter College, CUNY*
*New York, NY*

**Purpose:** This study explored unmet health care needs, as well as perceived barriers to and facilitators of health care service accessibility and utilization, in a community-based sample of 17 older Korean immigrants in Seattle, WA.

**Background:** The number of Korean immigrants in the United States has substantially increased over the past 50 years. For these immigrants, the experience of locating and accessing health care services is challenging, especially when they are linguistically and socioculturally isolated and lack family support. Because of the difficulties in accessing and utilizing health care services, older Korean immigrants are at risk for poor physical and mental health and inadequate health care. Despite the disparity in health care access experienced by older Korean immigrants, little is known about their health care needs and challenges in health care service accessibility and utilization.

**Methods:** A qualitative analysis of two focus groups and six individual interviews of older Korean immigrants aged 65 years and older ($n$ = 17) was conducted using inductive coding methods. Study participants living in the greater Seattle metropolitan area were recruited through Korean ethnic churches and senior associations. All interviews were conducted and analyzed in Korean. Conventional content analysis was used as an analytic strategy. The transcripts were coded independently by three coders, and a codebook was developed collaboratively and revised after coding discrepancies were resolved among the three coders.

**Results:** Most participants perceived themselves as healthy and independent, even when some suffered from chronic health problems. Participants did not use health services for prevention purposes and tended to visit physicians only if they experienced illness symptoms. Many participants experienced difficulty accessing necessary health care services or searching for health information. Most participants were not aware of where to find health information and what to do if their chronic health condition deteriorated. Consequently, they worried about becoming frail in the near future and losing their mobility and independence. Sources of health information were limited to peers, home care helpers, or Korean community-specific news outlets. Several barriers to health care services were identified: 1) lack of information about health insurance and benefits, and chronic health management; 2) language barrier; 3) limited health benefits coverage; 4) health care cost; 5) limited resources, such as a lack of transportation, time, or available community services; and 6) lack of support from informal caregivers due to their current living situation (living alone or far away from family). Due to limited health information and health literacy issues, participants reported difficulty following recommended self-management practices for their chronic health conditions. Despite these multifaceted barriers, participants developed their own strategies to overcome obstacles, such as building a social network with peers or neighbors and actively seeking support from religious or community organizations.

**Implications:** Older Korean immigrants are a small but fast-growing ethnic group in the United States. Findings suggest avenues for facilitating better access to and utilization of health care services by providing information and support among immigrant elders. Efforts to reduce barriers to health care services among immigrant elders should be continued.

---

**Funding:** This research was funded by the Hester McLaws Scholarship from the University of Washington School of Nursing and Dan David Foundation Scholarship.

# COMMUNITY HEALTH AND HEALTH POLICY

## Sex Differences in Health and Functioning of Individuals with Physical Disability

*Manu Thakral, NP, PhD*
*Research Associate*
*Group Health Research Institute*
*Seattle, WA*

*Andrea LaCroix, PhD*
*Director, Women's Health Center of Excellence*
*Family Medicine and Public Health*
*University of California, San Diego*
*San Diego, CA*

*Ivan Molton, PhD*
*Director, Rehabilitation Research*
*and Training Center*
*University of Washington*
*Seattle, WA*

*Amanda E. Smith*
*Rehabilitation Medicine*
*University of Washington*
*Seattle, WA*

**Purposes/Aims:** The purpose of this study was to describe sex differences in the prevalence and severity of secondary conditions and functional impairments in individuals with long-term physical disability in comparison to the U.S. general population and to determine the association between sex and physical, social and emotional functioning in this cohort.
**Rationale/Conceptual Basis/Background:** The nursing conceptual model chosen for this study is King's Systems Model (1981) which is based on the premise that human beings are open systems which interact with the environment and provide the biopsychosocial context in which individuals aging with a disability experience functional impairment and secondary conditions.
**Methods:** The data for this study was obtained from a longitudinal postal survey of 2,055 community-dwelling adults living in the Washington state area with 1 of 4 diagnoses: spinal cord injury, multiple sclerosis, muscular dystrophy, and postpoliomyelitis syndrome. Severity of secondary conditions was reported on a numeric rating scale (range 0-10).Patient Health Questionnaire-9 (PHQ-9) was used to assess depressive symptoms. Patient Reported Outcomes Measurement Information System (PROMIS) measures were used to assess social role satisfaction and physical functioning. Descriptive statistics were performed stratified by age and sex; then compared to those taken from a large normative sample of the US general population. Adjusted marginal means and odds ratios were used to determine the association of sex and severity of secondary conditions. A multivariate linear regression analysis was performed to determine the association between sex and physical, emotional and social function controlling for age with potential age x sex interaction.
**Results:** Women with long term disability were associated with lower education, lower income and lower BMI compared to men. Controlling for age and diagnostic group, women with disability reported higher levels of pain severity and fatigue compared to men, and were more likely to be diagnosed with arthritis (AOR 1.43 95%CI 1.13-1.81), fibromyalgia (AOR 4.05 95%CI 2.04-8.05) and chronic fatigue syndrome (AOR 1.56 95%CI 1.05-2.33) and less likely to be diagnosed with coronary artery disease (AOR .47 95%CI .32-.70) compared to men in this cohort. The association between sex and physical function was modified by age, and older women (aged 65+) with disability on average scored 2.48 points lower (95% CI .43-4.53) than older men controlling for diagnostic group. There were no significant differences in the social role satisfaction and PHQ-9 scores between men and women in this cohort; however the level of physical and social function in those aged 65+ in this cohort was lower than 80% of older adults, aged 65-74 years, in the general population.
**Implications:** Women aging with long term disability are an especially vulnerable population with higher levels of physical and social functional impairments compared to men with disability and older adults in the general population. Furthering the knowledge base on health disparities of women with disability from a population health perspective can be used to develop interventions and inform health policy.

---

Funding: Supported by National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) - H133B080025, H133B080024, H133B130018

# COMMUNITY HEALTH AND HEALTH POLICY

## Determinants of Health Promoting Lifestyle Behaviors among Arab American Women

*Kholoud Khalil, PhD, RN, CCRN*
*Assistant Professor, School of Nursing*
*California State University, Long Beach*
*Long Beach, CA*

Background: Health-promotion behaviors have become a growing focus of research. The adoption of such behaviors is significantly related to an overall sense of wellbeing. Enhancing health-promoting behaviors is still challenging among ethnic minorities in both developed and developing countries. The growing Arab American population in the United States constitutes a minority group; Arab American women (AAW) remain a relatively unstudied group. The National Health Care Quality Report and the National Health Care Disparities Reports categorized women from ethnic and minority groups as a priority population, they have high disease prevalence, as well as, lower quality and access to healthcare.

Purpose: The main purpose of this study was to examine the factors affecting health promoting lifestyle behaviors among Arab American women.

Methods: Based on Pender's revised model, a cross-sectional, descriptive correlational study was conducted. A sample of 267 women residing in Southern California completed a self-administered paper survey. The survey was available in both English and Arabic languages, it measured the participants' perceptions of acculturation, stress, health self-efficacy, social support, and health-promotion lifestyle behaviors. Five standardized scales were used to measure the participants' responses, (a) Acculturation Rating Scale of Arab-American II (ARSAA II), (b) Psychological Stress Measure-9 (PSM-9), (c) Perceived Health Competency Scale (PHCS), (d) Multidimensional Scale of Perceived Social Support (MSPSS), and (e) Health-Promotion Lifestyle Profile II (PHLP II). Descriptive, correlation, and multiple linear regression analysis were utilized in data analysis.

Results: The study findings revealed significant bivariate correlation between health promoting lifestyle profile II (HPLP II) total score and the participant's age, years of residency in the United States, acculturation, perceived health self-efficacy, and perceived social support. The study variables explained 46% of the variance in health-promotion lifestyle behaviors among this group. HPLP II total mean score was M = 2.71 (SD = .44) on a range of 1-4 Likert-type scale. Physical activity and stress management subscales scored the lowest among the six subscales of HPLP II with M = 2.20 (SD = .72) and M = 2.54 (SD = .53), respectively. The spiritual growth and interpersonal relations subscales scored the highest mean scores of M = 3.02 (SD = .54) and M = 3.01 (SD = .50), respectively. Implications: The findings may help healthcare professionals and researchers to identify AAW's unique health and social needs, and to have a more in-depth understanding of the critical role of culturally sensitive programs in promoting health behaviors among this group. It is critical for clinicians and policy makers to tailor competent and culturally sensitive programs to meet the health needs of Arab American women. Future studies are needed to address specific and focused health behaviors.

---

References:

Agency for Healthcare Research and Quality (AHRQ). (2011). *Disparities in healthcare quality among minority women: Findings from the 2011 national healthcare quality and disparities reports*. Retrieved from http://www.ahrq.gov/qual/nhqrdr11/nhqrminoritywomen11.pdf

Pender, N. J., Murdaugh, C. L., & Parsons, M. A. (2006). *Health promotion in nursing practice* (5th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

El- Sayed, A. M., & Galea, S. (2009). The health of Arab- Americans living in the United States: a systematic review of literature. *BioMed Central Public Health, 9* (272). doi:10.1186/1471-2458-9-272.

# COMMUNITY HEALTH AND HEALTH POLICY

## Atrial Fibrillation in Rural Adults: An Evaluation of Clinical Guidelines Adherence

*Melinda Klug, DNP, RN,*
*AGACNP-BC, CCRN*
*Critical Care/Pulmonary AGACNP*
*Summit Healthcare*
*Show Low, AZ*

*Shu-Fen Wung, PhD, MS, RN,*
*ACNP-BC, FAAN*
*Associate Professor*
*Behavioral Health Science Division*
*University of Arizona*
*Tucson, AZ*

*Carrie Merkle, PhD, RN, FAAN*
*Associate Professor*
*Biobehavioral Health Science Division*
*University of Arizona*
*Tucson, AZ*

*Ted Rigney, PhD, ANP,*
*ACNP-BC, FAANP*
*Clinical Associate Professor, Community and Systems Health Science Division*
*University of Arizona*
*Tucson, AZ*

**Background:** Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia, with a higher incidence in older adults. There are limited data regarding AF care for adults in rural communities with AF.

**Purpose:** The purpose of this study was to determine whether patients in a rural community hospital received AF care based on American Heart Association (AHA) *Get with the Guidelines-Atrial Fibrillation* (GWTG-AF) standardized guidelines and whether use of these guidelines was associated with improved thirty day outcomes.

**Methods:** A retrospective medical records review was used. Medical records of patients with AF as primary or secondary diagnoses in inpatient or emergency department admissions were reviewed to determine whether AF guideline care was provided during the hospital stay. AHA GWTG-AF was used to evaluate guideline based care.

**Results:** The results from this study showed that while quality care is provided to rural patients with AF, standardized guideline care is not consistently provided. Preventative care, such as use of angiotensin converting enzyme inhibitors (ACE-I) or angiotensin receptor blockers (ARB) was only provided for 50% of patients who required it. Evaluation of thromboembolism risk was not consistently provided for AF patients. Use of the congestive heart failure, hypertension, age, diabetes, stroke, vascular disease, age, sex category ($CHADS_2/CHA_2DS_2VASc$) score was not used in the emergency department or observation units (ED/OBS) and limited use of $CHADS_2/CHA_2DS_2VASc$ score was shown in the inpatient environment, with only 19.5% of patients receiving assessment of thromboembolism risk. Bleeding risk was not documented by clinicians, such as the hypertension, abnormal renal/liver function, stroke bleeding predisposition, labile INR, elderly, drugs/alcohol (HAS-BLED) score. Thromboembolism medications were administered to 156 (78%) of the patients without documentation of these risk factors. Rate control strategies were used more frequently than rhythm control strategies (76% compared to 15%). There were three readmissions for minor bleeds during the pre-selected readmission window, and did not exhibit enough data to generalize whether immediate 30 day outcomes are affected by adherence to guideline care.

**Conclusions:** While some of the GWTG-AF guidelines are followed for AF patients in this rural environment, there are significant areas where adherence to the guidelines is limited. Use of preventative care measures, thromboembolism risk, bleeding risk, and appropriate anticoagulation administration for patients at risk were areas that did not have adequate guideline adherence. Future research is needed to evaluate what barriers may exist to using guideline based care. Such research can also implement education programs for clinicians to increase adherence to guideline care. In addition, future research may include a longer readmission period to evaluate for improved outcomes.

# COMMUNITY HEALTH AND HEALTH POLICY

## Using Workflow for Examining Health Management in Daily Living Settings

*Mustafa Ozkaynak, PhD*
*Assistant Professor*
*University of Colorado, College of Nursing*
*Aurora, CO*

*Jacqueline Jones, PhD, RN, FAAN*
*Associate Professor*
*University of Colorado, College of Nursing*
*Aurora, CO*

*Jason Weiss, MEd*
*Innovation and Quality Program Manager*
*University of Colorado, College of Nursing*
*Aurora, CO*

**Aim:** The purpose of this study was to evaluate the value of using the concept of workflow and identifying challenges in capturing workflow in home and community settings. We used a patient-oriented workflow approach that supports patient centered care.

**Background:** Workflow—the flow of work through space and time—(a) contributes to comprehensive, systematic examination of care delivery systems, (b) helps identify quality of care and efficiency problems, and (c) leads to development of systematic interventions to remedy these problems. Well-established workflow tools and techniques in formal, structured settings exist. While known workflow tools and techniques are successful in structured and relatively standardized clinical settings, little attention has been paid to tools that can codify health-related workflow in unstructured, diverse daily-living environments.

**Methods:** We conducted an exploratory qualitative study of eight patients from an anticoagulation clinic of an academic hospital. Patient ages varied from 30 to 83. Patients had been receiving anticoagulation therapy for from 3 weeks to 26 years. We collected data about health management through (1) one-hour initial patient interviews; (2) one-month Tablet-based patient journals of health activities and challenges; (3) 30-minute patient exit interviews; (4) 30-minute patient healthcare provider interviews. First two authors analyzed the data using a general inductive theme analysis technique.

| Theme | Example Excerpts |
|---|---|
| Patients face cognitive, physical and psychological challenges managing their chronic health condition | “It’s nearly 8 o’clock and I’m just now getting home I left the house at 6:30 this morning. I didn’t pack a lunch and who knows what I ate in terms of Vitamin K and now I have to go back to remember try to figure out what I’m having for dinner” [Patient] |
| A provider’s understanding of a patient’s living context and activities positively affects the extent to which the provider can tailor the therapy regimen to the individual patient | “Every time I have questions about something like, when winter is coming and I know I am going to be eating less fresh greens or something, they are willing to say ok, we can proactively start to cut back your Warfarin if you think you are going to be eating less and then see how you are doing.” [Patient] |
| Patients get frustrated with the limitations a therapy places on their social engagement | “I don’t want to talk about my health overall. it’s because talking about anti-coagulation makes me feel old.” [Patient] |
| Clinicians focus almost exclusively on clinical outcomes of the therapy while patients focus on clinical outcomes and on the impact of the therapy on their daily routines | “I just do my best to give her comfort where I can and to try to make sure that she is not worried, at least, about this small piece that I have. I have the littlest piece of all of her health care. I try to give her the smallest bit of comfort that I can, by making sure that if her INR is low she is on shots.” [Provider] |

**Results:** We identified four themes as listed in the table. Our evaluation showed the feasibility and value of using workflow to model and examine how components such as activities, information, resources and influence flow over time and settings in unstructured daily living environments. Methodological challenges due to high variability exist.

**Implications:** We fill an important gap in the literature by proposing using the concept of workflow to better understand health management at home and community settings in a holistic and systematic way. A contextual understanding of individuals’ daily living-based chronic disease self-management can help nurses tailor education strategies or better develop in-home or transitional nursing interventions. They can better integrate tools and technologies into the home landscape and better partner with patients.

# COMMUNITY HEALTH AND HEALTH POLICY

## Managing Oral Health: Perceptions of California Advanced Practice Registered Nurses

*Eileen K. Fry-Bowers, PhD, JD, RN, CPNP*
*Associate Professor, Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

*Paul Gavaza, PhD*
*Associate Professor*
*Loma Linda University*
*School of Pharmacy*
*Loma Linda, CA*

**Purpose:** This study describes California advanced practice registered nurse (APRN) knowledge regarding the relationship between oral health and overall health status; self-reported practices used by APRNs in the provision of oral health care to their patients; and APRN perceptions regarding the integration of oral health into their current practice, and other health care services.

**Background:** Dental disease has been identified as a “silent epidemic” and significant evidence links an individual’s oral health to their overall health. Tooth decay affects nearly 60% of children and remains a common chronic disease across the life span. Poor oral health has also been associated with adverse pregnancy outcomes, respiratory disease, cardiovascular disease, cancer and diabetes. More than 164 million hours of work are lost annually due to dental disease or dental visits, and children lose approximately 51 million school hours due to dental-related illnesses. Many nondental health care professionals, including nurses, are unaware of the risk factors and preventive approaches for oral disease, or have not been trained in providing basic oral health care. APRN education has historically lacked a defined oral health curriculum or set of oral health clinical competencies and limited research examines APRN knowledge, skill and competence regarding oral health care.

**Methods:** This descriptive cross-sectional study surveyed 1,400 randomly selected California APRNs (nurse practitioners (NPs) and clinical nurse specialists (CNSs)). The survey instrument contained 32 items developed from existing literature on oral health, and 15 demographic/practice characteristic questions.

**Results:** 289 responses were received (21% response rate) from primary care NPs (*n* = 198, 68.5%), acute care NPs (*n* = 39, 13.4%) and CNSs (*n* = 33, 11.3%). While most respondents agreed that poor dental health compromises overall health (*n* = 284, 98.6%), less than one half agreed/strongly agreed that dental cavities and periodontal disease are infections (*n* = 143, 49.4%) and, one fifth (*n* = 59, 20.5%) of respondents answered “don’t know” about whether side effects associated with medication use increase the risk of medical complications. Less than half either agreed/strongly agreed that use of immunosuppressive drugs in patients with dental disease can result in serious septicemia (*n* = 106, 36.9% and *n* = 36, 12.5% respectively), and nearly half disagreed (*n* = 123, 42.6%) or strongly disagreed (*n* = 18, 6.2%) with the statement “I have adequate knowledge of interaction between oral health and treatment/management of many diseases.” Most agreed (*n* = 151, 52.2%) or strongly agreed (*n* = 95, 32.9%) that nursing education does not adequately address oral health topics.

**Implications:** Oral health cannot and should not be overlooked in the routine health screening and care of all patients, yet many ARPNs have a limited understanding of risk factors, including medication use, and preventive approaches for many oral diseases, and feel poorly equipped to meet a patient’s oral health needs. Increased oral health education in basic and advanced practice nursing programs, as well as training in interprofessional collaboration regarding oral health, could assist APRNs in acquiring oral health competencies and positively impact the oral health of many populations.

---

Funding: Loma Linda University School of Pharmacy, Research Seed Funds.

# COMMUNITY HEALTH AND RESEARCH

## IMPACT OF A FRAILTY INTERVENTION AMONG PREFRAIL AND FRAIL HOMELESS WOMEN

*Benissa E. Salem, Jenn Ma-Pham, Stephanie Chen, Anna Liza Antonio*

---

## SELF-MONITORING OF GLUCOSE EFFECTS ON LIFESTYLE MODIFICATION IN PREDIABETES

*Barbara Barlow Aron, Ahlam Jadalla, Beth Keely, Pamela Xandre*

---

## AN EVALUATION OF THE IMPACT OF A COMMUNITY-ACADEMIC PARTNERSHIP PROJECT

*Barbara Braband, Kala Mayer, Taylor Killen*

---

## PROVIDER RECOMMENDATION FOR COLORECTAL CANCER SCREENING IN KOREAN AMERICANS

*Moonju Lee*

---

## INTERPROFESSIONAL CARE ACCESS NETWORK: A COMMUNITY BASED ACADEMIC PRACTICE MODEL

*Peggy Wros, Heather Voss, Katherine Bradley, Launa Rae Mathews, Nicholas Bookman*

# COMMUNITY HEALTH AND RESEARCH

## Impact of a Frailty Intervention among Prefrail and Frail Homeless Women

*Benissa E. Salem, PhD, RN, MSN*
*Adjunct Assistant Professor*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Jenn Ma-Pham, MSW*
*Director of Specialized Programs*
*and Technical Assistance*
*Downtown Women's Center*
*Los Angeles, CA*

*Stephanie Chen, MPH, MSW*
*Health Program Specialist*
*Downtown Women's Center*
*Los Angeles, CA*

*Anna Liza Antonio, MS*
*Biostatistician*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Purpose/Aims:** Middle-aged and older prefrail and frail homeless women (PFHW and FHW) are an understudied population. The purpose of this pilot, randomized control trial was to assess the impact of a Frailty Health Promotion (FHP) + Nurse Case Management (NCM) program versus a Health Promotion (HP) program among PFHW and FHW on reduction of frailty, drug/alcohol use and drug dependency.

**Background:** Women experiencing homelessness are one of the fastest growing subgroups among the homeless. On any given night, over 57,000 people in LA, of whom about 23% of women are homeless. However, few studies have been conducted to inform providers about culturally-sensitive, frailty-focused programs among PFHW and FHW.

**Methods:** Guided by the Frailty Framework among Vulnerable Populations (FFVP), this study assessed the impact of the FHP + NCM program versus the HP program at baseline and three-month follow-up on reduction of frailty, drug/alcohol use and drug dependency. The FHP + NCM program consisted of six group sessions led by a community health worker (CHW) and focused on the three components of frailty (*e.g physical, psychological and social domains*) along with risky behaviors. Further, each participant who was randomized into the FHP + NCM program also met with a research nurse before or after group education sessions for 15 to 20 minutes. In contrast, the HP program consisted of six group education sessions focused on safety and chronic diseases led by a separate CHW. Using structured instruments, sociodemographics, individual, situational, health-related, and behavioral information were collected. Pearson(r) bivariate correlation was used to evaluate bivariates and associations between the outcome variables while generalized estimating equations assessed the correlation of observations within the same individual between baseline and three months.

**Results:** The mean age of participants was 54.78 (N=32; ages 41-72; SD 6.77) and the majority were African Americans (84.4%). Controlling for time, the FHP + NCM program had lower mean social frailty scores ($p$=.026) and lower mean overall frailty scores ($p$=.047) compared to the HP program. A significant decrease was found in any alcohol use ($p$=0.009) and drug dependency ($p$<.001) across both groups over time. The FHP + NCM program did not affect change in physical or psychological frailty, drug use, drug dependency or alcohol use over time.

**Implications:** This pilot RCT intervention study sheds light on an understudied population and the need to refine the FHP + NCM program and develop a more targeted intervention which impacts all dimensions of frailty (*e.g. physical, psychological and social domains*), and drug/alcohol use among PFHW and FHW.

---

Funding: This work was supported by the NIH/NINR T32 NR007077.

# COMMUNITY HEALTH AND RESEARCH

## Self-Monitoring of Glucose Effects on Lifestyle Modification in Prediabetes

*Barbara Barlow Aron, DNP*
*Adult Nurse Practitioner*
*Primary Care*
*CareMore Medical group*
*Hacienda Heights, CA*
*yorkers1@gmail.com*

*Ahlam Jadalla, PhD*
*Professor*
*Nursing Department*
*CSULB*
*Long Beach, CA*

*Beth Keely, PhD*
*Professor*
*Nursing Department*
*CSULB*
*Long Beach, CA*

*Pamela Xandre, DNP*
*Professor*
*Nursing department*
*CSULB*
*Long Beach, CA*

Research indicates that Diabetes Mellitus (DM) has become a worldwide health problem, causing significant morbidity and mortality. Prediabetes is a major risk factor for developing Type 2 DM, with approximately 5%-10% of cases per year progressing to DM. This study was designed to determine whether home self-monitoring of blood glucose (SMBG) encourages adherence to a lifestyle modification in an effort to decrease or delay the development of Type 2 DM.

An experimental design study was used with random assignment of subjects to groups. Recruitment was a convenience sampling of 40 adult patients from an urban primary care practice, male or female, ages 40-75 with a fasting plasma glucose between 100 and 125 mg/dL. Both groups received a lifestyle modification focusing on a low carbohydrate nutritional plan. The treatment group performed home SMBG over 3 months. Outcomes of interest were self-efficacy, fasting blood sugar (FBS), glycated hemoglobin (HbA1c), weight, Body Mass Index (BMI) , and lipid levels.

Paired and independent sample t-tests were used to compare the differences within and between groups. Analysis of demographic and background variables were performed using Pearson's correlation, paired and independent sample t-tests and analysis of variance.

Results show the treatment group with a significant increase in self-efficacy when compared to the control group (*P*=.008) and from baseline to follow-up (*P*=.000*)*. A statistically significant weight loss (*P*=.000), and decrease in BMI (*P*=.000) were seen in both groups, with a decrease in FBS in the combined group from baseline to follow-up (t(39)=2.39, *P*=.022).

In prediabetic adults, SMBG increases self-efficacy which has been shown to favorably affect health behaviors. Additionally, an in-office 20 minute lifestyle modification led to statistically significant decreases in weight, BMI, and FBS. Clinicians should implement these strategies in an effort to achieve weight loss and improve glycemic control with the hopes of preventing or delaying the onset of Type 2 DM.

# COMMUNITY HEALTH AND RESEARCH

## An Evaluation of the Impact of a Community-Academic Partnership Project

*Barbara Braband, EdD, RN, CNE*
*Associate Professor*
*University of Portland*
*Portland, OR*

*Kala Mayer, PhD, MPH, RN*
*Assistant Professor*
*University of Portland*
*Portland, OR*

*Taylor Killen*
*Primary Care*
*East County Health Center*
*Portland, OR*

**Purpose/Aims:** This presentation reports on the historical development, evolution, and outcomes of an academic-public health partnership curriculum to meet evolving community health nursing practice demands through stronger student preparation. [1]

**Background/Rationale:** An urgent need exists for nurses to demonstrate advanced preparation in leadership skills, including community and public health competencies in collaboration and teamwork, to coordinate care across teams of professionals. Community-academic partnerships present an innovative strategy to support local partners' health concerns in the health care system transformation process. Partnerships can contribute to successful public health practice by addressing the limited access to expertise needed for assessment in many community agencies and providing students with real-life educational experiences, resulting in stronger preparation of a competent public health nursing workforce. In response, an academic-public health partnership was established in 2011 with faculty and students from a private university in the northwestern United States with a non-profit community gardens partner located in a blended public and private intergenerational housing project and neighborhood.

**Methods:** A descriptive, longitudinal impact evaluation of the partnership project was conducted to examine the impact of participation on: building a collaborative relationship between partners; enhancing student skills; and meeting the community's health promotion needs. Undergraduate nursing student research assistants assisted in data collection and analysis through interviews and focus groups, constant comparative thematic analysis, and dissemination of findings with faculty researchers' mentoring support.

**Outcomes Achieved:** This presentation reports on evaluation findings related to building a collaborative community-academic relationship which revealed a partnership relationship characterized by cooperation. The evaluation in the area of student skill building revealed curriculum successes and areas for improvement. Positive learning outcomes in enhancing student skills in many areas of public health competency were achieved. Evaluation findings related to meeting the community's health promotion needs revealed significant room for improvement in measuring and enhancing community health promotion outcomes.

**Conclusions:** Implications for nursing education and additional skill development, partnership practices and measurement, and policy implications for facilitating the development of collaborative relationships will be discussed.

---

**Funding:** Grant awarded by Academic Partners to Improve Health: American Association of Colleges of Nursing (AACN)/Centers for Disease Control & Prevention (CDC).

# COMMUNITY HEALTH AND RESEARCH

## Provider Recommendation for Colorectal Cancer Screening in Korean Americans

*Moonju Lee, PhD, RN*
*Department of Family and Community Systems*
*University of Texas Health Science Center at San Antonio School of Nursing*
*San Antonio, TX*

**Background:** Physicians' recommendation for getting colorectal cancer (CRC) screenings has been considered one of the most effective motivators on an individual's decision across populations. However, there are disparities in the quality of cancer care provided by physicians. Minority patients were less likely to receive information and recommendation for preventive care including CRC screening from physicians than non-Hispanic white patients. Studies and the national data have reported that Korean Americans received fewer physicians' recommendation of cancer screening as compared to the U.S. general population. Korean physicians also provided fewer recommendations for cancer screenings to Korean American patients and these were significantly associated with having symptoms of the disease rather than for preventive purposes. However, the relationships between the physicians' recommendation and CRC screening, and the roles of a physician's recommendation for CRC screening are still unclear and understudied in Korean Americans.

**Purposes:** The purposes of this study were to 1) describe CRC screening behaviors among Korean Americans, 2) describe the status of physicians' recommendation for CRC screening, and 3) identify the relationship between physicians' recommendation and other factors influencing CRC screening behaviors.

**Methods:** This study employed a cross-sectional descriptive design and data was collected with a structured questionnaire. To analyze data, descriptive, correlation, Chi-square, and multiple logistic regression were used.

**Results:** Only 20% of the sample (N=254) had ever had a fecal occult blood test, 49% had a colonoscopy, and 19% had a sigmoidoscopy in their lifetime. Physicians' recommendation was the strongest predictor for endoscopy from ten variables influencing CRC screening behaviors. Korean Americans who had the physician's recommendations for a colonoscopy were almost five times greater odds of having had a colonoscopy (OR= 4.992, 95% CI 2.821, 8.834) and more than four times greater odds of having had a sigmoidoscopy (OR=4.190, 95% CI 2.083, 8.430) than those who didn't have a physician's recommendation. About 58% of the sample responded that they have personal doctors or medical providers, but only 38% of the sample received physician's recommendations for CRC screenings. Significant differences were noted by length of U.S. residency. Korean Americans who have lived in the U.S. > 10 years had higher rates of having personal doctors or medical providers ($X^2$ (2, N=252)=45.94, p=.000) and receiving a physician's recommendation for CRC screening ($X^2$ (1, N=234)=14.24, p=.000) than those who have lived in the U.S. ≤ 10 years. The main reason for having a CRC screening was that it was included as part of a routine exam for participants who have ever had a CRC screening. Having a periodic health checkup was positively associated with receiving a physician's recommendation.

**Implications:** Although the physician's recommendation was the greatest predictor for having a CRC screening, Korean Americans received low physicians' recommendation for CRC screenings. However, there are few studies to investigate the role of physician's recommendation for CRC screening in Korean Americans. Therefore, systemic approaches are necessary to investigate the role of physicians' recommendation for cancer screenings and develop strategies to improve the adherence of CRC screenings in this population.

## Interprofessional Care Access Network: A Community Based Academic Practice Model

*Peggy Wros, PhD, RN, Senior Assoc. Dean, Student Affairs/Diversity, School of Nursing*
*Heather Voss, RN, MSN, Clinical Assistant Professor, School of Nursing*
*Katherine Bradley, PhD, RN, Int. Assoc. Dean-Practice, OHSU/PSU Public Health*
*Launa Rae Mathews, MS, RN, COHN, Clinical Assistant Professor, School of Nursing*
*Nicholas Bookman, MPH, Evaluation Coordinator, School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

**Purpose:** The purpose of the Oregon Health & Science University Interprofessional Care Access Network (I-CAN) is to establish a collaborative network between faculty, students and community partners demonstrating that interprofessional student team interventions focused on social determinants of health (SDH) can affect the health and well-being of neighborhoods. Aims include: Prepare a healthcare workforce to lead collaborative teams in communities; Develop a sustainable, scalable, service learning model addressing the SDH with community partners; Improve health outcomes and cost of care for underserved clients and families; and Improve population health through service learning and collaboration.

**Rationale:** Health services for the underserved population are often fragmented, with minimal collaboration between community agencies, leaving clients without coordinated access to care. I-CAN expands existing community partnerships to establish Neighborhood Centers for Academic and Practice Partnerships (NCAPP). In collaboration with neighborhood community service agencies and federally qualified health clinics, student teams engage with vulnerable and underserved clients. Students are involved in authentic learning experiences to better understand the community and to directly impact client outcomes. As a robust clinical model for interprofessional education, I-CAN teaches collaboration and accountability within a population health context.

**Description:** Each NCAPP has a nurse faculty-in-residence (FIR), who coordinates with agency staff and interprofessional student teams (nursing, medicine, pharmacy & dentistry) to address service gaps and barriers related to SDH, provide care coordination, and facilitate access to resources for referred clients. Community partners collaborate with student teams and FIR in weekly huddles to develop client centered care plans focusing on health literacy, education, lifestyle, health behaviors, and barriers to client's achievement of health goals. Students collaborate with the client to develop a list of goals and a prioritized plan. Over weeks and often months, students visit clients weekly providing care coordination, developing supportive relationships, and addressing issues preventing them from successfully managing their health care.

**Outcomes:** A mixed methods study design was used. Client data collected on entry and after 12 visits, and student chart notes were analyzed. I-CAN has served 112 clients to date. Evaluation showed for a small number of clients (N=15) completing12 or more visits, there were substantial reductions in Emergency Department visits (87%), Emergency Medical Services calls (87%), and hospitalizations (78%). Estimated cost savings for these 15 clients, based on these indicators alone, was $183,114. Other findings indicated, 39% of clients stabilized housing (N=19), 53% increased access to health insurance and navigation (N=30), and 63% increased engagement in primary care (N=30).

**Conclusions:** Viable service learning models such as I-CAN demonstrate achievement of educational competencies, and through partnering with community agencies, improve outcomes for underserved people. I-CAN has been selected as a Nexus Innovation Incubator Site for the National Center for Interprofessional Practice and Education (NCIPE).

---

**Funding:** This project was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number UD7HP25057.

# EDUCATION: TECHNOLOGY AND STUDENTS

## NAVIGATING NEXUS: THE STUDENT EXPERIENCE

*Margaret F. Clayton, Linda Hoffman, David P. Hrabe*

---

## SIMULATION: GOOD FOR STUDENTS, GOOD FOR FACULTY

*Asma Taha, Ahlam Jadalla*

---

## ATTAINMENT OF NURSING COMPETENCIES: DEVELOPING AN ASSESSMENT TOOL

*Kathlynn Northrup-Snyder, Renee Menkens*

---

## FAILURES OF FLIPPING A CLASSROOM

*Alexandra D. Hanson, Rieneke Holman*

---

## INNOVATIONS IN ENGAGEMENT: SUSTAINED IMPROVEMENTS THROUGH DATA DRIVEN EDUCATION

*Sandra Maddux, Salomeja Garolis, Mary J. Waldo*

# EDUCATION: TECHNOLOGY AND STUDENTS

## Navigating NEXus: The Student Experience

*Margaret F. Clayton, PhD, APRN-BC*
*Associate Professor; Assistant Dean for the PhD Program*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Linda Hoffman, MSN, RN, NEA-BC*
*PhD Student*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*David P. Hrabe, PhD, RN*
*Associate Professor of Clinical Nursing*
*College of Nursing*
*The Ohio State University*
*Columbus, OH*

**Purpose:** The purpose of this presentation is to provide basic information about the Nursing Education Exchange (NEXus) network, then discuss the NEXus experience from the student perspective. While faculty in the Western region are familiar with NEXus, doctoral students may be less familiar with NEXus and will benefit from learning about what NEXus offers from a current PhD student.

**Background:** NEXus began in 2006 as a partnership among 4 Western universities offering doctoral programs in Nursing (PhD and DNP), providing opportunities for students at one academic collaborating institution to take courses from another academic collaborating institution. NEXus was initially funded by FIPSE and HRSA and is administered by the Western Institute of Nursing. Now NEXus represents a sustainable network of 18 collaborating institutions and 2 affiliate members who share distance delivered courses over 17 states throughout the US. NEXus has also formed a recent partnership with the NHCGNE Collaborative. A common price and facilitated registration at all institutions creates a viable network for students, enriching doctoral coursework. Courses are offered to both PhD and DNP students, and grouped into 14 topical clusters which are regularly reviewed by faculty who specialize in that topical area. For spring 2016, 78 courses are currently listed in the NEXus catalogue. Course topics range from educational offerings to methods courses including qualitative and quantitative content, gerontology, families, chronic conditions, writing, best practice approaches, policy, informatics, leadership, and theory among others.

**Description:** Presenters will briefly cover the genesis of NEXus, then explore facets of the student experience (finding courses, registration, payment, class participation, transcript logistics) and how NEXus facilitates degree completion. The student experience of registration, interaction with another institution's faculty and students, course and faculty evaluations as well as contributions to career advancement will be presented by a current PhD student.

**Outcomes:** Over the last 7 semesters (since Fall 2013) 437 students have benefited from participation in the NEXus network. Students are surveyed after each term with an average 50% return rate. Students indicate their program plan of study would be delayed without the availability of NEXus courses and that they take NEXus courses because the course is not available at their home institutions. System issues such as transcript procurement are evaluated yearly and modified as needed to achieve the NEXus goal of a seamless student experience.

**Conclusions:** NEXus membership offers many advantages to students including access to specialized expertise that may not be available in the student's home institution and facilitation of timely progression when home institution course sequencing does not match student needs, (for example, in the case of an unplanned leave of absence). NEXus represents a highly collaborative, successful, and positive experience for doctoral nursing students and their supervisory faculty across the US. Students and their supervisory faculty should consider how NEXus courses may facilitate degree completion.

# EDUCATION: TECHNOLOGY AND STUDENTS

## Simulation: Good for Students, Good for Faculty

*Asma Taha, PhD, RN, CPNP-PC/ AC, PCNS Associate Professor*
*School of Nursing*
*CSU Fullerton*
*Fullerton, CA*

*Ahlam Jadalla, PhD, MSN, RN*
*Associate Professor*
*School of Nursing*
*CSU Long Beach*
*Long Beach, CA*

**Purpose:** To explore the effect of simulation on faculty evaluation scores in a combined clinical-didactic course in undergraduate nursing education.

**Background:** Effective pedagogy with varied teaching strategies that support intellectual engagement, connectedness and provides a supportive classroom environment are all crucial to students' success. Although the use of simulation in teaching has shown positive students' outcomes; studies investigating the effect of using simulation as a teaching strategy on students' evaluations of their faculty are limited.

**Methods:** A comparative design study involved undergraduate nursing students in a clinical-didactic course were randomly assigned to one of two groups located on separate campuses. The control group received four hours of traditional instructions including lecture and use of audio-visual materials; while the experimental group received two hours of lecture followed by 2 hours of simulation using case studies and debriefing techniques. Students' opinion scores (SOSs), which are standardized items used to assess students' evaluation of faculty performance on campus, were used to compare faculty scores. Additionally, students' narrative feedback was solicited from both groups and analyzed using qualitative approach.

**Results:** Students who received instruction with simulation rated their faculty members significantly higher than students who received classroom instructions only. In addition, the qualitative content analysis showed specific detail about students' positive experience with simulation as a strategy.

**Implications:** Higher students' evaluation scores of faculty often reflect favorable and effective teaching strategies. Faculty members seeking to improve their teaching effectiveness should consider the use of supplemental simulations. Students' narrative feedback gives insight into what they valued in their learning experience. Overall, students reported that the hands-on experience was most influential in their learning as compared to the traditional classroom instructions.

# EDUCATION: TECHNOLOGY AND STUDENTS

## Attainment of Nursing Competencies: Developing an Assessment Tool

*Kathlynn Northrup-Snyder, PhD, CNS, MSN*
*Assistant Professor, School of Nursing*
*Baccalaureate Completion Program*
*Oregon Health & Science University*
*Portland, OR*

*Renee Menkens, MS, RN*
*Assistant Professor, School of Nursing*
*Baccalaureate Completion Program*
*Oregon Health & Science University*
*Portland, OR*

**Purposes/Aims:** The purpose of this study is to qualitatively identify student perceptions in meeting the Oregon Consortium for Nursing (OCNE) competencies at the Level III benchmark for each competency at the beginning and end of the senior year in the OCNE curriculum.

- Identify themes related to student perception of competency attainment at two points in an RN to BS curriculum.
- Develop a self-assessment tool to measure perception of competency attainment.

**Rationale/Conceptual Basis/Background:** Faculty developed a reflective self-assessment of OCNE Competencies and Benchmarks for post-licensure students to complete as a learning activity within the first 400 level course and again during the final practicum course. These competencies and benchmarks structure curriculum and provide an evaluation component of nursing performance and behaviors as new professionals. Within the first senior course, the students, even experienced nurses, might not assess themselves as competent in all benchmarks. There is little research available on evaluations of Level III Benchmarks to guide the curriculum. As students' progress in the curriculum, their Benchmark attainment perceptions may correlate with nursing performance concerns in practice.

**Methods:** A retrospective and qualitative study of post-licensure students during either a beginning or capstone Winter 15 senior course to evaluate levels of attainment using a self-assessment assignment. After de-identification, demographic data and the individual answers within the self-assessment documents were imported into Excel, formatted and imported into the NVIVO 10 software to analyze attributes and themes. A thematic analysis of the self-assessment language created categories of attainment for each Benchmark. Secondary coding explored levels where student language of "I've met this" was coded as "Strong" attainment while "no experience" was coded in the "Not At All" attained category. The initial six attainment identifiers were collapsed into four to report results for each benchmark. The original categories were retained to build a quantitative assessment tool. Quantitative and matrix coding results were explored through NVivio queries. Inter-rater reliability obtained through discussion and dual coding.

**Results:** Students perceptions were diverse and analysis indicated levels of attainment as strong, medium high, medium, medium low, low and not at all, which when collapsed to four, combined the first two and the medium low & low categories. Student language indicated higher confidence in Competencies such as Relationship Centered Care and Clinical Judgment. Most Competencies had one or more Benchmarks perceived as not attained, often a similar benchmark for both courses. Leadership Competency showed low attainment confidence on all Benchmarks. Perceptions of attainment did not always increase at the capstone course self-assessment.

**Implications:** Overall, analysis of the self-assessment utilizing six levels of attainment provided a scale to demonstrate student comfort with Level III Benchmark attainment and can be adapted into a scaled instrument for further testing as a measure of nursing competency attainment within the OCNE curriculum. This foundational study raises two questions: 1) what is the expectation for attainment in each benchmark? and 2) What is the expectation for OCNE Competency attainment for a Bachelor's prepared nurse? Further research using this quantitative tool is a start toward exploring these questions.

# EDUCATION: TECHNOLOGY AND STUDENTS

## Failures of Flipping a Classroom

*Alexandra D. Hanson, MSN, RN*
*Assistant Professor, Nursing*
*Weber State University*
*Ogden, UT*

*Rieneke Holman, MS, RN*
*Assistant Professor, Nursing*
*Weber State University*
*Ogden, UT*

**Purpose:** The purpose of this presentation is to discuss what "not to do" when flipping a classroom. Two different undergraduate nursing courses were modeled into flipped classrooms. There were two objectives for flipping each course. One, to avoid content memorization and information dumping after the evaluation process. Two, to promote classroom opportunities to cognitively apply theoretical concepts. The abstract focuses on both the faculty and student perspectives of a flipped classroom.

**Background:** Flipped classrooms create engaging environments for student learning experiences, evaluation, and application of learned content gained prior to attending class. The flipped classroom places the student at the center of learning and responsible to come prepared as an active participant in evaluating learning of assigned readings, discussions, and assignments through in-class experiences. However, when the intent of the flipped classroom fails, frustration and complaints arise from both faculty and students.

**Process:** All course content was embedded in an online infrastructure. Students were required to complete weekly readings and lectures prior to class. The courses were developed on a 14 week semester structure and met on-ground weekly. This section discusses the two major failures, technology and use of class time.

Technology was an extensive concern. Recorded lectures commonly needed to be re-recorded due to mismatch of content slides with voice recordings. When voice clips were embedded into content slides, students could not pause, rewind, or fast-forward, otherwise the clip started over. Recorded lectures were frequently too large to upload online. When files were resized visual quality decreased. The combination of technology concerns decreased the ability to upload lectures for students' timely preparation for class.

Faculty underestimated the amount and best use of classroom time available for student activities. In-class activities often did not fulfill the expected time requirement, causing improvisation to fill remaining class time. Faculty also experienced students finishing at different intervals, causing some students to wait while other students finished. Faculty found that activities needed to be application based, otherwise the activity could have been placed online.

**Outcomes Documented:** Student comments were conflicting. Some students stated the flipped classroom "was a better use of class time, with more time to ask questions" or "in class activities were very helpful". Other students complained "we had to know all the material before coming to class", "we had to wait for all groups to finish before the entire class could move to the next activity", or "activities were a waste of time".

**Conclusions:** Flipped classrooms have the potential to improve teaching and learning satisfaction when successfully developed. However, failed flipped classrooms have the potential to create disasters for both faculty and student outcomes. By sharing tried and failed attempts, similar failures can be avoided, enhancing learning opportunities for students and changing the educational paradigm.

# EDUCATION: TECHNOLOGY AND STUDENTS

## Innovations in Engagement: Sustained Improvements through Data Driven Education

*Sandra Maddux, DNP, APRN, CNS-BC*
*Senior Director, Professional Practice, Quality & Research*
*Providence Health & Services, Oregon Region (PHSOR)*
*Portland, OR*
*Sandra.maddux@providence.org*

*Salomeja Garolis, MSN, RN, CNS*
*Dir Prof Practice, Quality & Research*
*PHSOR, Portland, OR*
*Salomeja.garolis@providence.org*

*Mary J. Waldo, PhD, RN, GCNS-BC, CPHQ*
*Dir Prof Practice, Quality & Research*
*PHSOR, Portland, OR*
*Mary.waldo@providence.org*

The **purpose** of this best practice project was to develop and implement an innovative educational program to engage nurses in the movement of nurse sensitive indicators rates to zero harm and demonstrate a process for sustaining excellence in overall rates. **Rationale/ Background:** A region, in a large northwest healthcare system embarked on a "Journey to Zero" for rates in patient fall and falls with injury, catheter associated urinary tract infections (CAUTI), central line associated blood stream infections (CLBSI) and prevalence in hospital acquired pressure ulcers (HAPU). Pre-intervention data demonstrated wide variability both within individual hospitals and across hospitals suggesting an opportunity to standardize practice. After a robust review of the best scientific evidence and national best practices, clinical reference guidelines were developed. These included practice checklists, patient/ family education tools, staff competency and peer review guides. To ensure widespread understanding and adherence to the guidelines, a multi-step process of education and coaching was implemented followed by competency and peer review.

**Description of Methods:** Starting with CAUTI and CLBSI, the guidelines were implemented via on-line educational tools and by each facility's practice council. Monthly coaching via analysis of common causes of indicators was initiated for eight facilities. During implementation, baseline measurements of adherence to practice guidelines were obtained from five acute care facilities during a one-week period. The data collection tool mimicked essential practice items from the guidelines. Electronic medical records of all patients with an indwelling urinary catheter or a central line were audited, nurses caring for these patients were interviewed, and patients were visited when applicable. Outcome data with low adherence included: scrubbing the central line (CL) hub for fifteen seconds with a twisting motion, changing the CL end caps at appropriate time frames, adequate flushing of CL, and appropriateness use and removal of indwelling catheters based on nationally recognized criteria. These practice areas were then the target of another focused on-line and video education for over 4,000 nurses. Adherence to the practice guidelines were again examined one month post-intervention via the process described above. Inpatient nursing care units who acquired CLBSI and CAUTI infections in 2015 then underwent competency assessments, including participation in clinical simulations. Peer Review was designed for those units who demonstrated improvement in clinical outcomes as a method to sustain practice. A second post-intervention measurement period is planned for the beginning of 2016.

**Outcomes:** This regional healthcare system has realized and maintained declines in HAPU (percent of patients with ≥ Stage 2 HAPU), Falls and Falls with injury per 1,000 patient days from second quarter 2014 to second quarter 2015. HAPU declined in this period from 0.78% to 0.40%, falls from 3.15 to 2.39, and falls with injury from 0.05 to 0.02. All indicators (including CLABSI) indicate a downward trend for third quarter 2015. These declines resulted in approximately $91,384 in cost savings.

**Conclusions:** This project has implications for future nursing education programs that support engagement and sustainability in best clinical practice change.

# Abstracts of Podium Presentations

## END OF LIFE

### INNOVATIONS IN COMMUNITY ENGAGEMENT: CREATING A PALLIATIVE COMMUNITY OF EXCELLENCE

*Casey R. Shillam*

---

### RURAL EMERGENCY NURSES' SUGGESTIONS FOR IMPROVING END-OF-LIFE CARE

*Renea L. Beckstrand, Kelly Smith, Karlen E. (Beth) Luthy, Janelle L. B. Macintosh*

---

### NURSE'S ROLE IN ADVANCED DIRECTIVES FOR LESBIAN, GAY, BISEXUAL, TRANSGENDER PATIENTS

*Rebecca Carabez, Megan B. Scott*

---

### M-HEALTH FOR PALLIATIVE CARE: PILOT ASSESSMENT IN OLDER ADULTS WITH CANCER

*Wendy Wait, Janice Bell, Katherine K. Kim, Victoria Ngo, Jill Joseph*

# END OF LIFE

## Innovations in Community Engagement: Creating a Palliative Community of Excellence

*Casey R. Shillam, PhD, RN-BC*
*Associate Professor, School of Nursing*
*University of Portland*
*Portland, OR*

**Purpose:** *Northwest Life Passages*©, a community-based partnership of community stakeholders and several organizations, was created to transform palliative care in Northwest Washington and support human responses to living and dying. This collective community effort supports creating a Palliative Community by providing a space where people with serious illnesses don't have to be cured to heal.

**Background:** The Institute of Medicine's (IOM) *Dying in America* recommends person-centered, family-oriented approaches to end-of-life care that honor individual preferences and promote quality of life. The Palliative Care Initiative (PCI), housed at Western Washington University, was founded in 2013 as a partnership of community members, educational and non-profit organizations, and health institutions in Northwest Washington to promote excellence in palliative and end-of-life care. Recognizing the plethora of end-of-life care activity in the region, a comprehensive plan and community-based blueprint were developed to ensure coherent vision and strategy for working toward common outcomes.

**Approach:** In April, 2014, the Whatcom Alliance for Health Advancement (WAHA), a PCI partner, convened a Task Force composed of experts and community leaders who were asked what it would take to transform the region into a community of excellence for all those with and impacted by serious life-threatening illness. Focusing on advance care planning, outpatient palliative care services, provider training, community culture, and innovative funding strategies for palliative care, the Task Force put forth a Blueprint for Community Excellence. The work of the Blueprint has set the foundation of *Northwest Life Passages*©: the formalized organizational community partnership of WAHA, PCI, and PeaceHealth Medical Center Palliative Care and Hospice services to transform the culture of palliative and end-of-life care.

**Outcomes:** Over the past two years, PCI and *Northwest Life Passages*© have provided high-quality community events, focus groups, and professional continuing medical and nursing education (CME/CNE) events for healthcare providers, engaging over 1000 stakeholders throughout the community. Examples of successful events and publicity focused on palliative care and end-of-life planning and education include:

- Palliative Care Summer Institute: Helping Providers Heal Without Cure: July 2014 and July 2015;
- Community Workshops regarding planning for end-of-life care:
  - WAHA End of Life Choices Workshops: ongoing Advance Care Planning workshops provided by more than 25 facilitators trained in the evidence-based Respecting Choices® model to over 900 community members;
  - Community Conversations: What does it mean to Heal without Cure? November 2013
  - Heal without Cure: Transforming Difficult Conversations: February 2014
  - Enacting the Vision: How to Heal without Cure: February 2015
  - National Healthcare Decision Day "Ramp-up" event: March 2016
- A series of newspaper articles over the course of one year highlighting palliative and end-of-life care in the local newspaper.

**Conclusions:** Innovations in community engagement using evidence-based strategies for achieving high standards of palliative and end-of-life care have quickly led to PCI and *Northwest Life Passages*© making significant strides toward establishing a palliative community of excellence. Lessons learned through this process and shared measurable outcomes of success can contribute to other academic-practice partnerships supporting local communities in meeting similar goals for implementation of IOM *Dying in America* recommendations.

# END OF LIFE

## Rural Emergency Nurses' Suggestions for Improving End-of-Life Care

*Renea L. Beckstrand, PhD, RN, CCRN, CNE*
*Kelly Smith, FNP-c, RN*
*Karlen E. (Beth) Luthy, DNP, FNP-c, FAAN*
*Janelle L. B. Macintosh, PhD*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

**Purpose/Aims:** The purpose of this study was to identify suggestions emergency nurses have to improve EOL care obstacles specifically in rural ED's.

**Background:** Many patient visits to the ED result in the patient dying or being pronounced dead on arrival. Numbers of deaths in the ED is likely to increase as a significant portion of the American population ages and seeks care in the ED. Consequently, nurses face many barriers to providing quality end-of-life (EOL) care in the ED when death occurs.

**Methods:** A 57-item questionnaire was sent to 53 rural hospitals in four states in the Intermountain West plus Alaska. One item asked nurses to identify the one aspect of EOL care they would change for dying patients in rural EDs. Each qualitative response was individually reviewed by a research team and then coded into a theme.

**Results:** Four major themes and three minor themes were identified. The major themes were providing greater privacy during EOL care for patients and family members, increasing availability of support services, additional staffing, and improved staff and community education.

**Implications:** Providing adequate privacy for patients and family members was a major obstacle to providing EOL care in the ED, due largely to poor department design, especially in rural ED's where space is limited. Lack of support services and adequate staffing were also obstacles to providing quality EOL care in rural ED's. Consequently, rural nurses are commonly pulled away from EOL care to perform ancillary duties because additional support personnel were lacking. Providing EOL care in rural EDs is a challenging task given the limited staffing and resources. Consequently, it is imperative that nurses suggestions for improvement of EOL care are acknowledged so as to improve the EOL care provided to patients and families in rural ED's. Due to the current lack of research in rural EOL care, further research is needed.

# END OF LIFE

## Nurse's Role in Advanced Directives for Lesbian, Gay, Bisexual, Transgender Patients

*Rebecca Carabez, PhD, RN*
*Associate Professor*
*San Francisco State University*
*San Francisco, CA*

*Megan B. Scott, MSN, RN*
*Clinical Nurse*
*UCSF Benioff Children's Hospital*
*San Francisco, CA*

**Aims and Objectives:** We used a question based on the Healthcare Equality Index (HEI) to explore nurses' knowledge and understanding of medical advance directives, medical power of attorney, and other legal documents for lesbian, gay, bisexual, and transgender (LGBT) patients.

**Background:** Until the landmark ruling in *Obergefell v. Hodges*, LGBT individuals and same-sex couples have been limited geographically as to what states recognize marriages and provide legal protections for same-sex couples. Advance care planning is poorly understood among both healthcare providers and same-sex couples. Healthcare providers knowledge of and attitudes toward advance care planning plays a significant role in determining whether or not individuals successfully complete advance directives.

**Design:** This data was part of a larger research study that explored the current state of LGBT-sensitive nursing practice. Nurse key informants completed a 16-item scripted interview based on the HEI, which addresses the degree to which institutions provide LGBT patient-centered care.

**Method:** Undergraduate nursing students recruited and interviewed nurse key informants (n=268) about medical advance directives, medical power of attorney, and other legal documents for LGBT patients.

**Results:** Nearly 50% of key informants indicated a lack of knowledge of advance directives, over 26% reported the difficulties nurses face regarding advance directives are the same for both LGBT and heterosexual patients, and nearly 25% indicated difficulties including having to decide who has the legal right to make decisions for the patient.

**Conclusion:** The study demonstrated the need for education and training for practicing nurses in advance care planning for LGBT patients and same-sex couples.

**Relevance to Clinical Practice:** Nurses are in a position to act as educators, advocates, and decision-makers for their patients. Nurse's lack of understanding of advance care planning may negatively impact the type and quality of care LGBT patients receive.

# END OF LIFE

## M-Health for Palliative Care: Pilot Assessment in Older Adults with Cancer

*Wendy Wait, RN, Graduate Student*
*Janice Bell, PhD, MPH, MN, Associate Professor*
*Katherine K. Kim, PhD, MPH, MBA, Assistant Professor*
*Victoria Ngo, Project Manager*
*Jill Joseph, MD, PhD, MPH, Associate Dean for Research*

*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

**Background:** By 2030, cancer incidence and related costs in adults age 65 and older are expected to double, highlighting the need for interventions that coordinate care and reduce preventable health service use such as emergency department visits or hospital readmissions. Palliative care—defined as patient- and family-centered care that optimizes quality of life by anticipating, preventing and treating suffering—is viewed as a central component in addressing current needs in the cancer care system. Mobile technology may support palliative care by bridging geographic distance, allowing self-report of symptoms and patient-reported outcomes, and enabling timely intervention. This mixed methods study contributes to existing literature by evaluating the usefulness and acceptance among older adults of the "Personal Health Network (PHN)"—a mobile health application (mHealth) developed by some of the authors designed to enhance nurse-directed coordination of early and ongoing palliative cancer care. Patient-centered features and functions of the technology specific to the needs of older adult users are identified.

**Methods:** Adults aged ≥65 years and undergoing chemotherapy were recruited through flyers distributed by educators at a comprehensive cancer center and provided $30 for their participation. Participants (n=7) watched a recorded demonstration of the PHN. Semi-structured interviews lasting 20-45 minutes were conducted to explore acceptance, usefulness, and patient-centered features and functions. A survey including demographic information and the Health Technology Acceptance and Use (HTAU) scale was also conducted. The HTAU is a validated instrument for this population and includes 15 items rated on a 6-point Likert scale on three constructs: Performance Expectancy (PE), Effort Expectancy (EE), and Hedonic Motivation (HM). Qualitative data were analyzed using a thematic approach, and survey and HTAU data were analyzed using descriptive statistics. The study was approved by IRB at UC Davis.

**Results:** The PHN was acceptable to the majority of participants. However, those with limited experience with technology indicated a need for training prior to use. Frequently mentioned benefits include several time saving features: messaging, video chat, and the ability to receive timely feedback from the oncology nurse. Participants also indicated that having a shared view of one's medical information, especially appointments and test results, would enhance communication with their family members. Results from the HTAU analysis indicated that PE ($M$=4.11) and HM ($M$=3.76) were moderate, and EE ($M$=4.96) was higher, and a moderate score suggests work could be done to make the PHN more enjoyable. Overall, the average score ($M$=71.11 out of 90) shows that over 75% of participants find the PHN acceptable and useful.

**Implications:** Older adults in this study found the PHN highly usable, and were positively disposed to use it as a tool for care coordination. Although the PHN shows promise, instruction may need to be provided for patients with less experience with technology. Future work on the PHN should focus on communicating benefits and making it more enjoyable. Technology-enabled care coordination platforms have the potential to support patient-centered cancer care among older adults in the coming years.

# Abstracts of Podium Presentations

# FAMILY AND CAREGIVERS

## CAREGIVERS IN CALIFORNIA: ARE THEY DIFFERENT?

*Ebere Ume, Magda Shaheen, Senait Teklehaimanot*

---

## PHYSICAL, MENTAL, AND SOCIAL IMPACT OF CAREGIVING ON CALIFORNIA CAREGIVERS

*Magda Shaheen, Ebere Ume, Senait Teklehaimanot*

---

## OVERALL CARE IN ADULT INTENSIVE CARE UNITS: FAMILY MEMBERS' PERSPECTIVES

*Lissi Hansen, Susan J. Rosenkranz, Richard A. Mularski, Michael C. Leo*

---

## ASSISTED LIVING HOMES AND DEMENTIA CAREGIVERS: DO VISITATION RECOMMENDATIONS MATTER?

*Kathryn Sexson*

# FAMILY AND CAREGIVERS

## Caregivers in California: Are They Different?

*Ebere Ume, PhD, RN, Assistant Professor,*
*Magda Shaheen, PhD, MPH, MS, Associate Professor*
*Senait Teklehaimanot, MPH, Instructor*
*Charles R. Drew University*
*Los Angeles, CA*

**Purpose/Aim:** The purpose of the study is to determine the prevalence of caregiving as well as characterize the California caregiving adults.

**Rationale/Background:** National reports on caregiving in the United States revealed that 18% reported being caregivers (CGs), and 56% were currently CGs. Half of CGs provides care to their parents and about one third live with their care recipient (CR) in the household leading to high burden of caregiving. CGs spent 24 hours/week providing care and most provided medical/ nursing care without training. CGs who provided higher hours of care and live with their CR may report their health as fair/ poor and consider caregiving as highly stressful.

**Methods:** We analyzed data from the 2009 California Health Interview Survey (CHIS) which is a cross-sectional survey using telephone interview of a random sample of California adult residents. Caregiver was defined as those who provide care to family/friends with illness/disability in the past year. We analyzed data related to demographics, access to care, insurance, self-perceived health status, chronic conditions and provision of care. The data were analyzed using the survey module in STATA 14 taking into consideration the sample design and the sample weight.

**Results:** We analyzed data for 11,321 respondents (22%) who reported being CGs in the past year of whom 51% report being currently CGs. The average age of CGs was 45.5±0.3 years, 45% were ≥50 years, 57% were female, 55% were white, 19% were Latino, and 8% were Blacks, 52% were married, and 26% were educated at 12th grade level. Most of CGs were US-born (76%) and urban dwelling (87%), and live at ≥300% federal poverty level (54%). Most of the CGs have a usual source of health care (68%) and were currently insured (81%). Nineteen percent of the CGs expressed a self-perception of fair/poor health status and reported chronic conditions including Asthma (17%), Diabetes (8%), Hypertension (28%), and Heart Failure (22%). Sixty percent were overweight/obese, 75% used alcohol, and 17% smoke. Thirty-five percent provided care for ≥2 persons. Twenty eight percent provide care to their mothers, and 34% lived in the same household with their CR and rarely utilized respite care (13.5%). CGs spent an average of 22±0.5 hours/week providing care. CGs tended not to attend the Medi-Cal training for long term CGs (3%).

**Implications:** The percentage of the California's CGs was higher than the national level of CGs but lower in current CGs. Small difference between the California' CGs and the national level in the percent of CGs who lived with the CR, the number of hours/week in care-giving, and self-perception of fair/poor health status. Most of the California CGs were high income earners relative to the national level. CGs found to utilize negative coping behaviors to manage the burdens of caregiving. These results provide evidence of the negative impact of caregiving on CGs' health outcomes. Nurses must understand the prevalence of co-morbid conditions endangering the lives of CGs. Efforts must be intensified to provide consistent support for CGs to help mitigate long-term fatalistic outcomes for CGs.

# FAMILY AND CAREGIVERS

## Physical, Mental, and Social Impact of Caregiving on California Caregivers

*Magda Shaheen, PhD, MPH, MS, Associate Professor*
*Ebere Ume, PhD, RN, Assistant Professor*
*Senait Teklehaimanot, MPH, Instructor*
*Charles R. Drew University*
*Los Angeles, CA*

**Purpose/Aim:** The purpose of the study is to determine the impact of caregiving on the caregivers' health status, psychological, social, physical and emotional.

**Rationale/Conceptual Basis/Background:** Caregivers (CGs) provide significant, intense and relentless care for their elderly loved ones. The burdens of caregiving are severe including physical, mental and psychosocial distress and challenges. These challenges are often debilitating to the caregivers, thus limiting their quality of life, quality of care provided and ability to maintain own health while caring for their sick loved ones. The intensity of caregiving has been incriminated as a major contributor to perceived poor health of caregivers.

**Methods:** We analyzed data from the 2009 California Health Interview Survey (CHIS) which is a cross-sectional survey using telephone interview of adult random sample of California residents. Caregiver was defined as those who provide care to family/friends with illness/disability in the past year. We analyzed data related to demographics, self-perceived health status, chronic conditions, psychological distress, and social, physical, and emotional impairment. The data were analyzed using the survey module in STATA 14 taking into consideration the sample design and the sample weight.

**Results:** The study included 47,331 participants where 22% (11, 321) reported as CGs. Of the CGs, 76% were US born versus 64% in the non-CGs ($p<0.01$); 57% were female versus 49% in the non-CGs ($p<0.01$); 55% were white versus 46% of the non-CGs ($p<0.01$). Nineteen percent of the CGs reported fair/poor self-perceived health status versus 18% in the non-CGs group. Several high risk indicators were reported including alcohol use (CGs=75%, non-CGs=70%, $p<0.01$), smoking (CGs=17%; non-CGs=13% $p<0.01$) and being overweight/obese (CGs=60%, non-CGs=55%, $p<0.01$). Forty two percent of the CGs reported $\geq 1$ chronic conditions versus 37% in the non-CGs ($p<0.01$). The CGs reported severe physical, psychological and social impairments affecting their lives. Almost one-fifth (18%) of the CGs versus 14% non-CGs reported that they have conditions that limited their basic physical activities ($p<0.001$). Thirty percent of CGs versus 26% non-CGs report having a disability due to physical, psychological and emotional conditions ($p<0.01$). Nine percent of the CGs compared with 5.7% non-CGs reported serious psychological distress and 80% of CGs versus 70% of non-CGs reported moderate to severe social life impairment in the past 12 months ($p<0.001$). Of the CGs, 4.3% versus 2.6% experienced severe psychological distress in the last month ($p<0.001$).

**Implications:** These results provide strong evidence of the negative impact of intensive caregiving on CGs' physical, psychological, emotional and social outcomes. There is an urgent need for a call to immediate action to support the survival and viability of CGs to help mitigate long-term fatalistic outcomes for CGs. Government health care policies must address support for family caregivers. Nurses and healthcare providers must be vigilant in identifying and managing imminent negative health outcomes for caregivers by providing adequate and convenient follow-up care.

---

**Funding:** This research was supported by NIH-NIMHD grant U54MD007598 and NIH/NCATS Grant # UL1TR000124.

# FAMILY AND CAREGIVERS

## Overall Care in Adult Intensive Care Units: Family Members' Perspectives

*Lissi Hansen, PhD, RN*
*Associate Professor, School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

*Susan J. Rosenkranz, MA*
*Research Associate*
*Oregon Health & Science University*
*Portland, OR*

*Richard A. Mularski, MD, MSHS, MCR*
*Investigator*
*Center for Health Research*
*Kaiser Permanente Northwest*
*Portland, OR*

*Michael C. Leo, PhD*
*Investigator*
*Center for Health Research*
*Kaiser Permanente Northwest*
*Portland, OR*

**Background:** Family members' perspectives about satisfaction with care provided to a relative in the intensive care unit have become an essential part of quality assessment and improvement. To capture family member satisfaction with care the Family Satisfaction in the Intensive Care Unit (FS-ICU) questionnaire has been used in international and national studies with families of critically ill patients. In addition to its 24 items, the questionnaire consists of three open-ended questions for written comments by family members about the overall care. Multiple publications include quantitative findings from the FS-ICU but qualitative findings from comments to the three questions are lacking, and in particular, from U.S. family members. Accordingly, we decided to address this gap in the scientific literature.
**Aim:** To understand perspectives regarding overall care as perceived by family members of medical patients in two adult intensive care units at two health care institutions in the Pacific Northwest of the U.S.
**Methods:** As a part of a larger clinical study in adult intensive care units, family members of eligible patients completed the FS-ICU questionnaire including the three questions. The questions are: 1) Do you have any suggestions on how to make care provided in the ICU better?; 2) Do you have any comments on things we did well?; and 3) Please add any comments or suggestions that you feel may be helpful to the staff of this ICU? Written comments were analyzed using conventional content analysis to identify major themes and subthemes.
**Results:** Of 138 responding family members, 106 answered the questions. Of a total of 281 comments, 126 were complimentary, 91 were critical, 61 did not include specific aspects of care, and 3 were neutral. Three main themes and 9 subthemes were identified. The main themes were: 1) competent care, 2) communication, and 3) environment. The subthemes were: 1) the practical aspects of care, 2) emotional or inter-relational care, 3) operational care delivery, 4) being kept in the loop, 5) feeling excluded from decision making, 6) lack of a go-to person, 7) communication among professionals, 8) quality of communication skills, 9) end of life care communication.
**Implications:** The overall findings were similar to those reported by researchers in other countries. In contrast to other studies, emotional or inter-relational aspects of care were integral to family member interactions with staff and satisfaction with overall care provided. Interventions and initiatives to improve care in the intensive care unit should focus on communication, nurse-patient ratios, supporting family members in personal comfort needs, and caring for their relative as a person.

---

**Funding:** The Robert Wood Johnson Foundation, Interdisciplinary Nursing Quality Research Initiative #66630.

# FAMILY AND CAREGIVERS

## Assisted Living Homes and Dementia Caregivers: Do Visitation Recommendations Matter?

*Kathryn Sexson, PhD*
*Assistant Professor, Nursing*
*University of Alaska Anchorage*
*Anchorage, AK*

**Purpose/Specific Aims:** To examine how the Assisted Living's (AL's) approach to visitation between the family caregiver (FCG) and the person with dementia (PWD) influenced the admission transition for the FCG. The specific aims were to 1) describe the FCGs' experience when a PWD transitions to AL; and 2) describe how the FCGs understanding of visitation recommendations of the AL influenced the FCGs' perceptions of and reactions to the admission transition.

**Rationale:** Someone in the United States develops Alzheimer's disease every 68 seconds; by 2050 it will be every 33 seconds (Alzheimer's Association, 2013b). Nationwide caregivers provide 80% of the care given in the community (Institute of Medicine, 2008). Dementia is increasingly cited as a reason for long-term care. In 2010, forty-two percent of residents in AL had Alzheimer's disease or other related dementias (Polzer, 2013). When FCGs are no longer able to provide the care required, transitioning into AL is often necessary.

**Methods:** A qualitative descriptive approach was used. Purposive sampling was used to identify FCGs of PWD who had made the transition.

**Results/Implications:** The driving force behind the FCGs' decision to transition a PWD to AL was the safety of the PWD or the people around them. For FCGs providing care in their own home this was often coupled with exhaustion. For most of the FCGs in this study, the upheaval associated with the transition never really subsided. They did not follow a linear progression, but instead vacillated between the phases (Brooke, 1988; Wilson, 1997). The ability to transition appeared to be predicated on the ability of the PWD to complete the adjustment phase and achieve acceptance. This offers an opportunity to re-conceptualize transition as a dynamic interdependent process and shift the focus of care from an individual patient centered approach to one that is family centered.

Each act of caregiving performed by the FCG in this study was a way to stay connected to the PWD as the disease progressed. Intervention studies are needed to examine the extent to which connection supports the transition process.

This study extended our understanding by identifying fear as a strong motivator for visitation. The greater the fears, the more often FCGs visited. The effect of fear on the frequency of visitation and the ability of FCGs to find balance suggests that nursing and AL staff may play an integral role in providing guidance and assurances.

In this study FCGs were allowed to come and go as they pleased. FCGs perceived this approach as helpful, if not physically taxing. ALs frequently contacted the FCGs to assist with calming the PWD. It is unknown whether this was motivated by concern for the PWD or to reduce staffing needs. Regardless of the reason, the FCGs found the openness of the visitation schedule comforting.

Not enough is known about the phenomenon suggesting further qualitative investigation is needed. Additionally, before quantitative studies can be performed that evaluate the impact of fear on visitation the development of a valid and reliable measure needs to occur.

# Abstracts of Podium Presentations

---

# GERONTOLOGY ISSUES

---

## NURSING EDUCATION FOR OLDER ADULT CARE

*Jung-Ah Lee, Young-Shin Lee, Dana Rose Garfin, Stephanie Vaughn*

---

## EXPERIENCES OF ADULT CHILDREN OF ELDERLY PARENTS WITH DEMENTIA: THE PRODROMAL PERIOD

*Debbie Nogueras*

---

## EFFECT OF HORTICULTURAL THERAPY ON ELDERLY'S LONELINESS AND PERSONAL INTERACTION

*Feng Ping Lee, Le-Chin Hsin*

---

## DECISION-MAKING INVOLVEMENT OF HOSPITALIZED PATIENTS WITH DEMENTIA: A DYADIC STUDY

*Lyndsey M. Miller, Christopher S. Lee, Carol J. Whitlatch, Karen S. Lyons*

# GERONTOLOGY ISSUES

## Nursing Education for Older Adult Care

*Jung-Ah Lee, PhD, RN*
*Associate Professor*
*Nursing Science*
*University of California, Irvine*
*Irvine, CA*

*Young-Shin Lee, PhD, RN*
*Associate Professor*
*School of Nursing*
*San Diego State University*
*San Diego, CA*

*Dana Rose Garfin, PhD*
*Research Scientist*
*Psychology & Social Behavior*
*University of California, Irvine*
*Irvine, CA*

*Stephanie Vaughn, PhD, RN, CRRN*
*Associate Professor*
*School of Nursing*
*California State University of at Fullerton*
*Fullerton, CA*

**Background:** A growing aging population is a major issue in contemporary health care. Understanding nursing students' attitudes toward older adults is critical to inform effective gerontological nursing education.

**Purpose:** To identify factors associated with nursing students a) negative attitudes toward older adults, and b) future career choice of older adult care specialization.

**Methods:** Using a web-based, anonymous survey, we collected data from nursing students from three four-year Bachelor of Science (BS) nursing programs in Southern California. We assessed students' attitudes toward aging individuals and their future career choice. Bivariate and multivariate analyses examined factors associated with negative attitudes and career choices. A primary predictor variable was whether students received gerontological nursing curriculum via stand-alone courses or as material integrated into generalized courses.

**Results:** A total of 411 nursing students participated. Approximately 60% were seniors, 85% were female, and mean age was 24 (±5.11). Non-Hispanic Caucasians comprised 43% of the sample; 41% were non-Hispanic Asian students. Two nursing schools had a stand-alone gerontological nursing course and one nursing school had gerontological nursing contents integrated throughout nursing curriculum. Bivariate correlations were found between lower negative attitudes towards older adults and Asian-language-speakers; females; higher self-report comfort communicating with older adults of the same ethnicity; frequent communication experiences with older adults in non-educational social context; consideration of work with older adults in a future career; confidence in ability to provide care for older adults; and confidence that their nursing program provided adequate gerontological nursing education (all $p < .05$). Multivariate logistic regression analyses that controlled for key covariates indicated that future career choice in older adult care (1=likely geronotlogical specialization; 0=other specialization) was significantly associated with: taking courses related to gerontology, prior experience working with older adults, confidence in their ability to care for older adults, and lower negative attitudes towards older adults. Standalone vs. integrated curriculum was not associated with outcomes.

**Conclusions/Implications:** Findings indicated that nursing students who take more gerontological courses or are more experienced working with older adults are more likely to consider working with older adults in their future careers. To increase gerontological nursing career choices schools might consider providing more specialized gerontology related courses as part of both mandated and elective curriculum.

# GERONTOLOGY ISSUES

## Experiences of Adult Children of Elderly Parents with Dementia: The Prodromal Period

*Debbie Nogueras, PhD, MSN, ANP/FNP-BC, FAANP*
*Academic Director/Associate Professor*
*Washington State University*
*College of Nursing*
*Richland, WA*

**Purposes/Aim:** The purpose of this study was to learn about the ways in which dementia presents before it is recognized by family members and healthcare providers. The aim was to identify if there were unrealized prodromal signs or symptoms that preceded the more commonly known warning signs of dementia.

**Rationale/Conceptual Basis/Background:** According to the World Health Organization, approximately 27 million adults are living with undiagnosed dementia. In the United States, an estimated 5.3 million Americans live with a diagnosis of Alzheimer's disease as reported by the Alzheimer's Association. Dementia is not a normal part of aging although it mainly affects older adults. The diagnosis of a dementia-related illness or Alzheimer's disease in the elderly will continue to rise as Baby Boomers (born between the years 1946-1965) age.

**Methods:** This qualitative descriptive study sought to examine the experiences of adult children of parents ultimately diagnosed with a dementia-related disorder. Participants were recruited through self-referral and word of mouth. The leading question asked the participant to talk about the time prior to his or her realizing that the parent had warning signs of dementia, and going back as far as he or she could remember. A total of 12-60-minute interviews were conducted. Rigorous interview techniques included an interview guide for data collection and participant validation of key points during the interview and prior to the conclusion of the call. Data were analyzed using conventional content analysis using an inductive approach. This approach is found to produce reliable and valid findings. Transcripts were coded, codes clustered, and themes and subthemes were identified by the author. MAXQDA data analysis and hand analysis were conducted for reliability. A subsequent horizontal analysis confirmed no new themes emerged.

**Results:** The overarching theme was: "Why didn't I know"? The sub-themes were "I didn't understand what was wrong", "we thought it was grief", and "they wouldn't diagnose dementia". All participants realized after the diagnosis that they had ignored or were not aware that their parents' behaviors were an early indication of a memory disorder. This even occurred in the stories of two participants where there was a family history of Alzheimer's disease. Study participants were primarily female (n=10) and geographically dispersed across the country. Three resided in rural and nine in urban or suburban areas. Family members were treated by primary care providers in private care practices.

**Implications:** Memory changes concerning for individuals as they age. Given the attention in the media regarding Alzheimer's disease and related dementias, many wonder if common, age-related memory changes are in fact these conditions. Healthcare providers can be effective in assessing the difference between age-related memory loss and dementia. Cognitive assessment of patients starting at age 60 should be performed as part of the routine visit. Since depression may be misinterpreted as dementia, screening for depression should also be included if there is a potential for overlap. This is important in those patients who are experiencing grief, as many signs and symptoms of early grief are the same as early dementia.

# GERONTOLOGY ISSUES

## Effect of Horticultural Therapy on Elderly's Loneliness and Personal Interaction

*Feng Ping Lee, RN*
*Assistant Professor*
*California State University*
*West Covina, CA*

*Le-Chin Hsin, RN*
*Instructor*
*Min-Hwei College of Health*
*Care Management*
*West Covina, CA*

**Background:** Horticultural therapy is the use of plants as a media, and through the interactive process of planting and observing the growing process of the plants to improve the physical, pyschological and spiritual well-being of the participants. Moreover, the elderly may have the chance to interact with others and thus to reduce the feelings of loneliness and to increase inter-personal interaction by sharing the experiences of growing plants during the process.

**Objectives:** The purpose of this study was to examine the effectiveness of horticultural therapy on improving loneliness and interpersonal interaction of institutionalized elderly in southern Taiwan.

**Methodology:** A quasi-experimental study with two groups, pre- and post-test design was utilized in this study. A purposive sampling method was used to recruit potential subjects from two elderly care institutions in the southern Taiwan. Subjects were randomly assigned to either intervention or control group. A face-to-face interview method was adopted to collect data through structured questionnaires. Subjects in the intervention group received horticultural therapy 30 minutes once a week, for eight weeks. On the other hand, the control group received regular daily care. Subjects in both groups were measured at baseline and one week after completion of horticultural therapy. Research instruments for this study included a demographic questionnaire, the UCLA Loneliness Scale (version 3), and the Personal Function Scale. The SPSS 18.0 software package of Chinese version was used in this study to analyze data. Descriptive statistics were used including frequency distribution, percentage, mean, standard deviation, maximum, minimum and range, and inferential statistics including Chi-square test, Independent t-test, Paired t-test, and analysis of covariance test.

**Results:** The results of this study showed that subjects in the intervention group had significant improvement in their feelings of loneliness and personal interaction after receiving horticultural therapy ($p< .000$, $p< .000$). Also, significant differences of post-test scores were found between groups in terms of feelings of loneliness and personal interaction ($p<.000$; $p<.000$).

**Implication:** These findings indicated that horticulture therapy had positive effects on institutionalized loneliness and personal interaction, and suggests that horticulture therapy can be adopted as a choice beneficial of activities for institutionalized elderly. In order for health care providers to adopt horticultural therapy in their care activities, horticultural therapy can be integrated into health care providers' continuing education program to ultimately promote quality of care.

**Keywords:** Horticultural Therapy, institutional aged people, loneliness, personal interaction

## Decision-Making Involvement of Hospitalized Patients with Dementia: A Dyadic Study

*Lyndsey M. Miller, RN, BSN, BA*
*PhD Candidate*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

*Christopher S. Lee, PhD, RN, FAHA, FAAN*
*Associate Professor*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

*Carol J. Whitlatch, PhD*
*Assistant Director of Research*
*Senior Research Scientist II*
*Benjamin Rose Institute on Aging*
*Cleveland, OH*

*Karen S. Lyons, PhD*
*Associate Professor*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

**Background/Framework:** Shared decision-making involvement is an important goal for both persons with dementia (PWDs) and family caregivers, and is supported by the theory of personhood. However, PWDs' involvement in decision-making and care planning declines rapidly and often prematurely compared to their ability to self-report values and preferences. Hospital admissions are three times as likely for PWDs as other older adults (Thies & Bleiler, 2013), and many decisions about everyday aspects of the PWD's life (e.g. living arrangements, who is involved in care) become part of the hospital discharge plan. Yet, there is a lack of knowledge about how PWDs and their CGs perceive the decision-making involvement of the PWD during an acute care stay, and determinants of those perceptions.

**Purpose:** To examine the everyday decision-making involvement of PWDs from the perspectives of hospitalized patients with dementia and their family caregivers, and to identify factors associated with perceptions of greater involvement of patients in decision-making.

**Methods:** Using multilevel modeling and the multivariate outcomes model (an appropriate analytic approach for relational data), we examined cross-sectional data collected from 42 dyads comprised of a hospitalized patient with a diagnosis of a primary progressive dementia (Alzheimer's disease, vascular dementia, fronto-temporal dementia, or dementia with lewy bodies) and a family caregiver.

**Results:** Patients were 80±8 years, had an average Mini-mental State Exam (MMSE) score of 21±4, and a slight majority (55%) were male. Family caregivers were 61±13 years, mostly female (75%), and were either adult children (70%) or spouses (30%) of patients. Average ratings of the patient's decision-making involvement were 14.78±0.70 and 14.66±.69 for patients and family caregivers, respectively, on a scale of 0 to 45 with higher scores indicating more involvement. There was a significant amount of variability around the average perceptions of patient involvement in decision-making for both patients ($\chi^2 = 351.02$, $p < .001$) and family caregivers ($\chi^2 = 327.01$, $p < .001$). Both patients and family caregivers were significantly more likely to perceive greater patient involvement in decision-making when the family caregiver reported the patient as valuing autonomy. Additionally, patients were significantly more likely to report greater involvement when they rated their own depressive symptoms as low and had higher MMSE scores. Finally, family caregivers perceived significantly greater involvement of the patient in decision-making when they rated their own quality of life as high. Together, these variables accounted for 50% and 41% of the variability in patients' and family members' perceptions, respectively, of the patient's decision-making involvement.

**Implications:** Although the decision-making abilities of PWDs decline with advancing dementia, these results demonstrate that working with family caregivers to support the autonomy of PWDs may be an important protective factor helping to prolong the involvement of PWDs in decision-making. Additional modifiable factors such as treating the PWD's depressive symptoms and helping family caregivers maintain their quality of life also hold promise for improving shared decision-making in PWD-family caregiver dyads.

---

**Funding:** This study was supported by a grant from the National Institute of Nursing Research of the National Institutes of Health [5F31NR015195; PI: Miller, L.M.]. The content is solely the responsibilities of the authors and does not necessarily represent the views of the National Institutes of Health.

---

Reference:
Thies, W., & Bleiler, L. (2013). 2013 Alzheimer's disease facts and figures. *Alzheimer's & Dementia, 9*(2), 208-245.

## Abstracts of Podium Presentations

# HEALTH PROMOTION ACROSS THE LIFESPAN AND WORLD

### HEALTHCARE DISPARITIES IN MEXICAN AMERICAN BREAST CANCER SURVIVORS

*Mary M. Lopez*

### AN ETHNOGRAPHY: BURMESE CHIN REFUGEES AND LATENT TUBERCULOSIS INFECTION

*Deborah Williams, Marylyn McEwen*

### DIGITAL STORIES AND MEDICAL MISTRUST IN AN AMERICAN INDIAN-SERVING CLINIC

*Emily A. Haozous, Michele Suina, Charles Neher*

### EFFECTIVENESS OF SELF CARE INTERVENTION GUIDELINES FOR PEOPLE LIVING WITH HIV IN INDIA

*Balasaraswathi Seetharaman, Ardith Z. Doorenbos, Premila Lee, Anand Zachariah*

### “RECLAIMING MY LIFE”: DECIDING TO UNDERGO SURGERY FOR UNCONTROLLED SEIZURES

*Sandra Dewar, Huibrie C. Pieters*

# HEALTH PROMOTION ACROSS THE LIFESPAN AND WORLD

## Healthcare Disparities in Mexican American Breast Cancer Survivors

*Mary M. Lopez, PhD, RN*
*Associate Dean, College of Graduate Nursing*
*Western University of Health Sciences*
*Pomona, CA*

**Purposes/Aims:** Mexican American breast cancer survivors face several challenges maintaining their health even more than five years after completion of treatment. The primary purpose of this mixed method study was to examine culturally specific health disparities and breast cancer challenges Mexican American breast cancer survivors face years after treatment. The secondary purpose was to identify effective strategies to decrease healthcare disparities experienced by Mexican American breast cancer survivors.
**Rationale/Conceptual Basis/Background:** Discrimination in healthcare delivery contributes to poor health outcomes for Mexican American women including decreased mental and physical status. Breast cancer survivors are thought to have completed the healing process once treatment is completed, however, they continue to report physical, social, psychological and spiritual challenges for years. Mexican American breast cancer survivors face the added challenges of coping with discrimination on macro and micro levels of care. The conceptual framework guiding this study was the critical race theory that outlines that race, ethnicity and culture are interwoven into interactions that affect health outcomes.
**Methods:** A mixed method approach (QUANTqual) using questionnaires and face to face interviews was used to identify how perceived discrimination may contribute to cancer related disparities on a system, organizational and personal level. Additionally, women were asked about which methods of coping with disparities were the most effective strategies. A sample of convenience included 78 Mexican American breast cancer survivors recruited from the community. Quantitative data was analyzed using descriptive statistics, Chi square, t test and analysis of variance. Coding and content analysis, and thematic reflection of qualitative interview data was done using NVIVO 7.0. Triangulation was achieved through matrix analysis.
**Results:** Almost half (46%) of the participants strongly disagreed with the statement “Most people in the United States receive the same healthcare regardless of their racial background or language spoken”. Most (77%) felt there was a bias against minorities being treated in the healthcare system. No difference emerged related to age or socioeconomic status. During the interviews all participants described experiences of discrimination related to language, citizenship status, skin color, or having a low income. The matrix analysis revealed congruency between discrimination reported in interviews and scores on the healthcare discrimination survey; however, the mean differences were not statistically significant. Strategies to cope with the perception of discrimination included seeking out Spanish speaking providers, utilizing promotoras to suggest locations for follow up mammograms, sharing resources both within and outside the family, and supporting other survivors to increase empowerment and autonomy in the community.
**Implications:** Nurses in a variety of healthcare settings can use these findings to identify Mexican American breast cancer survivors at risk for reduced quality of life and design culturally appropriate interprofessional care plans to coordinate their healthcare needs, increase post diagnostic care, and support efforts towards empowerment and autonomy. The development of culturally responsive practice styles may be an area for future research to better understand the role of ethnic identity in cancer survivors’ perceptions of quality cancer care delivery.

# An Ethnography: Burmese Chin Refugees and Latent Tuberculosis Infection

*Deborah Williams, MPH, RN*
*PhD Student*

*Marylyn McEwen, PhD, PHCNS-BC, FAAN*
*Professor*

*University of Arizona*
*College of Nursing*
*Tucson, AZ*

**Purposes/Aims:** Ethnography gives the opportunity to understand the experiences and behaviors of a subpopulation within their cultural context. The purpose of this ethnographic study of Burmese Chin refugees is to 1) discover the explanatory model of latent tuberculosis infection (LTBI) and 2) to describe the barriers experienced to receiving treatment for LTBI.

**Rationale/Conceptual Basis/Background:** Burmese Chin refugees are often diagnosed with LTBI during the process of resettlement in the United States. This study responds to a gap in the science which is important to pursue because knowledge of Burmese refugees' culture will inform nursing interventions that are respectful of and responsive to the health beliefs, practices, and cultural and linguistic needs of this population. Ethnographic methodology was used to describe the explanatory model of LTBI that is shared among the Burmese Chin subculture. Ethnography is an appropriate method when desiring to study a population and give an account of how a group operates, including beliefs, behaviors, and disputes.

**Methods:** A Burmese Chin refugee gatekeeper and cultural navigator assisted with community immersion and participant recruitment. Purposive and snowball sampling were used to recruit participants. Data were collected by participant observation, field notes, and semi-structure interviews. Interviews were transcribed by a Burmese Chin Hakha interpreter. Inductive and open coding of data was performed. Data were analyzed using domain analysis, a taxonomic analysis, and a componential analysis.

**Results:** The results of this study, organized by research questions, address the participants' LTBI explanatory model and barriers to accessing care for LTBI. Data saturation was reached with eight participants. Analyses of 15 participant interviews were abstracted into three domains: Explanatory Model of LTBI, Fear and Stigmatization, and Barriers. Eleven categories were revealed with over 25 subcategories through the iterative and inductive nature of ethnographic data analysis. The analysis reveals the participants' language, behavior patterns, beliefs, values and health seeking experiences of LTBI in the U.S.

**Implications:** The findings from this study can be used to develop culturally tailored interventions to reduce LTBI and TB health disparities among Burmese Chin refugees and potentially other Burmese refugee subgroups who reside in the United States. Knowledge of the Burmese Chin refugees' explanatory model of LTBI can inform culturally tailored interventions and health policy for reducing LTBI treatment barriers.

# HEALTH PROMOTION ACROSS THE LIFESPAN AND WORLD

## Digital Stories and Medical Mistrust in an American Indian-Serving Clinic

*Emily A. Haozous, PhD, RN, FAAN*
*Assistant Professor*
*University of New Mexico*
*College of Nursing*
*Albuquerque, NM*

*Michele Suina*
*Program Director*
*Albuquerque Area State Tribal*
*Epidemiology Center*
*Albuquerque, NM*

*Charles Neher*
*Research Assistant*
*Albuquerque, NM*

**Purposes/Aims:** The purpose of this project was to test a digital storytelling cancer screening intervention while measuring for change in medical mistrust among urban-dwelling AIANs.

**Rationale:** American Indians and Alaska Natives (AIANs) have a higher cancer mortality-to-incidence ratio than non-Hispanic whites in the United States, with low levels of cancer screening and later stages of cancer at diagnosis. Medical mistrust has been suggested as a possible cause for decreased cancer screening in AIANs.

**Methods:** In this quasi-experimental, randomized-block design study we evaluated medical mistrust and intent to seek cancer screening in adult AIANs through an intervention in which the experimental group (n=80) viewed a cancer screening-themed digital story and the control group (n=80) viewed a culturally-tailored educational brochure about cancer screening. Post-test survey results were compared using an independent samples t-test.

**Results:** We learned that participants who viewed the culturally-tailored brochure were less likely to be mistrustful of their healthcare providers and healthcare settings ($p<0.05$). We also found that participants who viewed the brochure reported that they were more likely to ask their health care provider about cancer screening within the next 12 months, ($p<0.10$).

**Implications:** Although the digital storytelling intervention did not result in decreased medical mistrust, we did confirm that culturally targeted cancer information delivered via a tablet computer may be an effective educational tool for improving intent to seek cancer screening and decreasing medical mistrust. The negative results suggest that the emotional and cultural content of the digital story may have triggered feelings of mistrust in the intervention group, suggesting additional research is needed to identify potential mitigating factors of medical mistrust in the clinical setting.

---

**Funding:** This research was generously supported by the Robert Wood Johnson Foundation Nurse Faculty Scholars Grant # 69347.

## Effectiveness of Self Care Intervention Guidelines for People Living with HIV in India

*Balasaraswathi Seetharaman, PhD, RN*
*Professor and Deputy Dean*
*CMC Vellore*
*Vellore, India*

*Ardith Z. Doorenbos, PhD, RN, FAAN*
*Professor*
*University of Washington*
*Seattle, WA*

*Premila Lee, PhD, RN*
*Professor*
*CMC Vellore*
*Vellore, India*

*Anand Zachariah, MD*
*Professor and Head of Medicine*
*CMC Vellore*
*Vellore, India*

**Purposes/Aims:** The present study was conducted with the aim of developing and evaluating the effectiveness of Self Care Intervention Guidelines (SCIG) on knowledge about self-care, attitude towards self-care, compliance to Anti Retroviral Therapy (ART), anxiety, quality of life and practice in home care management of persons living with Human Immunodeficiency Virus (HIV) at ART Clinic, CMC, Vellore, India.

**Background:** HIV infection is a global health problem. It is estimated that at the end of 2013, 35 million people were living with HIV in the world. India has the third largest number of people living with HIV/AIDS and the majority of them (88.55%) are in the age group of 15-49 years. The nature of the chronic condition poses greater demands on people living with HIV for comprehensive self-care including strict adherence to ART and life style modifications in order to adopt positive living and to prevent complications of HIV. There are no comprehensive guidelines available on self-care for people living with HIV.

**Methods:** A randomized clinical trial was used with 150 people living with HIV. After informed consent, pre-test data collection, and randomization, the participants in the experimental group were taught about self-care by the investigator with the help of SCIG, using discussion and demonstration methods. Following the teaching, the investigator ensured that participants understood every aspect of self-care by return demonstration especially on exercises, yoga positions and progressive muscle relaxation techniques. Each subject was then given a copy of the SCIG and asked to read it completely at home and follow the self-care instructions appropriately. Participants in the control group received standard care. Post-test assessments were done at 4-6 weeks and 12-14 weeks after intervention.

Measures included a questionnaire to assess the knowledge on self-care, a Likert scale to measure attitude, Morisky Medication Adherence Scale, Patient Recall and Pill Count to assess the compliance to ART, State Trait Anxiety Inventory scale to measure anxiety, WHO Quality of Life- BREF scale to measure Quality of Life (QOL) and a practice checklist to measure their self-reported practice in home care management.

**Results:** The mean age of participants was (control-40.86 ± 8.74, experimental-39.34 ± 7.38) which reflects the typical age of people with HIV in India. The mean score difference between control and experimental groups on all the dependent variables was statistically significant, at $p<0.001$ except for compliance to ART. The findings revealed that SCIG had shown significant improvement in knowledge and attitudes towards self-care, QOL, practice in home care management and reduction of anxiety among people living with HIV.

**Implications:** This study demonstrated that the SCIG is an effective intervention in improving the knowledge on self-care, attitude towards self-care, QOL, practice in home care management and reduction in anxiety of people living with HIV. Findings also suggest the need for one-to-one teaching and constant reinforcement on all the aspects of self-care for people with HIV attending ART Clinics.

## “Reclaiming My Life”: Deciding to Undergo Surgery for Uncontrolled Seizures

*Sandra Dewar, RN, MS*
*Clinical Nurse Specialist*
*Seizure Disorder Center*
*University of California, Los Angeles*
*Los Angeles, CA*

*Huibrie C. Pieters, PhD, DPhil, RN*
*Assistant Professor*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Aim:** Our aim was to explore the process of how patients with refractory focal epilepsy perceived elective surgical treatment and overcame hesitation related to brain surgery.

**Background:** Epilepsy is a complex neurological disorder in which chronic seizures result in disabling psychosocial consequences. Class1 evidence (2001) supports brain surgery as an effective, safe treatment for uncontrolled focal epilepsy. Optimal outcomes are achieved when surgery is offered early in the course of disease affording the best chance of seizure control and improved quality of life. Despite excellent outcomes, patients are often hesitant to consider surgery resulting in serious underutilization of a viable treatment option. Understanding the decision-making process in patients consenting for surgery especially how hesitancy is overcome will shed light on ways to approach an important treatment gap.

**Methods:** Constructivist grounded theory was used to explore the many facets of experience involved in the process of choosing surgery, understanding the surgical procedure and expected outcomes. Eligible participants were English-speaking with a confirmed diagnosis of surgically remediable epilepsy, and able to sign their own surgical consent. Intensive, semi structured interviews were completed once participants had signed an informed surgical consent. The sample included 18 participants with a mean age of 39 years (range 19-68 years) and a mean duration of epilepsy of 13 years (range 2-30 years). Data analysis involved coding, diagramming and reflective memo-writing.

**Results:** Surgical decision-making did not occur in a vacuum but took place in the context of seizure experience, life experience, developmental stage, and belief systems. Living with epilepsy is fraught with restrictive bonds, but consenting for surgery reflects a turning point and an urgent desire to “reclaim my life”.

All participants perceived that functional deficits, worsening memory, incomplete seizure control and dying from the procedure are potential surgical risks. Despite fear of functional deficits, most rated surgical benefits as greater than the risks. Some regarded complications as possible but not probable, while others expressed low confidence that they had all the needed information.

Fear of functional deficits was not easily overcome and led to hesitancy. Factors contributing to surgical delays included perceiving seizure severity as low, negative family opinions of surgery, and fear of “becoming a burden” should complications occur. The risk of dying from seizures themselves was underplayed. Participants described their understanding of likely seizure freedom in percentages, but percentages were frequently misunderstood creating ambiguity about success rates.

**Implications:** Epilepsy surgery is potentially life changing but deciding takes time and courage. Surgical decision-making is an active process of information gathering, building confidence and deciding. Nurses play an essential role in guiding patients through surgery and tailoring information to meet individual needs. Understanding the processes framing decisions may contribute to addressing the serious problem of underutilization of a potential cure for seizures.

# Abstracts of Podium Presentations

## INSTRUMENT DEVELOPMENT

### A SHORT ACCULTURATION SCALE FOR FILIPINO AMERICANS: FACTOR STRUCTURE IN US-BORN SAMPLE

*Felicitas A. dela Cruz, Chong Ho (Alex) Yu*

---

### DEVELOPING A DISCRETE CHOICE EXPERIMENT TO EXAMINE INFLUENCES ON NURSES' JOB CHOICE

*Bronwyn Fields*

---

### DEVELOPMENT OF A COMMUNITY PROGRAM CAPACITY SCALE FOR A RURAL AMERICAN INDIAN TRIBE

*Celestina Barbosa-Leiker, Carrie Holliday, Donelle Howell, Melodi Wynne, Nora Numkena, Chanel Ford, Janet Katz*

---

### APRNS' ROLES, RESPONSIBILITIES AND COMPETENCIES: INSTRUMENT DEVELOPMENT

*Polly Petersen, Christina Sieloff, Lillian S. Lin*

---

### AFRICAN AMERICAN VIEWS CONTENT VALIDITY OF MULTIDIMENSIONAL HEALING MEASURE

*Heather L. Coats, Anne G. Rosenfeld, Janice D. Crist, Esther M. Sternberg, Ann Berger*

# INSTRUMENT DEVELOPMENT

## A Short Acculturation Scale for Filipino Americans: Factor Structure in US-Born Sample

*Felicitas A. dela Cruz, RN, DNSc, FAANP*
*Professor, School of Nursing*
*Executive Director, Office of Evaluation*
*Director, Center for the Study of Health Disparities*

*Chong Ho (Alex) Yu, PhD*
*Associate Professor*
*School of Behavioral and Applied Sciences*
*Department of Psychology*

*Azusa Pacific University*
*Azusa, CA*

**Purpose/Aims:** This study aimed to: (a) determine the factor structure of *A Short Acculturation Scale for Filipino Americans* in US-born Filipino Americans (FAs), and (b) establish the sociodemographic variables associated with their acculturation factor scores.

**Rationale/Conceptual Basis/Background:** As US society becomes more multicultural, psychometrically-validated ethnic-specific acculturation measures are needed to better understand the effects of learning a new culture—the American mainstream culture—on immigrants' and their children's health status and outcomes. After the Immigration and Nationality Act of 1965, the number of Philippine-educated health care professionals migrating to the US soared dramatically. This migration stems from the US colonizing the Philippines in 1898. Despite the exposure to American culture during and after nearly 50 years of colonization, Filipinos inexorably undergo acculturation in the US. *A Short Acculturation Scale for Filipino Americans* (ASASFA)—a 12-item questionnaire— is the only ethnic-specific and the most used acculturation measure for this group. Since its development and original validation, most studies using ASASFA focused on Philippine-born FAs and have shown strong coefficient alphas for its reliability. Recently, a decline in the number of Philippine-born immigrants has been noted with an increase in US-born FAs. However, a paucity of studies on the acculturation of US-born FAs exists. Hence, this study sought to fill in this gap in the literature.

**Methods:** We conducted a secondary analysis of ASASFA data collected from US-born FAs as part of a survey which investigated the predictors of the mental health of Philippine-born and US-born FAs. The US born sample consisted of 116 FAs, recruited from local organizations in the greater Los Angeles area. We used SPSS (version 22) to compute the descriptive statistics and the scale's inter-correlations and reliability, and to determine the data's suitability for factor analysis by performing the Kaiser-Meyer-Olkin measure and Bartlett's test of sphericity. We used exploratory factor analysis (EFA) to determine the factor structure of ASASFA with JMP Pro version 12. To select the number of factors, we viewed the Scree plot's inflection point and the scale items' loading plot. Also, we used parallel analysis (PA) to verify the scale's factor structure with SAS version 9.4. Finally, we used generalized regression to examine which demographic variables are associated with the acculturation subscales.

**Results:** ASASFA data met the requirements for factor analysis: (a) the Kaiser-Meyer-Olkin measure yielded .758, above the .50 cut-off, and (b) the Bartlett's test of sphericity produced significant results (chi-square =820.741, $df$=55, $p \leq .0001$). The overall Cronbach's alpha was .82. The Scree plot and EFA (with varimax rotation) loading plot suggested a two-factor solution: language use and preference, and ethnic social relations. Parallel analysis verified and supported this two-factor structure. Generalized regression indicated that gender and self-identification predict language use and preference scores; self-identification solely predicted ethnic social relations scores.

**Implications:** The study provides evidence for the utility of ASASFA in US-born FAs since the EFA results suggest its construct validity. For future studies, we strongly suggest the use of confirmatory factor analysis to more definitely establish the construct validity of ASASFA.

## INSTRUMENT DEVELOPMENT

### Developing a Discrete Choice Experiment to Examine Influences on Nurses' Job Choice

*Bronwyn Fields, RN, MPH*
*Doctoral Candidate, Betty Irene Moore School of Nursing, University of California*
*Assistant Professor, School of Nursing*
*California State University, Sacramento*
*Sacramento, CA*

**Aim:** To develop a discrete choice experiment (DCE) survey instrument to examine influences on nurses' job choices, including between rural and urban jobs, and discuss the application of this novel quantitative research method to other areas of nursing research.

**Background:** Rural areas of the U.S. have fewer RNs per capita and are more likely to experience nurse shortages. Longitudinal data on job choices by nurses which captures motivating factors are not available, and experimental research is limited by political, ethical and logistical factors. A DCE is a stated preference survey method which can be used to answer questions related to individual preferences that impact decision making, allowing the researcher to quantify the strength of preferences, and trade-offs individuals are willing to make between factors influencing their decisions.

**Methods:** A DCE involves the identifying key characteristics (attributes) relevant to the choice being examined, defining realistic levels for each attribute, creating a survey instrument reflecting these using rigorous experimental design principles, data collection and statistical analysis. To develop the survey instrument, a review of the literature was used to identify a range of factors found to influence retention and turnover of nurses in the U.S. and internationally. A series of interviews with nursing experts provided specific information on job characteristics important to RNs in California, and levels within these that were feasible for implementation in urban and rural hospitals. Data was refined into eight attributes each with 2 to 4 levels. Ngene software was used to create the experimental design. The survey was pilot tested with urban and rural RNs to refine the language and test construct and content validity, with changes made as needed prior to finalization.

**Results:** Five key influences on RN job choice were identified and included in the final DCE: reimbursement, engagement, professional growth, nature of work and location. These were represented by 8 attributes: salary, nursing voice in management, tuition reimbursement, scheduling, patient care team, leadership, nurse sensitive patient outcomes and location. A Bayesian, orthogonal design was blocked into 3 sections to reduce participant burden. Each participant will answer a series of 12 hypothetical job choice questions, in addition to demographic questions that will be used to stratify responses based on characteristics such as age and previous or current rural experience.

**Implications:** This DCE will provide reliable information to policy makers and employers on the practice environment and job characteristics that influence nurses' choice of rural or urban jobs. Although currently underutilized in the U.S., DCEs offer the nurse researcher a valuable tool to investigate health care decision making. DCEs can be used to understand patient preferences for care / treatment modalities or willingness to accept therapeutic risks; to understand how different stakeholders value various aspects of health care such as cost, equity or timeliness; and to understand clinical decision making by health care providers.

# INSTRUMENT DEVELOPMENT

## Development of a Community Program Capacity Scale for a Rural American Indian Tribe

*Celestina Barbosa-Leiker, PhD, Assistant Professor*[1]
*Carrie Holliday, PhD, Assistant Professor*[1]
*Donelle Howell, PhD, Assistant Professor*[1]
*Melodi Wynne*[2]
*Nora Numkena*[2]
*Chanel Ford*[2]
*Janet Katz, PhD, Professor*[1]

[1]*College of Nursing, Washington State University, Spokane, WA*
[2]*Spokane Tribe of Indians, Wellpinit, WA*

**Purpose:** As part of a community assessment to determine a community-based participatory research (CBPR) pilot project, our research team of American Indian (AI) community advisory board (CAB) members, psychometricians, and CBPR nurse researchers sought to develop and refine a community capacity scale for a rural AI community.

**Background:** CBPR is a community engaged nursing research approach which recognizes the need to find sustainable solutions to health disparities using community knowledge and equal partnerships to inform research priorities and actions. CBPR involves co-learning, evaluation of power differentials, integration of the expertise from community and university researchers, empowerment of communities, and includes both research and action for change. Tribal sovereignty and awareness of past wrongs committed against AI communities makes CBPR strategies an ideal way to conduct research in AI communities. CBPR is preferred in partnerships between universities and tribes because it can equalize power differentials and reconcile past exploitation of communities by researchers. The psychometric study reported here is part of an ongoing National Institute on Minority Health and Health Disparities funded CBPR pilot project addressing substance use and mental health among tribal youth. As part of the community assessment to determine a research pilot project, our research team of psychometricians, CBPR nurse researchers, and AI CAB members, developed and refined a community capacity scale for a rural AI community and psychometrically analyzed the scale.

**Methods:** An 11-item scale with 4 response categories (0= strongly disagree, 1 = disagree, 2 = agree, 3 = strongly agree) was created by the CAB. The CAB then surveyed 128 participants (70% female, mean age = 40 years) who were either tribal members or lived on the reservation. Exploratory factor analysis using maximum likelihood estimation was used to assess the factor structure of the scale and Cronbach's αwas used to estimate internal consistency.

**Results:** A 1-factor model demonstrated adequate fit (comparative fit index (CFI) = .92, root mean square error of approximation (RMSEA) = .06, standardized root mean square residual (SRMR) = .07) and all items significantly loaded on the factor at $p < .05$. The scale items had good internal consistency in this sample (Cronbach's $\alpha$ =.79). The pattern of factor loadings indicated a "community program capacity" factor.

**Implications:** Community members, with assistance from university researchers, created a community program capacity scale. This focus on community programs was not stated ahead of time but developed with the survey. The progression of our survey development and larger CBPR pilot project can be described as iterative, with time spent on partnership and consensus building among the university and CAB; alignment of grant goals with CAB members' hopes for community health and youth wellness; knowledge and experience of CAB members, university, and the community; and reciprocal exchange of ideas and expertise in how best to proceed through grant objectives. As a result of our approach, the CAB and researchers achieved perspective, deep understanding, and grounding of community challenges and strengths, which informed possible solutions for preventing youth suicide and substance use in the community.

---

**Funding:** This study received financial support from the National Institute on Minority Health and Health Disparities (1R24MD007948-01; Katz, PI).

# INSTRUMENT DEVELOPMENT

## APRNs' Roles, Responsibilities and Competencies: Instrument Development

*Polly Petersen, PhD, RN*
*Assistant Professor*
*College of Nursing*
*Montana State University*
*Bozeman, MT*

*Christina Sieloff, PhD, RN*
*Associate Professor*
*College of Nursing*
*Montana State University*
*Bozeman, MT*

*Lillian S. Lin, PhD*
*Director of Statistical Consulting*
*Department of Mathematical Statistics*
*Montana State University*
*Bozeman, MT*

**Purpose/Aim:** The purpose of this study was to psychometrically examine the Petersen-Sieloff Primary Care Provider Assessment (PSPCPA), developed to measure the perceptions of the roles, responsibilities and competences of the advanced practice registered nurse (APRN). Two of the researchers/educators recognized that there was the potential for APRNs to move to a medical model of care upon beginning their practice rather than continuing to practice in the nursing model as they were educated. However, there was no tool to measure their understanding or perceptions of practice characteristics.

**Background:** Primary care demands arise from the need to create a health care system that is patient-centered and focused on primary care, care coordination, transitional care, prevention, and wellness (Sroczynski & Dunphy, 2012). The thrust of the Affordable Care Act (ACA, 2010) is to enhance wellness and prevention within a comprehensive primary care setting, ultimately reducing health care costs. This is consistent with the nursing education model (health promoting and holistic) that APRNs utilize to care for patients.

As APRNs assume a more independent role as primary care providers, it is important that the practice model of APRNs is clearly defined. Examination of the APRN roles, concepts of educational preparation and care models associated with the nursing model indicates that there are differences from the medical model used by physicians.

**Methods:** This was a descriptive, quantitative study. Participants were licensed APRNs in a predominantly rural/frontier state. APRNs included certified nurse practitioners (CNPs), certified registered nurse anesthetists (CRNAs), certified nurse midwives (CNMs) and clinic nurse specialists (CNSs). Initial questions were developed from a review of the literature followed by a study by expert educators/practitioners. Included were four reverse scored items, focusing on practice based on the medical model of care. The PSPCPA and a demographic questionnaire were sent to one-half of all licensed APRNs in Montana. Analysis of the PSPCPA included both the entire instrument as well as the instrument with the reverse scored items removed.

**Results:** The initial Cronbach's alpha, based on standardized items, was 0.533. With the four reverse scored items removed, the Cronbach's alpha was 0.811. The Cronbach's alphas for the subscales were 0.602 for roles, 0.719 for responsibilities and 0.752 for competencies. Factor analysis identified four rather than three factors addressed by the instrument's items. As this is the first instrument to examine the roles, responsibilities and competencies of APRNs, the factors loadings of the items will be further examined to identify the factors around which the items loaded. The PSPCPA instrument demonstrated initial reliability in understanding the perceptions of APRNs' roles, responsibilities and competencies. However, additional psychometric examinations should continue as part of future research.

**Implications:** The research has implications in many areas, including policy, regulation, education and practice, as well as further research to understand the practice of APRNs and barriers that might exist for APRNs to assume primary care provider status.

# INSTRUMENT DEVELOPMENT

## African American Views Content Validity of Multidimensional Healing Measure

*Heather L. Coats, PhD, MN, APRN-BC*
*Senior Fellow Trainee*
*University of Washington*
*School of Nursing*
*Seattle, WA*

*Janice D. Crist, PhD, FNGNA, FAAN*
*Associate Professor*
*The University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Anne G. Rosenfeld, PhD, FAAN, FAHA*
*Professor & Director of PhD Program*
*The University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Esther M. Sternberg, MD*
*Professor & Research Director of AzCIM*
*The University of Arizona*
*College of Medicine*
*Tucson, AZ*

*Ann Berger, MSN, MD*
*Chief of Pain and Palliative Care Service*
*NIH Clinical Center*
*Bethesda, MD*

**Purpose:** The purpose of this study was to contribute content validity, by providing input into the linguistic and pragmatic validities, of an NIH 53 item Psychological-Social-Spiritual Healing instrument. The specific aim was to evaluate the NIH Clinical Center's psych-social-spiritual healing measure as a valid, culturally appropriate measure for aging seriously ill African Americans.

**Background:** The foundation of culturally sensitive patient-centered palliative care (PC) is formed from social, spiritual, psychological and physical experiences of serious illness. Disparities in care for seriously ill African American (AA) elders exist because of gaps in knowledge regarding culturally sensitive physiological, psychological, social, and spiritual needs and preferences. Discovery of cultural values and beliefs from AA elders' experiences of illness provides insight for development of more culturally sensitive instruments. There is no widely utilized or validated quantitative measure of PSS healing. Therefore, there is a need for a valid and culturally sensitive instrument that seeks to measure the multidimensional concepts of psychological-social-spiritual (PSS)healing.

**Methods:** Through an exploratory descriptive design, cognitive interview methodology included verbal probing and think-aloud techniques. Verbal probing was used to elicit the participant's meaning/interpretations of the items and to depict any ambiguity of the wording used in each item. Think-aloud techniques elicited the participants' views of how they would answer the items. A purposive sample of 15 seriously ill AA elders were recruited. The participants' answers to verbal probes and reflections on each individual item of an instrument were the mechanism that contributed to linguistic and pragmatic validities for improving the cultural relevance, clarity, and appropriate wording of items.

**Results:** A summary matrix of the AA elder's verbal probes and think-aloud responses were completed for each of the 53 items. Each item of the PSS healing measure was the unit of analysis. From this matrix, the research team used a systematic decision-making process, based on the AA elder's input, for item retention, revision or deletion. Thirty-seven items were retained. Eight items were revised. Eight items were deleted.

**Implications:** From the expert input of aging seriously ill AAs, a more culturally sensitive PSS Healing instrument was developed. Linguistic validity was enhanced and pragmatic validity was applied using both the research team and participants' input to improve the content validity. These findings provide evidence towards a more valid and culturally sensitive tool.

---

**Funding:** This work was supported by NIH/NINR under Award Number F31NR014964.

# INTERPROFESSIONAL PRACTICE

## TEN YEARS OF INTERPROFESSIONAL TRAINING ON MOTIVATIONAL INTERVIEWING

*Paul F. Cook, Saman Manzouri, Laurra Aagaard*

---

## I-CARE: A NURSE-LED INTERPROFESSIONAL COLLABORATIVE PRACTICE INITIATIVE

*Amy J. Barton, Christine Velez, Gail Armstrong, Nicole Jackson*

---

## COMPETENCY TOOLS FOR EVALUATING INTERPROFESSIONAL EDUCATION

*Deborah Koniak-Griffin, Mary Ann Shinnick, Luann A. Wilkerson*

---

## INTERPROFESSIONAL PRIMARY CARE OUTREACH FOR PERSONS WITH SERIOUS MENTAL ILLNESS: STAFF AND CLINICIAN COLLABORATIVE PRACTICE ASSESSMENT

*Barbara Burgel, Gerri Collins-Bride, Bernadette Navarro-Simeon, Elizabeth Bartmess-Levasseur, Lewis Fannon, Sherri Borden, Linda Chafetz*

---

## INTERPROFESSIONAL DENTAL OUTREACH FOR ADULTS WITH SERIOUS MENTAL ILLNESS

*Barbara Burgel, Brianna DeVito, Gerri Collins-Bride, Bethany Sullivan, Anne Retzlaff, Susan Hyde*

# INTERPROFESSIONAL PRACTICE

## Ten Years of Interprofessional Training on Motivational Interviewing

*Paul F. Cook, PhD*
*Associate Professor*
*U. of Colorado College of Nursing*
*Aurora, CO*

*Saman Manzouri*
*Research Assistant*
*U. of Colorado College of Nursing*
*Aurora, CO*

*Laurra Aagaard, MS, MA*
*Motivational Interviewing Trainer*
*U. of Colorado College of Nursing*
*Aurora, CO*

**Purpose/Aims:** In this study, we examined aggregate evaluation data from 10 years of interprofessional training workshops on motivational interviewing (MI).

**Background:** MI is an evidence-based counseling method to help people increase healthy behaviors. MI is recommended as a component of many primary care practice guidelines, and can be implemented by health care professionals from a variety of backgrounds. The CU College of Nursing has been offering interprofessional training workshops on MI since 2006 through a variety of mechanisms, ranging from grant funding to fee-based continuing education activities and recently including online at www.regonline.com/cumotivate.

**Methods:** From 2006-2015, 394 health care professionals completed 4- or 8-hour workshops on MI and completed evaluation forms. Participants were 90% female and 66% White, with an average age of 42 years (range: 23 to 68) and $M = 12$ years in practice (range: < 1 to 46). Their practice settings included both pediatric and adult care, and inpatient and outpatient facilities, in locations that were 10% rural, 71% urban, and 7% telehealth call centers. The most common disciplines were nurses (20%), allied health professionals such as physical or occupational therapists (20%), and health educators or case managers (15%). Some non-healthcare professionals were also trained to use MI for health promotion. All workshops included a blend of didactic content, clinical examples, and role-played exercises. Evaluation utilized a validated questionnaire measuring knowledge, attitudes, and willingness to change practice behaviors (Cook et al., 2013).

**Outcomes:** The professional diversity of MI training groups increased over time, starting in 2009. Although physicians and physician assistants made up only 5% of participants, our team was asked to provide separate MI training for these groups in 1- to 3-hour formats at conferences organized by the medical school. The percentage of workshop participants with prior exposure to MI also increased over time, from none in 2005 to 79% by 2013. Knowledge, attitudes, and behavior were no different by time, practice setting, training format, patient population, and trainee demographics, with the exceptions that years of clinical experience predicted more positive attitudes toward MI, and telehealth settings predicted lower MI-related knowledge although more prior exposure to MI concepts. There were significant differences by profession, with mental health professionals scoring higher on knowledge and attitudes than non-healthcare professionals. Nurses had more MI-consistent attitudes than non-healthcare or allied health professionals, but they had lower scores on the measure of MI-consistent behavior. Nurses, NPs, and MDs were no different.

**Conclusions:** Even though an increasing number of health care professionals have already learned something about MI principles and techniques, MI training is increasingly in demand across professional groups. Some groups may benefit more from MI training than others; nurses may require more applied practice of MI techniques. Despite this, a recent meta-analysis found no differences in MI treatment outcomes across professional groups. MI is a content area that presents future opportunities for interprofessional education.

---

**Reference:** Cook, P. F., Richardson, G., & Wilson, A. (2013). Evaluating the delivery of motivational interviewing to promote children's oral health at a multi-site urban Head Start program. *Journal of Public Health Dentistry, 73,* 147-150. doi:10.1111/j.1752-7325.2012.00357.x.

## I-CARE: A Nurse-Led Interprofessional Collaborative Practice Initiative

*Amy J. Barton, PhD, RN, FAAN*
*Professor & Associate Dean*
*College of Nursing*
*University of Colorado*
*Aurora, CO*

*Christine Velez, MA*
*Senior Evaluation Specialist*
*The Evaluation Center*
*University of Colorado*
*Denver, CO*

*Gail Armstrong, DNP, ACNS-BC, CNE*
*Associate Professor*
*College of Nursing*
*University of Colorado*
*Aurora, CO*

*Nicole Jackson, BA*
*Project Coordinator*
*College of Nursing*
*University of Colorado*
*Aurora, CO*

**Purposes/Aims:** The purpose of this project is to create collaborative practice innovations at an urban, federally-qualified, nurse-managed community health center and faculty practice of the College of Nursing. The goal is to improve health care outcomes concerning self-management of chronic conditions among clinic patients through interventions with an interprofessional care team. Care teams support patients with asthma, obesity, diabetes, chronic pain, and geriatric syndrome.

**Rationale/Background:** In this model, three care teams were created to provide collaborative practice group visit opportunities for patients: Pediatric Care Team, the Adult Care Team, and the Senior Care Team. This model is based on that developed by Hill Physicians Medical Group and published on the AHRQ Health Care Innovations Exchange. The teams are nurse-led and consist of an NP, MD, Pharmacist and Behavioral Health Specialist. Student learners from a variety of disciplines are incorporated into the care teams. The Pediatric Care Team focuses on obesity, asthma, and substance use and abuse. The Adult Care Team focuses on diabetes and chronic pain management. The Senior Care team focuses on geriatric syndromes and chronic disease management. The innovation of this project is that it employs a collaborative practice model with an urban underserved population that creatively extends care and enhances the future workforce through health professions student involvement. Student participants include behavioral health interns, 4th year pharmacy students, BSN, and NP students.

**Methods:** This presentation reports on findings from baseline and Year 1 data collection using the Assessment of Interprofessional Team Collaboration Scale (AITCS), a 37-item survey measuring coordination, cooperation, shared decision making, and partnerships. At Year 1, 16 of 21 (76%) providers and staff at the clinic completed the AITCS survey online.

**Outcomes:** Respondents reported that the focus of teamwork consistently is the patient, a sense of belonging to the group was strong. Improvement was needed in establishing deadlines for outcome markers, jointly agreeing to communicate plans for patient care, and having all members of the patient care team involved in goal setting. A cooperative atmosphere among team members was created most of the time or always. Selecting the team leader, equally dividing goals among team members, and team members openly supporting the inclusion of the patient in their team meetings were the three aspects that were rated the lowest in this category. When compared to baseline results, respondents were more positive about the coordination and cooperation occurring among team members. Open ended questions produced themes in the areas of infrastructure (most notably the electronic health record), workload, leadership, and communication.

**Conclusions:** Survey results validated anecdotal reports and data collected through key informant interviews, student surveys and patient interviews. Survey results in particular have provided a roadmap for process improvement as the project continues as well as strategies to sustain the care model once grant funding ends.

---

Funding: This project is funded by Nurse Education, Practice, Quality, and Retention - Interprofessional Collaborative Practice, Health Resources and Services Administration, Bureau of Health Professions, Division of Nursing, UD7HP26482.

# INTERPROFESSIONAL PRACTICE

## Competency Tools for Evaluating Interprofessional Education

*Deborah Koniak-Griffin, EdD, RNC, FAAN*
*Professor & Audrienne H. Moseley Endowed Chair, Women's Health Research*
*Associate Dean for Diversity, Equity & Inclusion*
*UCLA School of Nursing*
*Los Angeles, CA*

*Mary Ann Shinnick, PhD, ACNP*
*Assistant Professor In-Residence*
*UCLA School of Nursing*
*Los Angeles, CA*

*Luann A. Wilkerson, EdD*
*Senior Associate Dean*
*for Medical Education*
*David Geffen School of Medicine at UCLA*
*Los Angeles, CA*

**Purpose:** The purpose of this project was to design tools for assessing interprofessional competencies of advanced practice nursing and medical students in both the classroom and clinical practice settings. Such tools are needed to increase the ability of interprofessional education (IPE) programs to assess learner outcomes and evaluate program effectiveness.

**Background:** The development and implementation of IPE programs is supported by research findings showing a direct link between interprofessional collaboration in health care teams and improved patient safety, quality of care, and health care outcomes. Although many nursing and medical schools are beginning to implement IPE programs, measures for assessing and evaluating curricula impact on learners are limited. Most studies evaluating the quality and outcomes of IPE have mainly relied on self-report surveys.

**Methods:** Using small teams of clinical and faculty experts, six assessment tools were adapted and/or developed for use based on the Interprofessional Education Collaborative (IPEC) Core Competencies of Interprofessional Collaborative Practice. These included a Video-Analysis Assessment Tool for collaborative practice scenarios using Zaption©, a free access software tool; a Teamwork Observation tool; an IP Implicit Association Test of unconscious biases associated with nursing and physician roles; a Knowledge Question Bank; an Objective Structured Clinical Exam (OSCE); and a Multi-Source (360 degree) Feedback Tool for assessing interprofessional collaborative practice competencies in both the classroom and clinical settings. Student participants (*N*=26) in the validation process were 3rd year medical students and 2nd year nurse practitioner students in a research- intensive university. This project was IRB exempt.

**Outcomes:** Feedback from student use of the assessment tools led to minor adjustments to make them easier to use. Feasibility of each tool was examined yielding descriptions of each measure with strengths and challenges identified, implementation guidelines, and pilot assessment data compiled within a comprehensive compendium. For example, while the OSCE experience was new to all of the nursing participants, they enjoyed it and felt training with medical students was valuable. Nonetheless, development of the OSCE was found to be challenging unless cases were jointly developed by clinical experts from the two disciplines. Difficulties were experienced in pilot testing OSCEs because of differing schedules of the two student groups. In the pilot testing of the knowledge test, difficulty indices for individual questions showed a substantial range of difficulty. This variety of difficulty scores is valuable in terms of educational testing.

**Conclusions:** The tools developed and tested to assess IPE for nursing and medical students in both clinical and educational settings proved to be useful and feasible. Training needs of faculty, staff, and the IPE instructors to implement the assessment tools were identified. A complimentary copy of the full compendium, including an annotated bibliography on IPE is available to all interested groups to assess the outcome of IPE events and programs designed to teach the IPEC Core Competencies. Access to tools is also available digitally via a MedEd PORTAL.

---

Funding: This project was funded by a private grant from the Josiah Macy Jr. Foundation.

# INTERPROFESSIONAL PRACTICE

## Interprofessional Primary Care Outreach for Persons with Serious Mental Illness: Staff and Clinician Collaborative Practice Assessment

*Barbara Burgel, RN, NP, PhD, FAAN, Professor of Clinical Nursing*[1]
*Gerri Collins-Bride, RN, NP, MS, Clinical Professor*[1]
*Bernadette Navarro-Simeon, PhD, Director of Clinical Programs*[2]
*Elizabeth Bartmess-Levasseur, Informatics Analyst*[1]
*Lewis Fannon, RN, MS, ANP*[1]
*Sherri Borden, RN, MS, ANP*[1]
*Linda Chafetz, RN, PhD, Professor*[1]
[1]*Department of Community Health Systems, UCSF School of Nursing, San Francisco, CA*
[2]*Progress Foundation, San Francisco, CA*

**Aims:** Interprofessional Primary Care Outreach for Persons with Serious Mental Illness (IPCOM) is a nurse-managed faculty practice, established in 1995 with XXX, which nests primary care within a behavioral health model. Project aims include evaluating changes in collaboration between staff and clinicians over two years of enhanced resources expanding interprofessional (IP) practice and group team building in 10 programs.
**Background:** In 2013, funding was received to enhance IP activities at IPCOM, expanding IP teams (nurse practitioner, psychiatrist, pharmacist, IP students, mental health staff, and dentistry). IPCOM serves an ethnically diverse, primarily homeless population with high acuity for mental health and primary care conditions. Lack of collaboration across disciplines increases morbidity and decreases quality of care in this vulnerable population.
**Methods:** All staff and clinicians in 10 programs were asked to complete the Collaborative Practice Assessment Tool (CPAT) (57 items) up to 4 time points. CPAT includes 8 subscales: Mission, Relationships, Leadership, Roles, Communication, Community Linkages, Decision Making and Patient Involvement. Answers ranged from 1 (strongly disagree) to 7 (strongly agree). Eighty-two surveys were completed: 34 baseline surveys over 4 dates and 39 repeated surveys over 3 dates; 72 surveys were used for this analysis, excluding baseline surveys from June 2015. Clinicians (n=7 completing 21 surveys) included physicians, pharmacy, dentistry and nursing. Staff (n=27 completing 51 surveys) included directors and counselors. Group subscale means were compared for both roles to determine change over time. A two way ANOVA was conducted with two 'between subjects' factors: baseline vs. repeat, and staff vs. clinicians to determine if any group change over time depended on role.
**Results:** CPAT scores showed a high level of collaboration, with high staff and clinician scores in Mission, Relationships and Patient Involvement. When analyzing group change, for staff, there were no significant changes over time, with 7 subscale scores declining from baseline. When analyzing group change, for clinicians, over time, all subscale scores increased from baseline, with Mission [Pre group mean: 5.7 (sd 1.1) to Post group mean: 6.4 (0.46), p=0.049] and Communication [Pre group mean: 5.3 (sd 1.1) to Post group mean: 6.3 (sd 0.62), p=0.013] showing significant changes from baseline. When comparing baseline and repeat mean subscale scores for staff vs. clinician roles, clinicians demonstrated significantly more change in Communication when compared to the change scores for staff [For staff: Pre group mean: 5.8 (sd 0.70) to Post group mean: 5.8 (sd 1.04); For clinicians: Pre group mean: 5.3 (sd 1.07) to Post group mean: 6.3 (sd 0.62), p= 0.025]. No other subscale scores showed this interaction effect.
**Implications:** There is a high level of collaboration perceived by both staff and clinicians. However, staff scores remained unchanged over time, whereas clinicians demonstrated significant changes in Mission and Communication. When compared to staff, the changes in Communication between baseline and repeated surveys by clinicians were significantly greater. These data will guide IPCOM next steps in team building with staff, sharing these results to gain their input on opportunities for professional development over the next year of the grant.

---

**Funding:** Received from HRSA Nurse Education, Practice, Quality and Retention Grant (2013-2016). Grant number UD7HP26047. Gerri Collins-Bride, Project Director

---

**Acknowledgement:** Progress Foundation, San Francisco, CA.

# INTERPROFESSIONAL PRACTICE

## Interprofessional Dental Outreach for Adults with Serious Mental Illness

*Barbara Burgel, RN, NP, PhD, FAAN, Professor of Clinical Nursing*[1]
*Brianna DeVito, BA, DDS Candidate, 2018*[2]
*Gerri Collins-Bride, RN, NP, MS, Clinical Professor*[1]
*Bethany Sullivan, RN, Psychiatric NP Student*[1]
*Anne Retzlaff, RN, Psychiatric NP Student*[1]
*Susan Hyde, DDS, MPH, PhD, Associate Professor* [2]
[1]*Department of Community Health Systems, UCSF School of Nursing, San Francisco, CA*
[2] *UCSF School of Dentistry, San Francisco, CA*

**Purposes/Aims:** This pilot study evaluated the oral health, dental treatment needs, and oral health-related quality of life (OHRQoL) of a convenience sample of community-dwelling persons with serious mental illness (SMI) who participate in the Interprofessional Primary Care Outreach for Persons with Mental Illness (IPCOM) program, a partnership between the xxxx School of Nursing and a social rehabilitation program in XXXX. Nursing case management services were piloted to assist clients in initiating and completing dental treatment.

**Background:** Studies have found oral health disparities for persons with SMI due to decreased salivary flow as a result of psychotropic medications, frequent sugar intake, increased tobacco and recreational drug use, poor oral hygiene, dental fear, and minimal access to care. Although the need for interprofessional, coordinated oral care programs for community-dwelling persons with SMI has been recognized, few have been developed or evaluated. Persons with SMI may not initiate nor keep their dental appointments, further delaying care.

**Methods:** A World Health Organization clinical examination and intervention urgency classification, Decayed/Missing/Filled Teeth Index, Root Caries Index, and Simplified Oral Hygiene Index were performed. Questionnaires included selected demographic/health measures, Self-Reported Periodontitis Surveillance Questionnaire, and the Oral Health Impact Profile. A case management tracking form was developed.

**Results:** Of the 80 IPCOM clients, 69 attended the study information sessions, 51 indicated interest in participating, and 43 (aged 18-70 years old) were enrolled in the study. Three-quarters of participants were presently experiencing a dental problem/concern and one-third had not visited a dentist in over 5 years. Extensive oral disease was found: 59% had decayed teeth, 63% were missing teeth, all participants had some gingival recession, and 33% had moderate-severe periodontal disease. Two-thirds of participants reported at least one high impact on their OHRQoL, 46% required prompt treatment, and 19% needed immediate treatment due to pain or infection. Case management strategies included identifying client dental goals, assessing client confidence to attend their dental appointments, frequent reminders, and tailored counseling strategies based on client-perceived barriers. To date, 31 clients have been appointed for dental treatment of which 20 have had at least one appointment, 2 failed an appointment (1 client reappointed), 2 clients had an existing dental provider relationship, and 10 clients left the program before appointing.

**Implications:** Poor oral health, urgent treatment needs, and compromised OHRQoL were prevalent in this population. Access to care is a barrier for persons with SMI. Denti-Cal benefits for adults were reinstated in 2014 after suspension in 2009 due to state budget cuts; however, reimbursement rates to dental providers remain low, limited providers accept Denti-Cal insurance, and 2 million additional Californians are now covered under the Affordable Care Act. Findings from this study will inform future planning for providing case management, prevention, treatment, and oral health education to this underserved population. In addition, these data are important for developing an oral health train-the-trainers model for the IPCOM nurse practitioners, and promoting interprofessional dental-nursing partnerships.

**Support:** Health Resources and Service Administration, Interprofessional Primary Care Outreach for Persons with Mental Illness, G. Collins-Bride (PI); US Department of Education, On-Campus Federal Work-Study Program Agreement; UCSF School of Dentistry, Department of Preventive and Restorative Dental Sciences

## Abstracts of Podium Presentations

# ISSUES IN CANCER SURVIVAL

### “WINGING IT”: ADHERENCE TO AROMATASE INHIBITORS AMONG OLDER BREAST CANCER SURVIVORS

*Eden Brauer, Huibrie C. Pieters*

---

### EPIGENETIC RISK FACTORS IN WOMEN WITH BREAST CANCER: A FAMILY CASE-CONTROL STUDY

*Mildred C. Gonzales*

---

### A CROSS-SECTIONAL STUDY OF BREAST CANCER RISK ASSESSMENT & SCREENING RECOMMENDATIONS

*Deborah O. Himes, Margaret F. Clayton, Gary Donaldson,Lee Ellington,*
*Saundra Buys, Anita Kinney*

---

### PSYCHOSOCIAL OUTCOME AMONG CANCER SURVIVORS WHO RECEIVE A SURVIVORSHIP CARE PLAN

*Sarah C. Reed, Janice F. Bell, Robin Whitney, Emma J. Blackmon,*
*Katherine K. Kim, Jill G. Joseph*

---

### PERCEPTIONS OF SUPPORT GROUPS AMONG OLDER BREAST CANCER SURVIVORS

*Emily Green, Huibrie C. Pieters*

# ISSUES IN CANCER SURVIVAL

## “Winging It”: Adherence to Aromatase Inhibitors among Older Breast Cancer Survivors

*Eden Brauer, RN, MSN*
*Doctoral Candidate*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Huibrie C. Pieters, PhD, DPhil RN*
*Assistant Professor*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Aim:** The aim of this research is to explore how older breast cancer survivors make decisions about adherence to aromatase inhibitor medications, including attempts to self-manage side effects and the impact of this treatment on their quality of life.

**Background:** Despite progress in early detection and treatment, breast cancer remains the second most deadly cancer. Approximately 80% of breast cancers among women older than 50 years are hormone-receptor positive and therefore aromatase inhibitors can dramatically improve survival rates. However, up to 50% of women opt to prematurely discontinue this life-saving treatment. Decision-making related to suboptimal adherence among older women from the perspective of the women themselves is poorly understood, though side effects are thought to contribute. Understanding what drives decisions around aromatase inhibitors and how these medications fit in the broader life context of older breast cancer survivors who are persisting with the treatment will reveal previously unknown processes that ultimately impact adherence.

**Methods:** Grounded theory methodology informed both data collection and analysis. In-depth, semi-structured interviews were conducted with 27 women, ≥65 years of age ( $X$=72 years), from diverse cultures, marital and socio-economic statuses throughout Southern California. At the time of the interview, women had completed primary treatment 6-36 months ago ( $X$=14 months), and had been using an aromatase inhibitor for 5–36 months ( $X$=13.3 months). Interview transcripts were then coded to identify emergent categories and relationships. Collaborative analysis improved rigor and accountability.

**Results:** By focusing on women who were persisting with the treatment, our research elucidates the struggles and the need for support while taking aromatase inhibitors. Many of the women in our sample were “winging it” as they managed the impact of the aromatase inhibitor on their own. Four interrelated categories shed light on the complex decisional processes to maintain adherence: (a) the experience of side effects in the context of older age; (b) the impact of side effects on quality of life; (c) efforts to self-manage side effects; and (d) tip-sharing among informal networks of fellow cancer survivors. The reliance on informal networks, rather than oncology providers, for support related to understanding aromatase inhibitors and their side effects suggested the need for practical self-management strategies to improve both medication adherence and quality of life. In addition, the notion of a “tipping point” in their efforts to manage difficulties identified this group as susceptible to discontinuing treatment before the recommended 5-10 years.

**Implications:** By reframing the experiences of breast cancer survivors who have adhered to aromatase inhibitors amidst challenges, this study provides insight into potential decisional pathways leading to non-adherence. Our results also incorporate a developmental lifespan perspective, highlighting the importance of the broader life context in understanding decisions around adherence. These findings serve to inform future research on meaningful nurse-led interventions to promote shared treatment decision-making and improve adherence. This research is relevant to both oncology nurses as well as nurses in other settings who care for this group as they navigate complex decisions in early survivorship.

---

Funding: R21CA167218-01A1 NIH/NCI

# ISSUES IN CANCER SURVIVAL

## Epigenetic Risk Factors in Women with Breast Cancer: A Family Case-Control Study

*Mildred C. Gonzales, PhD, RN*
*Nursing Instructor*
*School of Nursing*
*Los Angeles County College of Nursing*
*Los Angeles, CA*

Breast cancer is the most common malignancy and second leading cause of cancer death among women. Given the hereditary genetic component related to carcinogenesis, epidemiological studies have continued to investigate the environmental carcinogens and exposures that increase the risk of cancer. Guided by the metaparadigm of nursing and the Epigenetic Theory of Complex Diseases, this pilot study has investigated the associations of methylenetetrahydrofolate reductase (MTHFR) polymorphisms with health behaviors specifically B-vitamins' nutrient intake, alcohol intake, and smoking in women with breast cancer and one of their biological female family members. Significantly examining the behavioral factors affecting the deoxyribonucleic acid methylation could provide meaningful explanations on the associations of epigenetic risk factors and breast cancer in a family context. Understanding epigenetics and specific polymorphisms associated with breast cancer can provide baseline information in transforming the diagnostics and management of care of breast cancer with improved accuracy and quality of care.

This is family-based case-control study. Utilizing snowball sampling through cancer community network, a total of 80 participants (40 cases and 40 controls) residing in Los Angeles, San Bernardino, and Orange counties participated in the study. During home visits, participants were interviewed for personal health, cancer-related family history using questionnaires, and nutrient intake using Food Frequency Questionnaire (FFQ). Salivary buccal swab sample was collected for genetic analysis. FFQ was analyzed to calculate individual nutrient dietary intake using the standardized nutrition computer program. Results of genetic and dietary nutrient analyses were mailed to participants.

Descriptive, comparative, correlation, and regression model statistics were utilized to examine the study variables. Results showed no significant difference on the sociodemographic characteristics of both case and control groups except for age. Breast cancer case group (61.7 ± 8.87 years) was significantly older than control group (44.8 ± 15.89 years) ($p = 0.001$). For the cases, those who had stage III upon diagnosis had more relapse than those who had stages 0 to II ($x^2 = 5.49$, $p = 0.06$). $B_{12}$ nutrient analysis showed that controls (7.52 ± 10.93 mcg/day) have significantly higher intake than cases (4.72 ± 3.42 mcg/day) ($p = 0.02$). No significant difference was found between case and control groups on alcohol intake and smoking. None of the epigenetic risk variables has significant effect on the breast cancer susceptibility. Age was the only significant variable that contributed to breast cancer risk ($p = .000$).

Nursing is in a critical position to provide personalized patient care in clinical settings and educate clients in communities on health promotion through knowledge of genomics specific to diagnostics, treatment, and preventive care. Through collaborative efforts of professional groups, nurses have developed core competencies incorporating genomic advances into daily nursing care. Findings in this pilot study have laid out a foundation for possible larger study, translational application, and science-based research focusing on behavioral interventions for personalized healthcare based on genome health for cancer prevention and control.

## A Cross-Sectional Study of Breast Cancer Risk Assessment & Screening Recommendations

*Deborah O. Himes, PhD, APRN, Assistant Professor*[1]
*Margaret F. Clayton, PhD, APRN, Associate Professor*[2]
*Gary Donaldson, PhD, Professor*[2,3]
*Lee Ellington, PhD, Associate Professor*[2]
*Saundra Buys, MD, Professor*[4]
*Anita Kinney, PhD, RN, Associate Director for Cancer Control and Population Sciences/Professor*[5]

[1]*College of Nursing, Brigham Young University, Provo, UT*
[2]*College of Nursing, University of Utah, Salt Lake City, UT*
[3]*School of Medicine, University of Utah, Salt Lake City, UT*
[4]*Department of Medicine, Huntsman Cancer Institute, Salt Lake City, UT*
[5]*Univ. of New Mexico Comprehensive Cancer Center/ Department of Internal Medicine, Albuquerque, NM*

**Purpose/Aims:** The purposes of this study were to (1) describe calculated risk for breast cancer using three different risk calculators and identify the proportion who, based on risk calculations, should have been offered annual breast MRI screening (2) describe self-reported screening practices, (3) report women's recollection of screening recommendations made by their primary care providers (PCPs) and contrast these recommendations with risk-based screening guidelines and (4) assess whether women shared their family history and family members' genetic test results with their PCPs.

**Rationale/Conceptual Basis/Background:** Nurse practitioners and other RNs in primary care settings play a vital role in breast cancer risk assessment. Patients rely on recommendations from their primary care providers when choosing which screening practices to undertake. National guidelines recommend women with a lifetime risk for breast cancer >20% be offered both annual screening breast MRI and mammography.

**Methods:** This descriptive, cross-sectional study utilized questionnaires and telephone interviews to collect data. Participants were women who had a first-degree female relative (mother or sister) with breast cancer. Participants' mothers or sisters all received genetic counseling and genetic testing with indeterminate negative *BRCA1* and *BRCA2* test results. Extensive family pedigrees were collected and lifetime risks for breast cancer were calculated using the Gail, Claus, and BRCAPRO models. Breast cancer screening was assessed using questions from the Behavioral Risk Factor Surveillance System questionnaire. Women were asked about information they shared with PCPs and what screenings their PCPs recommended.

**Results:** Eighty five participants completed the study. Gail, Claus and BRCAPRO risk assessment models provided differing estimates for each woman. The [ranges] for lifetime risk with means and standard deviations *M*(*SD*) were as follows: Gail [8.3-38.8] 20.07(6.6), Claus [2.0-38.3] 11.84(6.7), BRCAPRO [4.0-14.7] 9.53(2.0). The Claus model identified 10.6% (n=9) of participants as high-risk with $\geq$20% lifetime risk of breast cancer. None of the high-risk women had received screening breast MRI or recommendations for MRI from their PCPs. Most participants (86.8%) who were considered to be < 20% risk reported receiving PCP recommendations for annual mammography and had received a mammogram within the past 1to 2 years. Most women (89.4%) reported that they shared their family history with their PCP; however, few (8.2%) reported sharing their sister's or mother's genetic test results with their provider.

**Implications:** It is concerning that none of the women considered to be at high-risk were offered MRI screening according to risk-based guidelines. Despite the availability of established guidelines, the use of risk calculating software is low in primary care. Nurses often collect family histories as part of patients' health history; questions about cancer and genetic testing within their families are an important component of these histories. Nurses need to be aware of the uses, limitations and benefits of different risk calculators and breast cancer screening guidelines for high-risk women. When caring for patients with a family history suggestive of hereditary breast and ovarian cancer, primary care nurse practitioners and other RNs should either calculate pedigree-based risk for breast cancer or refer to genetics specialists according to national guidelines.

---

**Funding:** This study was funded by the Dr. Elaine D. Dyer Research Endowment Award as well as a grant from the Brigham Young University Research and Scholarship Council. Previous research with first-degree relatives of current participants was supported by grants from the National Cancer Institute at the National Institutes of Health (1R01CA129142 to AYK) and the Huntsman Cancer Foundation. The project was also supported by the Shared Resources (P30 CA042014) at Huntsman Cancer Institute (Biostatistics and Research Design, Genetic Counseling, Research Informatics, and the Utah Population Database [UPDB]); the Utah Cancer Registry, which is funded by Contract No. HHSN261201000026C from the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) Program with additional support from the Utah State Department of Health and the University of Utah; the National Center for Research Resources and the National Center for Advancing Translational Sciences, National Institutes of Health, through Grant 8UL1TR000105 (formerly UL1RR025764).

# ISSUES IN CANCER SURVIVAL

## Psychosocial Outcome among Cancer Survivors Who Receive a Survivorship Care Plan

*Sarah C. Reed, MSW, MPH*
*Doctoral Candidate*
*Collaborative Cancer Care Research Group*
*(3CRG)*

*Janice F. Bell, PhD, MPH, MN*
*Associate Professor*
*3CRG*

*Robin Whitney, RN, BSN*
*Doctoral Candidate*
*3CRG*

*Emma J. Blackmon, RN, MS*
*Doctoral Candidate*
*3CRG*

*Katherine K. Kim, PhD, MPH, MBA*
*Assistant Professor*
*3CRG*

*Jill G. Joseph, MD, PhD*
*Professor/Associate Dean of Research*
*3CRG*

*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

**Background:** Treatment summaries (TSs) and survivorship care plans (SCPs) were expected to bridge patient-provider communication challenges and better address the unique needs of cancer survivors. While interest in TSs and SCPs has been growing, acceptance and implementation has been slow and findings from studies of their effectiveness have been mixed, overall. Our study examines independent associations of receipt of TSs and SCPs with psychosocial outcomes of cancer survivors.

**Methods:** The study sample included survivors completing the 2012 LIVESTRONG Survey for People Affected by Cancer (n=5,156). Logistic regression was used to model three distinct psychosocial outcomes: having relationship concerns (yes/no), distress (defined as a rating of 6 or higher on the NCCN Distress Thermometer), and moderate or severe cancer-specific worry (yes/no) as functions of TS receipt, SCP receipt and important confounding variables (age, sex, race/ethnicity, marital status, employment, income, education and health insurance).

**Results:** Among cancer survivors, only 51% received a TS and only 16% received a SCP. Survivors who received a TS or SCP had significantly lower odds of relationship concerns (TS: OR=0.62; 95% CI 0.52, 0.75; SCP: OR=0.73; 95% CI 0.57, 0.94); distress (TS: OR=0.74; 95% CI 0.65, 0.85; SCP: OR=0.81; 95% CI 0.68, 0.97); and moderate or severe cancer-specific worry (TS: OR=0.76; 95% CI: 0.67-0.85; SCP: OR=0.78; 95% CI: 0.67-0.92). Other covariates consistently associated with psychosocial concerns included younger age, being unemployed and income ≤$60,000.

**Implications:** Many cancer survivors do not receive a TS or SCP. Receipt of either document was associated with reporting better psychosocial outcomes, suggesting that TSs and SCPs may not be reaching cancer survivors with psychosocial health problems. Survivors with psychosocial concerns may benefit from targeted survivorship care.

# ISSUES IN CANCER SURVIVAL

## Perceptions of Support Groups among Older Breast Cancer Survivors

*Emily Green, RN, PhD*
*Staff Research Associate*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Huibrie C. Pieters, PhD, DPhil, RN*
*Assistant Professor*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*
*hpieters@sonnet.ucla.edu*

**Aims:** Our aims were to describe how older breast cancer survivors understand and perceive in-person breast cancer support groups and their impact on their decision-making processes about aromatase inhibitor medications.

**Background:** Despite the proven effectiveness of aromatase inhibitors to prevent recurrence among women with estrogen-positive breast cancer, discontinuing rates are as high as 50%. Information and support matter in treatment decision-making. However, for breast cancer survivors in the post-treatment phase when patients start with an aromatase inhibitor, the clinical workload in oncology leaves little time for clinicians to discuss aromatase inhibitor-related concerns. There is mixed evidence of the impact of attending cancer support groups on survival, though quality of life benefits have been shown. Only one study in Iran addressed adherence to anti-estrogen treatment through support groups and it reported no impact on adherence. One US-based study reported no differences in adherence between study groups receiving usual care, and those receiving telephone or in-person counseling. However, neither of these studied older women. Thus we sought to examine how older women perceive support groups and how it impacts decision-making regarding adherence to aromatase inhibitors.

**Methods:** We employed Constructivist Grounded Theory for data collection and analysis. Data was collected using personal, semi-structured interviews with 40 women aged 66-94 years (average of 74) who were diagnosed with early stage breast cancer an average of 20 months prior to the interview. All but two participants independently performed activities of daily living, including ambulation and driving. Medical records were reviewed to ensure eligibility. The total sample included 27 who were on their prescribed medication and 13 women who had prematurely stopped taking the aromatase inhibitor. In addition to multiple rounds of coding by three team members, memo-writing and diagramming were used to track the developing conceptualizations.

**Results:** Tension exists between two opposing categories that describe the role of support groups in our sample: 1) the acceptance and appreciation of the need for information and the availability of support groups to meet this need, and 2) the rejection of, distaste for, and overall negative assumptions attributed to support groups. With only one exception, no woman attended a support group. Perceptions about cancer support groups reflected strong negative assumptions about the role and reality of formal in-person support groups. These strongly held opinions had been formed without the women ever attending a cancer support group. Even though the participants clearly rejected support groups, the women had experienced sharing their diagnosis and treatment with other cancer survivors and described that communication with another survivor was uniquely helpful.

**Implications:** Our findings contribute to future interventional studies that aim to increase adherence among older survivors. Older women seek information and support, yet current support resources are not being utilized. Because many older cancer survivors have other medical conditions, nurses, both inside and outside of oncology, are likely to care for this population. Nurses are therefore uniquely positioned to play a role in further understanding how support groups impact the decision-making processes of older survivors.

---

**Funding:** R21CA167218-01A1 NIH/NCI

# LATINO HEALTH PROMOTION AND DISPARITIES

## INTERVENTION EFFECTS ON GENDER IN SELF-MANAGEMENT IN HISPANICS WITH TYPE 2 DIABETES

*Marylyn McEwen, Alice Pasvogel, Carolyn Murdaugh, Joe Hepworth*

---

## SLEEP, EXERCISE, AND EMOTIONS RELATED TO BMI: LATINO AMERICANS AND NON-HISPANIC WHITES

*L. Larkey, A.C. Chen, S. Kim*

---

## YO ENTIENDO: I UNDERSTAND

*Anna Dermenchyan, Kym Aoki, Nancy Exarchos, Luistro Elvina,*
*Cheryl Diane Lehuquet*

---

## EXPLORING PERCEPTIONS OF COLORECTAL CANCER SCREENING IN LATINO ADULTS: A QUALITATIVE APPROACH

*Claire Magdaleno, Sunny Kim, Julie McNulty*

---

## A TRANSMEDIA INTERVENTION FOR LATINAS WITH DEPRESSION OR ANXIETY

*MarySue V. Heilemann, Patricia Soderlund*

## Intervention Effects on Gender in Self-Management in Hispanics with Type 2 Diabetes

*Marylyn McEwen, PhD, FAAN*
*Professor*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Alice Pasvogel, PhD, RN*
*Assistant Research Scientist*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Carolyn Murdaugh, PhD, RN, FAAN*
*Adjunct Professor & Professor Emerita*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Joe Hepworth, PhD*
*Clinical Assistant Professor*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

**Purposes/Aims:** The purpose was to describe the effects of a culturally tailored, family-partner self-management social support intervention on gender differences in self-management activities in Hispanics with type 2 diabetes mellitus (T2DM).

**Rationale/Background:** Although gender differences in T2DM self-management activities have been reported, little research has documented self-management differences between men and women with T2DM among Hispanics, and the effects of interventions on these differences. Understanding the effects of interventions on gender in self-managing T2DM activities is critical to optimizing self-management interventions to improve outcomes.

**Methods:** A total of 78 females and 34 males with T2DM completed questionnaires and biologic measures at baseline and immediately following a randomized 12 week self-management social support intervention. The diabetes self-care management activities questionnaire (DSMA) consisted of a total score and 5 self-management subscales: diet, exercise, blood sugar testing, foot care, and medications during the prior 7 days (0-7). The effect of the intervention on gender differences was assessed using the group by time by gender interaction in 2x2x2 Repeated Measures ANOVAs.

**Results:** No differences were found between males and females on age, time living with diabetes, marital status, education, or income. Age ranged from 35 to73 years (mean 54, SD 9), time with diabetes ranged from 1 to 38 years (mean 12, SD 8), the majority were married (71%), had less than a high school education (72%), and a family income less than $25,000 (79%). At baseline, significant differences were found between males and female for diet self-management, foot care self-management and total self-management activities. Immediately post intervention no significant gender effects or interactions with gender were found for any of the self- management activities or total scale score.

**Implications:** Results provide support for culturally tailoring self-management interventions for both men and women. These findings indicate that culturally tailoring, rather than gender tailoring is essential. Future research needs to explore how self-management interventions can be more effectively tailored to culture, taking socio-economic conditions into account.

---

Funding: NIH/MHHD 1R01MD005837

# LATINO HEALTH PROMOTION AND DISPARITIES

## Sleep, Exercise, and Emotions Related to BMI: Latino Americans and Non-Hispanic Whites

*L. Larkey, A.C. Chen, S. Kim*
*Arizona State University*
*College of Nursing and Health Innovation*
*Linda.Larkey@asu.edu*

**Purpose and Aims:** A number of factors in a biobehavioral model of obesity will be presented and differences in weight and biobehavioral patterns among Latinos vs. Non-Hispanic Whites will be discussed. This foundational information will be used to frame an analysis of a subset of factors drawn from the 2014 Health Information National Trends Survey (HINTS) for exploring the relationships among these factors and differences in patterns between the two groups.

**Background and Rationale:** Overweight and obesity continue at epidemic levels across all US populations, with Latinos taking second place (at 68.7% overweight or obese) behind African Americans (72.7%). These alarming statistics beg for better understanding of the causes, mechanisms, and possible behavioral targets for improvement. Less sleep has been associated with higher Body Mass Index (BMI) with suggested mechanisms related to sleep-disturbance sequelae such as poor mood, inflammation, and cortisol rhythm disruption. These, and other factors (such as sedentary lifestyle, stress/emotional distress) suggest a model of behavioral factors sustaining the problem of overweight and obesity.

**Methods:** Using the 2014 HINTS database, sleep, exercise levels and emotional factor relationships to BMI were examined. Logistic regression models were applied to describe the relative impact of factors on BMI among Latino Americans (LA)(n=483) and Non-Hispanic Whites (NHW)(n=1544). T-tests were used to examine mean differences between groups.

**Results:** With both groups combined, BMI was significantly (negatively) correlated with levels of physical activity, hours of sleep (e.g., more sleep, lower BMI), and positively related to sedentary behavior (all p's < .00), confirming prior studies. Comparing groups, LAs showed a small but significant elevation in BMI compared to NHWs (28.57 vs 27.66, p=.004), and less frequent moderate-to-vigorous exercise (2.66 vs 2.93 days/week, p=.020), but similar levels of sleep and sedentary behavior as NHWs. LAs were also reporting less feelings of anger and more hope than NHW counterparts. Interestingly, only one factor, "feeling anger" was significantly, negatively associated with BMI for LAs, but among NHWs, less sleep and exercise, more sedentary behavior, and emotional factors were associated with higher BMI.

**Conclusion:** Recent findings in the obesity literature regarding an association of BMI and sleep, along with physical activity and sedentary behaviors, were confirmed as predicted patterns when assessed across both groups. Although only a small number of factors proposed in a larger, complex model of biobehavioral determinants of obesity could be assessed with the limited number of HINTS variables, the emotional components of the model did not appear to have a significant influence in general, but one of these factors appeared in the findings for LAs only. A different profile presented among LAs and variables associated with obesity suggests that emotional factors may be important to explore for interventions.

# LATINO HEALTH PROMOTION AND DISPARITIES

## Yo Entiendo: I Understand

*Anna Dermenchyan, BSN, RN, CCRN[1], Kym Aoki, BSN, RN[1], Nancy Exarchos, RN[2], Luistro Elvina, MSN, RN, MHA[3], Cheryl Diane Lehuquet, MSN, RN[4],*
*[1]Department of Medicine, UCLA Health, Los Angeles, CA,*
*[2]Nursing, UCLA Health, Los Angeles, CA,*
*[3]Quality, UCLA Health, Los Angeles, CA,*
*[4]Performance Excellence, UCLA Health, Los Angeles, CA*

**Purposes/Aims:** Low health literacy is a pervasive and widespread issue that affects virtually every aspect of health care delivery. The purpose of this qualitative study was to better understand health literacy and cultural barriers faced by the Spanish speaking heart failure patients.

**Rationale/Conceptual Basis/Background:** Despite increasing evidence that demonstrates health literacy's impact on quality, access, and cost, low health literacy called the "silent epidemic" is one of the most neglected aspects of patient safety. Professional associations such as the American Heart Association recognize this as a serious issue and have established national discharge teaching guidelines. In interviewing our heart failure patients, we have discovered a huge gap in their understanding and knowledge. One of our patients waiting in the ICU for a heart transplant said, "If I had understood all this information, then I would not be in this situation."

**Methods:** This qualitative study measured multiple aspects of the patient care experience in one-to-one interviews with seven (2 inpatient, 5 outpatient) Heart Failure Spanish speaking patients that received care at UCLA between 2011 and 2015. Consent was received from all participants using a Spanish speaking community health educator who was also present during six of the seven interviews. A standardized interview template was used to interview all patients. In addition, the UCLA phone interpreter service was used for one of the inpatient interviews. Using the Patient Voice Toolkit, the interview data was synthesized and three core themes emerged: cultural competency, coordination of care, and communication/interpreter services. Sub-committees were developed for each of the three core themes to follow through on the action items that were discussed.

**Results:** The patient interviews highlighted three themes: cultural competency, interpreter services, and care coordination. Cultural competency is an awareness of culture, folklore, customs and beliefs. The patient interviews revealed the importance of family and identifying caregivers, role of wife and children, hierarchical and patriarchal culture and especially the role of food in culture. The second theme conveyed low utilization of interpreter services by providers. In addition, inadequate assessment of learning styles and the use of teach-back methods were often not utilized by providers, which compounded the effects of low health literacy on health outcomes. Finally, there was lack of care coordination, especially in the outpatient setting. Thus, patients were confused with many providers and having limited understanding of the US health system and available outpatient resources.

**Implications:** Providing medical care in a culturally sensitive manner includes more than word for word language translation. Consideration of culture, emotions, inflection differences, intonation differences, and regional differences are just as important as words for effective communication. Moving forward, the Cultural Competency Project will evaluate current UCLA cultural and linguistic competency tools and modules as well as more detailed, layered and culturally specific tools and modules as they relate to the Spanish speaking/Latino culture.

# LATINO HEALTH PROMOTION AND DISPARITIES

## Exploring Perceptions of Colorectal Cancer Screening in Latino Adults: A Qualitative Approach

*Claire Magdaleno, SN, Claire.Magdaleno@asu.edu*
*Sunny Kim, PhD, Assistant Professor*
*Julie McNulty, RN, PhD, CPHQ, Assistant Professor*
*College of Nursing and Health Innovation*
*Arizona State University*
*Phoenix, AZ*

**Purposes/Aims:** The objective of this study was to better understand how Latino adults' perceived facilitators and barriers to colorectal cancer (CRC) screening, as well as perspectives on physician recommendation and fatalism, and how they motivate the choice of whether to utilize CRC screening.

**Background:** Colorectal cancer is the third most prevalent form of cancer in both genders and second highest cause of cancer-related death in the United States. Despite the availability of preventative CRC screening, Latinos are one of the minority groups with particular concern for CRC due to their lower screening rate, contributing to the possibility of late-stage diagnosis or even death. However, little is known about the perceptions of CRC screening and factors which contribute to beliefs about CRC in Latinos. Most studies are quantitative and rarely include a qualitative approach focusing on cultural aspects and communication with physicians. Belief and awareness of CRC and screening may be affected by relationships that Latinos hold with physicians, which then may affect their proclivity to screen. Additionally, fatalistic beliefs in the Latino culture may contribute to the lower CRC screening rate.

**Methods:** Utilizing convenience and snowball sampling, participants were recruited from the community in the Phoenix metropolitan area. Inclusion criteria were English speaking Latinos, over the age of 50, with no history of cancer. Data collection consisted of in-depth interviews that were conducted either in person or over the phone, and were transcribed verbatim. Participants completed sociodemographic surveys to identify a relationship with responses. Using a qualitative descriptive design, content and thematic analysis was conducted on the interview data. Three coders resolved any intercoder discrepancies and coding was finalized.

**Results:** The sample included 6 female Latina participants and 2 male Latino participants (*M* age=56 years). Six themes emerged from the interviews: (1) lacking awareness and knowledge, (2) education sources and needs, (3) physician relationship and trust, (4) fears and anxiety, (5) desire to adopt a healthier lifestyle, and (6) avoidance vs. being proactive. Results indicated varying levels of perceived knowledge of colorectal cancer and little perceived risk of diagnosis overall. Participants who had not received screening demonstrated less awareness of CRC and screening. However, participants also expressed physician trust and desire to be more informed. Though many reported anxiety and apprehension about CRC screening in general, participants described either proactive or avoidant behaviors in regard to screening. In this study, fatalistic beliefs did not emerge as a theme.

**Implications:** Implications for nursing include an increased need for CRC and screening educational resources for the Latino population that are culturally relevant. Research indicates increased CRC literacy may predict a higher rate of CRC screening and contributes to more informed decision-making of preventative lifestyle modifications. Nurses benefit from trust in physicians and health care professionals in general, and may act as patient educators and advocates for CRC screening. Additionally, fatalistic beliefs in CRC screening adherence should be further investigated to determine if it influences avoidant behaviors.

# LATINO HEALTH PROMOTION AND DISPARITIES

## A Transmedia Intervention for Latinas with Depression or Anxiety

*MarySue V. Heilemann, PhD, RN*
*Associate Professor*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Patricia Soderlund, PhDc, PMHNP, RN*
*Research Assistant*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Aim:** The purpose of this study was to pilot test a transmedia intervention that used storytelling over multiple digital platforms to reduce depression and/or anxiety levels in symptomatic English-speaking Latinas aged 21-55.

**Rationale/Background:** Depression is the leading cause of disability worldwide. Most depressed U.S. women go undiagnosed and only about half receive treatment. Anxiety is highly comorbid with depression. Among Latinos, depression rates among women are twice that of men. Because depression treatment is highly stigmatized in Latino communities, transmedia may offer accessible, desirable, and acceptable options with psychoeducational and therapeutic benefit to women who would not typically seek treatment. The videos for our project were based on characters and a plot developed from de-identified data from previous studies with depressed Latinas done by the first author. The story featured a 28 year old Latina and her Latina nurse-therapist in a 12-minute webisode, four 3-minute short videos, blog with links for referrals (all were available on a password protected website accessible via smart phones, tablets, and computers). Content validity for scripts for all videos were obtained from a Community Advisory Board of 4 mental health experts who work with Latinas of low income in terms of cultural relevancy, believability, effectiveness, appropriateness, and feasibility of the scripts.

**Methods:** Survey methods were used to test the efficacy of the transmedia intervention with 28 Latinas aged 21-55 years who scored above threshold for depression (PHQ-8) and/or anxiety (GAD-7) at screening. We compared data on levels of depression and anxiety before and then 1 and 6 weeks after exposure to the media.

**Results:** All 28 Latinas who consented and watched the media remained in the study through the 6-week data collection point (no attrition). There was a significant difference in depression across time (F=9.0, df=2,54, p<.001); more specifically, there was a linear decrease (F=14.2, df=1,27, p=.001) with scores at screening significantly higher than at 1 week (F=6.45, df=1,27, p=.017) and at 6 weeks after exposure to the media (F=14.2, df=1,27, p=.001). There was a significant difference in anxiety across time (F=18.7, df=2,54, p<.001); more specifically, while there was a general linear decrease in anxiety (F=23.0, df=1,27, p<.001). A quadratic function also describes the pattern (F=8.1, df=1,27, p=.008) showing a “curve” with greater decrease between screening and 1 week post media than from 1 to 6 weeks post media.

**Implications:** The lack of attrition in this study suggests that women found the transmedia study to be worthy of their time. The reduction in depression and anxiety symptoms that held for 6 weeks suggests that this transmedia project, including the nurse-character, lead character, and plot, could be further developed to engage women over a longer period of time. This would allow for the expansion of features involving the storyline or nurse-therapist character to engage Latinas in sustained, longer term, clinically relevant mental health care. This type of transmedia holds promise for reaching a very large audience across and beyond the US and for engaging hard-to-reach patients who are reluctant to access mental health treatment.

# MATERNAL/NEWBORN CONCERNS AND OUTCOMES

## HEALTH CARE EXPERIENCES OF PREGNANT WOMEN OF COLOR AT RISK FOR PRETERM BIRTH

*Monica R. McLemore, Norlissa Cooper, Molly Altman, Linda S. Franck*

---

## A HOSPITAL-BASED SLEEP IMPROVEMENT PROGRAM FOR ANTEPARTUM CARE

*Kathryn A. Lee, Caryl Gay, Alicia Pollak, Tina Ratto*

---

## A FEEDING PROTOCOL TO IMPROVE OUTCOMES FOR NEONATES WITH CONGENITAL HEART DISEASE

*Jennifer Newcombe, Eileen K. Fry-Bowers*

---

## CONCORDANCE: A WOMAN-CENTERED APPROACH TO BREASTFEEDING SUCCESS

*Meghan Eagen-Torkko*

# MATERNAL/NEWBORN CONCERNS AND OUTCOMES

## Health Care Experiences of Pregnant Women of Color at Risk for Preterm Birth

*Monica R. McLemore, RN, MPH, PhD*
*Assistant Professor*
*Family Health Care Nursing Department*

*Norlissa Cooper, MSN, RN*
*Doctoral Student*
*Dept. of Social & Behavioral Sciences*

*Molly Altman, CNM, MPH, PhD*
*Post-Doctoral Fellow*
*Preterm Birth Initiative*

*Linda S. Franck, PhD, RN, PhD,*
*FRCPCH, FAAN, Jack and Elaine Koehn*
*Endowed Chair in Pediatric Nursing*
*Family Health Care Nursing Department*

*University of California, San Francisco*
*San Francisco, CA*

**Purpose/Aim:** The purpose of this project was to describe the pregnancy and postnatal healthcare experiences of pregnant women of color at risk for preterm birth.

**Rationale/Background:** Several studies have documented the healthcare related inequities and poor birth outcomes of women of color, yet there is scant research exploring the healthcare experiences of these women. Involving women who are at risk for preterm birth, in a research prioritization process creates new opportunities for their engagement as full partners in all aspects of research. Additionally, meaningful information about women's experiences, perceptions and values during their healthcare visits can be elucidated that inform clinical practice.

**Methods:** This project is part of a larger study where women at risk for preterm birth come together to identify and prioritize research questions that are important to them using an adapted UK James Lind Alliance Patient and Public Involvement (PPI) methodology. Fourteen women at high risk for preterm birth from San Francisco's Homeless Prenatal Program and Black Infant Health Program participated in 2 audio-recorded focus groups, 6-weeks apart. In the first sessions, facilitated by 2 nurse scientists, participants generated a list of potentially researchable questions that reflected uncertainties in knowledge based on their experiences and values. The ranking and prioritization occurred in the second session. During these groups, women discussed in detail their healthcare experiences and described their perceptions and feeling about a wide range of topics. Thematic analysis was used to code the transcripts and develop themes related to healthcare as experienced by the women during pre- and postnatal care.

**Results:** Focus group participants described ***disrespect*** during their encounters with healthcare institutions and providers. Disrespect was described as feeling dismissed and treated rudely because of being low-income, or having public insurance. Participants discussed experiences of racism and perceived discrimination and described ***stressful interactions*** with all levels of staff throughout their healthcare seeking experiences. Additionally, some participants described their experiences of being single and/or ***without consistent social support*** and the negative impact that it had on their pregnancy related care. Included in discussion of social support were descriptions of the difficulties of having high-risk pregnancies in the workplace. Another theme was their perceived ***confidence in their ability to provide care*** to their newborn including nutrition, emergency responses, disability, and balancing other daily obligations. Participants made ***concrete suggestions*** about how healthcare systems can be improved, which include: attention to birth plans, better communication among and between multiple caregivers when women are classified as high risk, listening to patients during clinical encounters and less reliance on previous case files and child protective services involvement.

**Implications:** Women of color at high risk for preterm birth perceive healthcare as a largely stressful and disrespectful experience. However, these women also feel competent to care for their babies and are able to clearly articulate supports they need. Many changes in the healthcare environment and provider interactions lie within the domain of nursing and nurses can lead in developing patient-centered interventions to improve care for women at high risk for preterm birth.

# MATERNAL/NEWBORN CONCERNS AND OUTCOMES

## A Hospital-Based Sleep Improvement Program for Antepartum Care

*Kathryn A. Lee, RN, PhD, FAAN, CBSM*
*Professor Emeritus*
*Family Health Care Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Caryl Gay, PhD*
*Family Health Care Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Alicia Pollak, RN, MS, CNM*
*Per Diem Nurse*
*Nurse Practitioner II*
*UCSF Benioff Children's Hospital*
*University of California, San Francisco*
*San Francisco CA*

*Tina Ratto, RN, MSN, CPLC*
*Perinatal Palliative Care*
*UCSF Benioff Children's Hospital*
*University of California, San Francisco*
*San Francisco, CA*

**Introduction:** For the health of mother and fetus, the dyad can be admitted for a hospital stay that may continue until birth. Research has shown that adequate sleep is important for positive perinatal outcomes, yet sleep in the hospital is often inadequate for many reasons.
**Purpose:** The purpose of this quasi-experimental pilot study was to compare sleep parameters for antepartum patients on an Obstetrics hospital unit before and after implementation of a sleep hygiene intervention kit.
**Methods:** A hospital recruiter explained the study and obtained consent from women over 18 years of age who had been hospitalized at least 2 days and planned to stay at least 1 week. The pre-intervention sample included 11 women who completed sleep questionnaires and a daily sleep diary over 7 days or until birth or hospital discharge. Mean scores on the General Sleep Disturbance Scale (GSDS) score can range from 0 (no sleep disturbance) to 7 and a cutpoint of 3 distinguishes poor sleep from good sleep. Data from this pre-intervention sample were examined for sleep issues or concerns to inform the final content for the intervention's educational and sleep kit items. The post-intervention sample of 14 women was recruited and consented after a wash-out period of one month during which time the staff nurses were informed about the study, the content of the sleep information, and the content of the sleep kit to be provided for each consenting participant. In addition to descriptive statistics for each sample, the pre- and post-intervention groups were compared with t-tests for independent samples. Statistical significance was set at $p < .05$ for group comparisons.
**Results:** Gestation averaged 28-29 weeks and mothers averaged 28-29 years old. Both groups indicated their habitual sleep time was 6.8 hours and the groups were not significantly different on any demographic variables. The pre-intervention group's most frequent reason for poor sleep was monitoring by the nursing staff, followed by noise in the hallway; their mean GSDS score was $3.42 \pm 0.90$ (SD). The women in the post-intervention group who received the sleep kit had a mean GSDS score of $2.53 \pm 0.69$ (SD). This difference was significant ($t = 2.65$, $p = .015$), and the effect size was large (1.11 SD units). Women who received the sleep kit remarked that both the fan and the white noise machine were helpful to decrease noise. The fan had the added benefit of providing cooling and alleviating nausea. Other helpful items in the sleep kit were the eye mask to block out light from the monitors and the white noise machine, which not only masked noise but fostered relaxation prior to going to sleep.
**Conclusions:** In this pilot study, there was a statistically and clinically meaningful improvement in GSDS scores for the participants who received the intervention sleep kit. While results from this pilot study are encouraging, a randomized clinical trial should be conducted with a larger sample at multiple hospitals before implementing the sleep kit as a standard of care in obstetrics units.

# MATERNAL/NEWBORN CONCERNS AND OUTCOMES

## A Feeding Protocol to Improve Outcomes for Neonates with Congenital Heart Disease

*Jennifer Newcombe, MSN, PCNS-BC, CPNP-PC/AC, Nurse Practitioner*
*Pediatric Cardiothoracic Surgery*
*Loma Linda Children's Hospital*
*Loma Linda, CA*

*Eileen K. Fry-Bowers, PhD, JD, RN, CPNP*
*Associate Professor*
*University of San Diego*
*Hahn School of Nursing and Health Science*
*San Diego, CA*

**Purposes/Aim:** The purpose of this quality improvement initiative is to optimize calorie and protein delivery for neonates with critical congenital heart disease (CCHD) by implementing a nurse led post-operative feeding protocol at a regional children's hospital (CH). We hypothesize that use of the feeding protocol to optimize calorie and protein delivery will result in improved World Health Organization (WHO) weight for age Z scores, decreased days to achieve goal feedings (120 kcal/kg/day) and shorten hospital stay.

**Rational/Background:** Malnutrition is common in the clinical setting and can affect clinical outcomes as well as cost. Evidence suggests hospitalized patients receive only 50-60% of their nutritional needs. Neonates with CCHD are especially vulnerable for malnutrition during the post-operative period due to hypermetabolism and hypercatabolism. Malnutrition in this vulnerable population can lead to delayed wound healing, bacterial infections, poor weight gain, extended hospital length of stay (LOS), and increased morbidity and mortality.

In order for hospitals to stay competitive in health care, they must continue to deliver high quality care with shorter LOS. Decreasing LOS by one day with this vulnerable population can yield a cost savings of $10,000.

In 2014, a retrospective chart review showed 45 neonates underwent surgery at CH. Nineteen patients underwent single ventricle repair and 26 had biventricular repair. WHO weight for age Z scores, for both groups, revealed worsening Z scores from the date of surgery to discharge. Both groups median weight for age Z score at discharge met WHO criteria for mild malnutrition.

**Process:** A taskforce, led by a nurse practitioner, and compromised of critical care nurses, physicians, registered dieticians, occupational and speech therapists from the Cardiothoracic Intensive Care Unit (CTICU) and Neonatal Intensive Care Unit (NICU) developed a post-operative enteral feeding protocol to improve nutrition. The protocol consisted of two evidence-based algorithms. The first algorithm was designed to optimize calorie and protein delivery by initiating feedings 12 hours post extubation and advancing feedings and liquid protein at set intervals. The second algorithm was developed to objectively define feeing intolerance and nippling tolerance for CTICU nurses. The algorithms were built into the electronic health record (EHR) as order-sets. The feeding protocol is currently being piloted over five months with all neonates in the CTICU who will have surgery within 30 days of life for CCHD, and who meet the following inclusion criteria: >38 weeks gestation, >2.5 kgs, extubated a minimum of 12 hours post surgery and had no history of necrotizing enterocolitis (NEC) or heterotaxy.

**Outcomes Achieved:** Serum Albumin levels and WHO anthropometric measurements, including weight for age Z scores will be extracted from the EHR and compared at birth, day of surgery, and discharge. Days to achieve goal caloric feeds and length of stay will also be measured and compared. Statistical analysis will include an ANOVA: repeated measures, within factors

**Conclusion and Recommendations:** Standardizing nutritional care in the post-operative period may be one effective way to improve nutritional outcomes in neonates affected by CCHD, shorten length of stay and reduce hospital costs.

# MATERNAL/NEWBORN CONCERNS AND OUTCOMES

## Concordance: A Woman-Centered Approach to Breastfeeding Success

*Meghan Eagen-Torkko, PhD, CNM, ARNP*
*Assistant Professor, School of Nursing and Health Studies*
*University of Washington, Bothell, WA*

**Purposes/Aims:** Globally, breastfeeding is the recommended infant-feeding method (USDHHS, 2011). As a public-health intervention, it is associated with reductions in maternal cancers and infant illness and death (AHRQ, 2007). There is significant research interest in breastfeeding promotion and measuring its success. Currently, breastfeeding success is measured by whether the woman adheres to standard recommendations. If she breastfeeds according to these, she succeeds; if she does not, she does not. Currently, there is no woman-centered measure of breastfeeding success, which both marginalizes individuals and misses potential intervention opportunities.

**Description/Definition of Theory/Concept:** To guide breastfeeding intervention development, I propose "concordance" as an adjunct concept of breastfeeding success. *Concordance* is defined as the congruence between the woman's intended infant feeding method and the actual infant feeding method. Breastfeeding occurs in a complex matrix of social, personal, historical, community, medical, and other factors; concordance is intended to recognize these, while simultaneously acknowledging breastfeeding's importance on a population level. This woman-centered approach accepts varying circumstances in which breastfeeding occurs and the relative value the woman places on factors possibly affecting her infant feeding decisions and outcomes. I used the concept analysis method described by Walker & Avant (2005) to identify the antecedents and consequences defining concordance. The antecedents are 1) an awareness of infant feeding options, and 2) a choice between intended methods (which can include mixed breast/formula feeding). The consequences vary, depending on whether there was positive concordance (her desired method of infant feeding occurred), mixed concordance (she was partially successful), or negative concordance (the desired outcome did not occur), and can be positive (e.g., increased perceived competence) or negative (e.g., increased guilt).

**Internal Consistency of the Theory/Concept:** This concept was tested empirically as part of a secondary analysis of breastfeeding outcomes in survivors of childhood maltreatment. As an outcome measure in a multivariate regression model, concordance accounted for 19% of variance, suggesting that better operationalization of concordance is needed prior to research use, including qualitative work to develop an adequate measure of the concept. Importantly, most women did not report a concordant breastfeeding relationship, further supporting the need for research using woman-centered outcomes.

**Logic Linking Theory/Concept to Practice/Research Problem:** Concordance centers women in their infant-feeding decision, and allows them to self-determine "success". This both recognizes her agency and may open new directions for interventions research to increase breastfeeding rates overall, as well as guide policy to best support new parents in feeding their infants.

**Conclusions, Including Utility of Theory/Concept:** A woman-centered measure of breastfeeding success is congruent with the nursing standard of individualized, client-centered care, and responds to significant critiques made by cross-discipline about the current standard success measure. Clinically, the provider is an advocate and supporter for the woman's decision, which is also consistent with nursing care and philosophy. Additionally, it may enable breastfeeding interventions that are more responsive or acceptable to an individual woman's situation and desires. This adjunct measure of success does not replace the public-health based standard recommendation; it opens a new avenue for nursing inquiry in breastfeeding support.

---

References:

Agency for Healthcare Research and Quality (AHRQ). (2007). Breastfeeding and Maternal and Infant Health Outcomes in Developed Countries: Evidence Report/Technology Assessment, No. 153, 1–415.

US Department of Health and Human Services. (2011). The Surgeon General's Call to Action to Support Breastfeeding, 1–100.

Walker, L. O., & Avant, K. C. (2005). *Strategies for theory construction in nursing* (4th ed.). Norwalk, CT: Appleton & Lange.

---

**Funding:** This study was supported by the National Institutes of Health, National Institute for Nursing Research grant NR008767 (Seng, P.I.), and by 5T32NR007073-20 (Villarruel, P.I.), by the Rackham Merit Fellowship, University of Michigan, and by a Rackham Dissertation Grant, University of Michigan.

# METHODS: CHALLENGES AND REWARDS OF CONDUCTING RESEARCH

## PROTOCOLS FOR TRANSCRIPTION AND TRANSLATION IN QUALITATIVE RESEARCH

*Lauren Clark, Ana Sanchez Birkhead, Marlene J. Egger*

---

## CHALLENGES IN CONDUCTING INTERNATIONAL RESEARCH: EXAMPLES FROM INDIA AND VIETNAM

*Cheryl Corbett, Jamie Peterson Gettys*

---

## RECRUITMENT AND RETENTION CHALLENGES AND SUCCESSES

*Trina M. Aguirre, Ann E. Koehler, Ashish Joshi, Susan L. Wilhelm*

---

## INDIVIDUAL AND FAMILY ISSUES SURROUNDING A RARE DISEASE

*Susan Ann Vitale*

---

## COST-EFFECTIVE RECRUITMENT AND RETENTION STRATEGIES FOR RURAL SUBJECTS

*Lori Liebl*

# METHODS: CHALLENGES AND REWARDS OF CONDUCTING RESEARCH

## Protocols for Transcription and Translation in Qualitative Research

*Lauren Clark, RN, PhD*
*Professor*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Ana Sanchez Birkhead, PhD, WHNP-BC, APRN, Associate Professor*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Marlene J. Egger, PhD*
*Professor, Department of Family and Preventive Medicine*
*School of Medicine*
*University of Utah*
*Salt Lake City, UT*

**Purpose:** Qualitative research relies on rich description and attention to the tone and vocabulary used in interviews. Based on our experience as investigators on a recently-funded NIH ethnographic study, we propose best practices for transcription and translation in sensitive qualitative research.

**Background:** Nearly 100 Mexican American and Euro-American women with some degree of pelvic organ prolapse will take part in interviews about the cultural and physical aspects of childbirth, recovery, and pelvic floor health. Because our topic demands sensitivity, privacy, and attention to nuances in language, we developed a series of protocols to aid in the systematic preparation of verbatim transcripts. We also valued translations of Spanish-speaking women's interviews into English in a manner that preserved the tone and vocabulary of the original conversation.

**Methods:** Given the size of the ethnographic undertaking, we devised a process to screen prospective transcription/translation vendors. We began with simulated individual interviews of a Spanish-speaking and an English-speaking confederate. Each confederate was asked key questions from our interview guide and responded using a range of vocabularies, from medical terminology to slang. Simulated interviews were submitted for transcription/translation as part of a competitive bid process to obtain a professional, HIPAA-compliant vendor who met the technical standards we set. To discriminate between the vendors, we developed two rubrics. One graded transcription accuracy and completeness, and the other evaluated translation quality. With the most competitive vendor chosen, we organized transcript data with a template to record meta-data about the interview, interviewer, and participant. We named the transcript file using a system of pre-defined codes to index participant characteristics in the file name. Researcher verification of transcription accuracy followed. Next, each transcript was anonymized using pseudonyms in a pattern of systematic substitution congruent with participants' preferred language. A timeline and process for uploading/downloading, templating, verifying, and anonymizing data assured timely production of accurate, complete transcripts ready for analysis.

**Outcomes Achieved:** The vendor bidding process and use of rubrics to evaluate quality of simulated interview transcription/translation revealed variation in companies' expertise relative to technical standards. Application of study protocols produced an organized set of data with clear tracking for each interview in the transcription and translation process.

**Conclusions:** Interviews are a mainstay of qualitative health research, and protecting the integrity of primary research data safeguards validity. Assuring quality translation of interviews is often overlooked, yet critical in cross-cultural research.

---

Funding: NIH P01 HD080629

# METHODS: CHALLENGES AND REWARDS OF CONDUCTING RESEARCH

## Challenges in Conducting International Research: Examples from India and Vietnam

*Cheryl Corbett, APRN, MSN, FNP-C*
*Associate Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Jamie Peterson Gettys*
*Student Nurse*
*Brigham Young University*
*Provo, UT*

**Purpose:** To identify and address challenges frequently encountered when conducting international research. Whereas there is an abundance of information on ethical issues in global research, there are a multitude of other cultural challenges that researchers may encounter. Understanding and addressing these obstacles is vital to the success of nursing research.

**Background:** Although opportunities abound for nurses to conduct international research in attempts to improve global health; nurses who choose to conduct research in global settings are often confronted with unique and complex challenges. It is essential to recognize potential roadblocks and address concerns in the early planning stages of a research project. Conducting successful research in international settings includes addressing issues with site planning, IRB approval, language interpretation, recruitment, and data collection. Challenges crossing borders to multiple countries will be addressed in addition to examples of challenges encountered specific to nursing research in India and Vietnam.

**Process:** Five nursing research projects took place in India, Ecuador, Vietnam and China, including both qualitative and quantitative data collection. Observations and experiences in conducting these projects were analyzed and evaluated for mutually shared challenges and those specific to that country. Specific examples from India and Vietnam are presented.

**Outcomes:** Challenges were identified that were mutually encountered in all of these countries. Some of these common hindrances include issues with IRB approval, the consent process, maintaining privacy, scheduling and time norms, gender and social status, and the interview process. The literature also supports these potential obstacles as occurring in other international settings. Observations revealed that other challenges were unique to the specific country. Examples from India and Vietnam included distinct family dynamics influencing consent, increased government regulations, greater necessity to develop rapport and trust, limited language vocabulary and conversations in lieu of formal interviews. Alleviating global research challenges include significant advance planning, working with an on-site organization, developing respectful relationships, recruiting excellent translators, allowing extra time, obtaining observant field notes, and maintaining cultural humility.

**Implications:** Opportunities to improve health on the international level abound and more nurses are choosing to conduct research in global settings. It is crucial to understand cultural challenges and obstacles encountered in conducting international research. Recognizing and seeking solutions to these challenges prior to conducting research may lead to more effective data collection in a global setting and more successful nursing research.

# METHODS: CHALLENGES AND REWARDS OF CONDUCTING RESEARCH

## Recruitment and Retention Challenges and Successes

*Trina M. Aguirre, PhD, RN*
*Assistant Professor*
*College of Nursing – West Division*
*University of Nebraska Medical Center*
*Scottsbluff, NE*

*Ann E. Koehler, MS, MS*
*Research Assistant*
*College of Nursing – West Division*
*University of Nebraska Medical Center*
*Scottsbluff, NE*

*Ashish Joshi, PHD, MPH, MD*
*Assistant Dean, Associate Professor*
*School of Public Health*
*City University of New York*
*New York, NY*

*Susan L. Wilhelm, PhD, RNC*
*Assistant Dean, Assistant Professor*
*College of Nursing – West Division*
*University of Nebraska Medical Center*
*Scottsbluff, NE*

**Background:** Although there has been progress toward improving health in the United States, disparities remain. Addressing such disparities requires developing well designed, culturally adapted research. However, minorities have often been under-represented in health research and meeting minority recruitment and retention goals has often been challenging. Hispanics are among the fastest growing minorities in the United States, thus it is important to develop strategies to facilitate their participation in health research

**Purposes/Aims:** We present a suite of strategies used to successfully recruit and retain rural Hispanic (primarily Mexican-American) women during a recent study exploring the efficacy of a breastfeeding education intervention. This two-group repeated measures quasi-experimental design study included assessments at 7 intervals between enrollment and 6 months postpartum.

**Methods:** Forty-six participants (Hispanic women ≥ 15 years old) were recruited through a regional hospital. Potential participants were identified by hospital staff during prenatal visits or admission for delivery and subsequently contacted by research staff. Women choosing to participate were consented and then completed baseline assessment forms. Postpartum assessments were primarily conducted by phone, though we accommodated mothers who preferred to have the forms dropped off and picked up, or mailed. Mothers were contacted by the same researcher for all follow-up assessments to maintain continuity and build trust. To accommodate language preferences, study materials were available in both English and Spanish and an interpreter was available to assist with the consent process and assessments. Children were welcome at all in-person meetings. Participants received a $15 gift card incentive following each assessment to compensate them for their time.

**Results:** The majority of women contacted were enrolled (46 of 58), 9 were excluded, and 3 chose not to participate. We successfully retained 100% of participants throughout the 6-month follow-up period using multiple strategies. Research staff with ties within the community helped establish trust. Using bilingual study materials, simple language, and an interpreter addressed language/literacy concerns. Phone assessments facilitated participation as transportation was an issue for 83% of these women. Accommodating requests to deliver or mail study materials (39%) and/or gift cards (85%), meeting/phoning participants when and where it was convenient, and providing incentives were also important. Such efforts involved substantial travel with round trip mileage ranging from < 10 to 160 miles per visit. Multiple attempts were often needed to reach mothers whether by phone or in person. Additional effort was needed to maintain/reestablish contact when phone service was disrupted (17%) or participants moved (13%). This required persistence and the use of all available contact information.

**Implications:** This suite of strategies enabled us to successfully recruit and retain research participants from a diverse, well-established, rural Hispanic (primarily Mexican-American) population in the central United States. Keys to success were persistence, flexibility, and alleviating barriers to participation. In this rural setting, transportation was often an issue that needed to be addressed. Though successful, these strategies were time intensive and required that research staff be ready to respond days, nights, weekends, and holidays. Such efforts require adequately budgeting for interpreting/translating services and staff time and travel expenses.

---

This study was funded by the Agency for Healthcare Research Quality (AHRQ) #HS02132101A1.

## Individual and Family Issues Surrounding a Rare Disease

*Susan Ann Vitale, PhD, RN, PNP, ANP-C*
*Professor*
*Nursing*
*Molloy College*
*Rockville Centre, NY*

**Purpose/Aims:** The purpose of this research was to gain an understanding of individual and family experiences of living with a rare disease and how individuals have learned to contend with the unusual health care issues they face.
**Background:** There is limited research on the experience of living with rare diseases. Health care providers have inadequate informational resources concerning individual and family disease meaning, adjustment, management, and self-care. There are more than 6,000 rare disorders affecting an estimated 25 million Americans as well as millions more throughout the world. Individuals diagnosed with a rare disease often face diagnostic delays, inadequate treatment options or a lack of hope for a cure. These problems are complicated by a lack of disease specific information and limited access to specialists who are experienced with their rare disease. Individuals may also be geographically separated from others with the same health challenges, impeding the ability to interact with, or benefit from those who may have learned how to cope with disease consequences. Those providing guidance to patients do not have the benefit of a well-studied understanding of commonalities across various types of rare diseases.
**Methodology:** A qualitative descriptive design of case study methodology was used. Case study method is indicated when there is a clear focus on gaining an in-depth understanding of the actions of individuals with a common challenge, problem, or issue. The common challenge here was having a rare disease. In-person interviews were conducted individually and in small groups. Data was also gathered through the Internet to offer convenience to participants who were geographically scattered. Constant comparative analysis identified themes and commonalities. A qualitative computer program (NVIVO) was also used.
**Findings:** The participants included adults living with a rare disease and adult family members of a diagnosed child or adult. Twenty-five participants volunteered. Themes were identified that center around phases of adjustment to living with a rare disease diagnosis. These included initial and reoccurring stages of grieving and sadness. Feelings of desperation occurred upon diagnosis and thereafter through disease progression. The Internet became the main source of information and support from others with a like disease. Support from friends and family varied and at times was not helpful. Feelings of exhaustion were common in trying to cope with the challenges presented. An overarching theme concerned the need to quickly adjust to the diagnosis and then to "take charge" of one's own care or that of the diagnosed family member, especially when it was a child.
**Implications/Significance for Nursing:** Findings from this research will lead to patient anticipatory guidance and help to inform nursing school curriculum of the issues surrounding a rare disease diagnosis. Health care professionals can benefit from continuing education on the issues faced by those living with a rare disease.

---

**Funding:** In part by a Molloy College Faculty Research Grant.

# METHODS: CHALLENGES AND REWARDS OF CONDUCTING RESEARCH

## Cost-Effective Recruitment and Retention Strategies for Rural Subjects

*Lori Liebl, PhD, RN*
*Assistant Professor*
*School of Nursing*
*University of Wyoming*
*Laramie, WY*
*lliebl@uwyo.edu*

**Purpose:** This qualitative study used a combination of traditional and grassroots methods to determine which method was more cost-effective.

**Background:** Recruitment and retention of rural adult subjects presents unique challenges. When presented with a limited budget, the challenges increase. Traditional recruitment methods and subject incentives for participation, raise the cost associated recruitment and retention for research studies. Grassroots methods provides a more tailored, cost-effective way to recruit and retain rural adult subjects for research studies.

**Methods:** This qualitative study used a combination of traditional and grassroots methods in effort to recruit rural adult subjects from the Southeastern region of Wyoming and the Northern region of Colorado. The traditional methods included word-of-mouth from regional healthcare providers, regional newspaper and magazine ads, posters in public facilities, and the use of social media. Grassroots methods included a variety of trusted community persons, such as, commercial business owners and employees, religious leaders, educational providers, and support group members. This study did not offer incentives for participating subjects.

**Results:** Traditional recruitment methods consumed over 80% of the recruitment and retention budget; while grassroots methods consumed less than 20% of the budget. Traditional recruitment methods resulted in 28 interested adults but only 14 of those adults met the study's inclusion criteria. Of the 14 adults who qualified to participate, only five agreed to participate in the in-person interviews. Not one of these five subjects agreed to participate in the member-checking follow-up interview. Grassroots methods resulted in 19 interested adults; all of which, met the study's inclusion criteria. Of the 19 adults who qualified, 15 agreed to participate in the in-person interviews and seven subjects agreed to participate in the member-checking follow-up interview.

**Implications:** Traditional recruitment methods resulted in more interested individuals. However, the grassroots methods yielded more subjects who met the study's inclusion criteria and who participated in the study. Additionally, all subjects who participated in the member-checking follow-up interviews, were recruited through grassroots methods. Grassroots methods provided a more targeted, cost-effective approach to recruitment and retention. This method should be considered when investigators are trying to conserve funds or are working with a limited budget.

# METHODS: WORKING WITH DATA

## INFORMATION OVERLOAD: EFFECTIVELY USING LARGE DATABASES IN NURSING RESEARCH

*Jennifer K. Peterson, Lorraine Evangelista*

## PROPENSITY SCORE MATCHING IN R: COMPARISONS OF 6 DIFFERENT MATCHING METHODS

*Oliwier Dziadkowiec*

## MISSING DATA IMPUTATION OF HOSPITAL DATA USING MULTIVARIATE IMPUTATION BY CHAINED EQUATIONS (MICE)

*Oliwier Dziadkowiec*

## WHEN SURVEY DATA BECOME NARRATIVES: PRACTICAL QUALITIZING

*Dana L. Zaichkin*

## TRAJECTORIES OF DAILY ROUTINES IN OLDER ADULTS: A MODEL FOR MONITORING WITH TECHNOLOGY

*Maria Yefimova, Diana Lynn Woods, Janet Mentes*

# METHODS: WORKING WITH DATA

## Information Overload: Effectively Using Large Databases in Nursing Research

*Jennifer K. Peterson, PhD(c), RN, CCNS*
*Congenital Heart Surgery Research Nurse*
*Miller Children's Hospital, Long Beach, CA*
*PhD Candidate*
*Program in Nursing Science*
*University of California, Irvine*
*Irvine, CA*

*Lorraine Evangelista, PhD, RN, FAHA, FAAN*
*Professor*
*Program in Nursing Science*
*University of California, Irvine*
*Irvine, CA*

**Purpose/Aims:** The purpose of this presentation is to review selected administrative and clinical databases available for nursing research, illustrate advantages and disadvantages of database research, and create strategies for effective use of large databases in nursing research.

**Background:** Administrative databases, such as the Kids Inpatient Database, National Health and Nutrition Examination Survey, or large healthcare systems databases, are typically the product of hospital billing or insurance claims information. These large datasets are especially useful for studying healthcare utilization, epidemiology, or rare conditions because of their large sample sizes. Clinical databases may be single or multi-institutional, and are often condition-specific to allow in-depth analysis of specific conditions or treatment outcomes. Administrative and clinical databases have distinct advantages and disadvantages in nursing research.

**Methods:** Using examples of administrative and clinical databases, this presentation will categorize advantages and disadvantages of each type of database. Unique methodological and statistical considerations such as complex sampling methods, nesting effect within groups, and considerations for making population estimates will be addressed.

**Implications:** The use of administrative and clinical databases can be daunting due to the large size of these data sources, the inability to obtain missing data, and the limited data points. However, these databases can also provide large volumes of data and the ability to make population-level inferences. For some types of nursing research questions, administrative or clinical databases may provide unique opportunities to add to nursing knowledge.

# METHODS: WORKING WITH DATA

## Propensity Score Matching in R: Comparisons of 6 Different Matching Methods

*Oliwier Dziadkowiec, PhD*
*University of Colorado*
*College of Nursing*
*Aurora, CO*

**Purpose:** This study will compare balance statistics and evaluate the pros and cons of 6 different matching methods from a MatchIt package for R statistical software.

**Rationale:** Propensity scores are a common tool for creating a balanced comparison group in non-experimental studies. Matching strengths non-experiment cause-and effect analysis an offers an alternative method for dealing with confounders.

**Methods:** Fifty six out of 242 control hospitals were matched to 56 treatment hospitals using 6 propensity score matching techniques. Hospitals were matched on Case Mix Index, Magnet Status, Bedsize, Inpatient Discharges, State, Hospital Type, and number of service lines. MatchIt package in R program was used for all matching (Ho, King & Stuart, 2006).

**Results:** The results will compare the balance statistics for all 6 matching techniques as well as discuss the reason for potential differences in them.

**Implications:** Observational and non-experimental studies are common in nursing research. Having an adequate understanding of propensity score matching will strengthen the results of these studies, especially when the researchers will attempt to establish a causal relationship.

# METHODS: WORKING WITH DATA

## Missing Data Imputation of Hospital Data Using Multivariate Imputation by Chained Equations (MICE)

*Oliwier Dziadkowiec, PhD*
*University of Colorado*
*College of Nursing*
*Aurora, CO*

**Purpose:** This study will discuss the importance of multiple imputation and explain the use of several multiple imputation methods from MICE package (Buuren & Groothuis-Oudshoorn, 2011) available in R software.

**Rationale:** Missing data is a common problem in observational studies. There is a variety of ways of handling missing data but it is becoming increasingly apparent, especially in large datasets, that methods such as multiple imputation are superior to methods such as "complete case analysis", which contributes to the loss of power and decreases important variability or mean imputation, which also decreases important variability.

**Methods:** Dataset containing 298 hospitals from the UniversityHealth Consortium databases was used to impute data using predictive mean matching, Bayesian linear regression, and non-Bayesian linear regression.

**Results:** The results will compare the multiple imputation methods as well as discuss the reason for potential differences between them.

**Implications:** Improperly handling or ignoring missing data will result in inaccurate parameter estimates and possibly erroneous findings. MICE method is a widely used and tested multiple imputation package with variety of imputation methods that will improve the data preparation in nursing research.

# METHODS: WORKING WITH DATA

## When Survey Data Become Narratives: Practical Qualitizing

*Dana L. Zaichkin, MHA, PhD, RN*
*Assistant Professor*
*Pacific Lutheran University, School of Nursing*
*Tacoma, WA*
*zaichkdl@plu.edu*

**Background:** Mixed methods approaches have gained popularity among researchers attempting to achieve broader perspectives on phenomena and expand the analytic and interpretive power of their studies. When data are combined in the analysis phase of studies, processes of quantitizing and/or qualitizing are employed to transform data into forms amenable to the desired analytic viewing context. While rationale, paradigmatic challenges, and broad analytic considerations have been described in methods literature, little practical guidance has been offered to researchers attempting to enact data transformation strategies in their studies.

**Purpose:** The purpose of this presentation is to describe specific processes and strategies for the qualitization of survey questions and responses, and integration with other data in a manner to generate participant narratives amenable to qualitative analysis. Using an exemplar study, this presentation will describe how qualitization allowed for the recognition of patterns and themes that expanded understanding of the phenomenon of interest beyond that achieved through quantitative analysis alone or when open-ended responses were analyzed in isolation.

**Methods/Results:** The study emphasized in this presentation employed a concurrent nested mixed methods design using previously collected data from a large (N=1292) program evaluation survey of Medicaid enrollees. The design for this study exercised qualitative priority, with integration occurring in analysis. Naturalistic inquiry served as the theoretical foundation and conventional qualitative content analysis as the dominant methodological approach. The subsamples for qualitative analysis included 593 and 258 participants. Beyond their forced-choice survey responses, participants volunteered over 2400 additional comments.

This presentation describes specific processes that include multiple views of the data, including data reduction, data aggregation, data selection, data transformation, and progression to analysis. Additionally described are processes for the generation of qualitative codes and patterns from transformed data and a secondary transformation of data that allowed for an additional tier of quantitative triangulation. Specific strategies are described for data aggregation and transformation employing Microsoft Excel™ as well as the survey import function of Atlas.ti™. Challenges, both technical and paradigmatic, are described as well as lessons learned from the process.

**Implications:** Qualitization of survey questions and responses, along with the integration of volunteered responses to create focused narratives offers researchers a unique opportunity to add dimensions of understanding for phenomena that may not be achieved through conventional quantitative or qualitative methodologies. Additionally, approaches such as the one highlighted in this presentation allow qualitative researchers access to sample sizes not otherwise attainable in typical qualitative studies, albeit with tradeoffs of depth verses breadth, and resource-intensive analysis. Having the ability to anticipate processes, challenges, and opportunities can afford researchers the opportunity to use resources efficiently, minimize pitfalls, and communicate the stories of participants in a rich, full, and naturalistic form.

# METHODS: WORKING WITH DATA

## Trajectories of Daily Routines in Older Adults: A Model for Monitoring with Technology

*Maria Yefimova, RN, MS*
*Doctoral Candidate*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Diana Lynn Woods, PhD, RN, APRN-BC, FAAN, Associate Professor*
*School of Nursing*
*Azusa Pacific University*
*Azusa, CA*

*Janet Mentes, PhD, RN, APRN-BC, FAAN*
*Associate Professor*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Background:** In-home monitoring technology may become a useful tool for healthcare providers to assess the fluctuating care needs of older adults. It can collect information about deviations in daily routines as they reflect changes in the individual's course of health, and alert clinicians to intervene in a timely manner. The development and evaluation of this technology requires expertise from multiple disciplines including informatics, engineering, gerontology, and health sciences such as nursing. Many current technology-centric approaches are built on poorly defined theoretical foundations, leading to results that are not clinically meaningful or generalizable. Hence, there is a need for a clear, person-centric theoretical framework grounded in interdisciplinary knowledge.

**Purpose:** To develop a model that elucidates the relationship between daily routines of older adults and their health trajectories that can be operationalized with in-home monitoring technology.

**Theory Development:** Four existing frameworks were selected to guide model development based on the review of theoretical and empirical literature: the Compression of Mortality Theory, the Chronic Illness Trajectory Framework, the Ecological Model of Aging, and the Social Zeitgerber Theory. These theories span from population-based intervention paradigms to within-person psycho-physiological mechanisms. Their structural and functional components were evaluated through the lens of the meta-concepts of *person, environment, health* and *nursing*. The identified relationships were used to synthesize a new conceptual model.

**Proposed Model:** The proposed model theoretically links the concepts of an older adult's health trajectory and their daily routines, as measured by in-home monitoring technology. An individual's course of health and illness can be tracked using clinical measures on a macro-scale of months and years. The health trajectory can be divided into phases: stable, unstable and acute. As the person's health changes during each phase, they exhibit varying levels of adaptation to their environment in their day-to-day function. This adaptation on the micro-scale of days and weeks can be seen in the consistency of the person's daily routine. A continuous monitoring of everyday activity patterns with in-home technology may elucidate the link between micro and macro time scales of person's health and behavior.

**Implications:** Theoretically clarifying temporal relationships would help us understand how changes in health trajectories can be predicted from routine behaviors. Consistent definitions of identified concepts allow for a smoother operationalization in interdisciplinary projects. The proposed model is person-centric, grounded in nursing and gerontological knowledge domains. It facilitates the exploration of dynamic temporal processes within the individual that allow for more personalized and timely healthcare delivery.

---

Funding: By John A. Hartford Foundation's NHCGNE Award Program and UCLA Dissertation Year Fellowship.

# MILITARY HEALTH

## EXAMINING FACTORS THAT INFLUENCE RESILIENCE AND MENTAL HEALTH SYMPTOMS IN SOLDIERS

*Angela M. Simmons, Linda H. Yoder*

---

## IMPROVING HPV VACCINE SERIES COMPLIANCE WITH TEXT MESSAGE REMINDERS IN MILITARY WOMEN

*Alisha Keating, Susan Instone, Joseph Burkard, Rebecca Navarrete, Sarah Wedel*

---

## COMPASSION FATIGUE AMONG U.S. MILITARY RN'S POST OVERSEAS DEPLOYMENT

*Dawn M. Goldstein, Kate G. Sheppard*

---

## MILITARY WOMEN'S HEALTH RESEARCH: A SYSTEMATIC REVIEW OF THE LITERATURE FROM 2000-2010

*Lori L. Trego, Jacqueline Rychnovsky, Candy Wilson, Nancy Steele, Megan Foradori*

---

## AN RCT OF NURSE COACHING VS. HERBAL CAM FOR SOLDIER WEIGHT REDUCTION

*Mary S. McCarthy, Evelyn B. Elshaw, Barbara M. Szekely*

# MILITARY HEALTH

## Examining Factors that Influence Resilience and Mental Health Symptoms in Soldiers

*Angela M. Simmons, LTC, AN, PhD*
*Chief*
*Center for Nursing Science & Clinical Inquiry*
*Madigan Army Medical Center*
*Tacoma, WA*
*Angela.m.simmons.mil@mail.mil*

*Linda H. Yoder, PhD, MBA, RN, AOCN, FAAN*
*Associate Professor*
*Director, Nursing Administration and Healthcare Systems Management*
*University of Texas at Austin*
*Austin, TX*

**Purpose:** The purpose of this descriptive correlational study was to determine the relationships between spirituality, resilience, anxiety, depression, and PTSD in active duty enlisted Soldiers and junior Non-Commissioned Officers with a deployment history.
**Background:** In an effort to mitigate the effects of war, researchers have shifted their focus on resilience toward military service members (SMs). There is a plethora of literature concerning resilience of National Guard and Reserve SMs. However, literature surrounding the levels of spirituality, resilience, and mental health symptoms in active duty (AD) Soldiers is sparse.
**Theoretical Framework:** Richardson's MetaTheory of Resilience
**Methods:** A convenience sample of 284 AD Army Soldiers who were within six months of returning home from deployment to Iraq or Afghanistan participated in this study. The following instruments were used: 1) Demographic survey, 2) Connor-Davidson Resilience Scale (CD-RISC), 3) Daily Spiritual Experiences Scale (DSES), 4) Generalized Anxiety Disorder 7 (GAD-7), 5) Center for Epidemiological Studies Depression Scale (CES-D), and 6) PTSD-Military (PCL-M).
**Results:** All participants were male, most were Caucasian (73%), in the rank of Specialist (57%), and averaged 24 years of age. Those who reported more spiritual experiences had a higher level of resilience ($r = .30, p \leq .001$), reported fewer symptoms of anxiety ($r = -.18, p = .003$), depression ($r = -.18, p = .003$), and PTSD ($r = -.14, p = .02$). The Soldiers who scored higher on resilience reported significantly fewer symptoms of anxiety ($r = -.43$), depression ($r = -.53$), and PTSD ($r = -.39$, all $p \leq .001$).
**Implications for Nursing:** Nurses are often the first healthcare professions who encounter people experiencing mental health issues. In the military, these nurses may be in remote locations where their keen knowledge and ability to recognize Soldiers experiencing those issues is critical to caring for the Soldier. Knowledge of factors that influence resilience and the mental health of Soldiers can enhance nurse' abilities to assess Soldiers who may be at risk for poor mental health. Nurses are instrumental in training and educating Soldiers, families, and others in the community about the ways to recognize Soldiers who may need support and how to refer them for care. Additional research is warranted to fully capture the voice of Soldiers and determine areas to improve throughout their deployment and reintegration process.

# MILITARY HEALTH

## Improving HPV Vaccine Series Compliance with Text Message Reminders in Military Women

*Alisha Keating, BSN, RN, CEN*
*University of San Diego*
*Hahn School of Nursing and Health Science*
*San Diego, CA*

*Susan Instone, DNSc, CPNP*
*University of San Diego*
*Hahn School of Nursing and Health Science*
*San Diego, CA*

*Joseph Burkard, DNSc, CRNA*
*University of San Diego*
*Hahn School of Nursing and Health Science*
*San Diego, CA*

*Rebecca Navarrete, MSN, FNP-BC*
*CDR NC USN*
*Naval Branch Health Clinic*
*Naval Base San Diego*
*San Diego, CA*

*Sarah Wedel, DNP, FNP-BC, AGNP*
*University of San Diego*
*Hahn School of Nursing and Health Science*
*San Diego, CA*

**Project Purpose:** The purpose of the project was to improve the rate of Human Papillomavirus (HPV) vaccination compliance among military women aged 18-26 years utilizing clinical reminder via text messages.

**Background:** Specific populations have been particularly effected by low HPV vaccine completion rates including active duty military women. The incidence of high risk sexual behavior in this population is noted to be higher than the general public and sexually transmitted infection (STI) rates are seven times higher in active duty military women compared to the general public. In addition, HPV is the most prevalent STI in this population with an incidence rate of 333.9 per 10,000 person-years. In 2011, research at the Naval Medical Center San Diego (NMCSD) found that the vaccine series completion rate in active duty military members was only 16%. The use of reminders for multi-dose vaccine series has demonstrated effective increases in compliance rates since the 1980s.

**Practice Change:** Clinical reminders via text message were sent out to each woman who received her first dose of HPV vaccine in November or December 2014 and January 2015. The text was sent to all women who had not yet returned to the clinic to receive the second or third dose. The reminder notified them that their next vaccine dose was due and to obtain it within the next month. The Iowa model was used as a framework for this project. Project effectiveness was evaluated based on changes in HPV immunizations series compliance rates before and after the text message intervention.

**Outcomes:** There was an increase in vaccination rates among the women receiving the text message reminders for both the second and third dose. This project followed an initial effort three months before to educate patients about need for the HPV vaccine and the provider to offer a strong recommendation for obtaining the vaccine. An increase from the previously reported rate of HPV vaccine series compliance among active duty military women was achieved. However, even with the education and provider recommendation, the rates were below the national averages. With the implementation of the clinical reminders via text message, there was an increase from 50% to 65% for the 2nd dose after the text message reminder with 17 out of 26 women receiving at least 2 HPV vaccine doses. In addition, the completion rate for all 3 doses increased from 34% to 42% (11 out of 26 women) exceeding the national average of 39.5% for HPV vaccine completion by U.S. girls according to the CDC (2015).

**Implications and Conclusions:** Clinical reminders, specifically text message reminders, increased HPV vaccination rates for active duty military women in addition to patient education and provider recommendation. Long-term benefits will include a decrease in HPV infection rates, a decrease in HPV-related medical costs, and a decrease in the incidence of cervical cancer in this population.

---

**Funding:** Jonas Military-Veteran Scholarship Grant, Jonas Nurse Scholars, NURSS5050, School of Nursing, Student Aid, 00, S5050.

# MILITARY HEALTH

## Compassion Fatigue among U.S. Military RN's Post Overseas Deployment

*Dawn M. Goldstein, MSN, PMHNP-BC, CCM*
*Psychiatric Nurse Practitioner*
*University of Arizona, College of Nursing*
*Tucson, AZ*

*Kate G. Sheppard, PhD, RN, FNP, PMHNP-BC, FAANP*
*Clinical Associate Professor, PMHNP Specialty Coordinator*
*Community and Systems Health Science Division*
*University of Arizona, College of Nursing*
*Tucson, AZ*

**Purpose:** Describe the meaning of compassion fatigue (CF), as experienced by the U.S. military registered nurse (RN) post-deployment from Iraq and Afghanistan.
**Background:** CF is characterized by deep emotional and physical exhaustion, resembling depression and posttraumatic stress disorder (PTSD). It often causes a shift in confidence and clouds the perception of nursing. Symptoms include difficulty concentrating, intrusive imagery, and loss of hope, exhaustion, and irritability, leading to profound alterations in one's view of the world, patients, family and friends. Outcomes include becoming cynical at work; making clinical errors, violating patient boundaries, all of which contribute to a toxic work environment, and nurses leaving the profession.
**Method:** Hermeneutic phenomenological methodology facilitated a description of CF in the words and meaning expressed by U.S. military RNs. The sample was obtained through the snowball method by key informants. Data was collected through interviews and observations with each active duty, reserve or active guard/reserve RN (N = 8). Each participant was interviewed three times. Participants were initially asked to describe their military and nursing background, and to describe their experiences of CF through an informal interview or dialogue. Analysis was ongoing during the interview process by continual questioning, reflecting, and validating, which allowed for understanding through engagement of text (i.e., dialogue and transcriptions). Journaling and self-reflection assisted with trustworthiness.
**Results:** Participants shared many experiences, and while some had unique experiences, their feelings and perceptions resonated with other participants. Many participants initially denied that their experiences or feelings may have reflected CF; only during their second or even third interview did they identify with CF. Various symptoms of stress during deployment were described including burnout, serious heartbreak, tolerating lower standards, feeling less kind to people, risk-taking behaviors, anger, frustration, mentally exhausted, inappropriate humor, feeling defeated and that nothing mattered. Some additional CF symptoms emerged post-deployment including loss of joy, insomnia, inability to shut down, longer time to reset, irritability, distancing, feeling loss of empathy, loss of compassion, and giving up on nursing. A number of shared perceptions emerged, often centered around making a difference. Examples included treating a severely burned child, or comforting Soldiers as they die. Additional themes included self-identified resilience through family or faith, and self-protection (a need to drive on, move on, send it to voice mail, develop a sense of normal, and make peace).
**Implications:** While CF among military nurses has many similarities with CF in the general nursing population, the practice environment seems to create additional triggers and manifestations of CF. This study provides an understanding of the progression of CF in this population. Implementing interventions before and after trauma exposure can preserve the care in our military caregivers.

## Military Women's Health Research:A Systematic Review of the Literature from 2000-2010

*Lori L. Trego, PhD, CNM, Colonel (Retired)*, U.S. Army Nurse Corps, Denver, CO*
*Jacqueline Rychnovsky, PhD, PNP, Captain, Nurse Corps, U.S. Navy,*
*Naval Medical Research Center, Silver Spring, MD*
*Candy Wilson, PhD, WHNP, Lt Colonel, U.S. Air Force Nurse Corps,*
*779 MDG JB-Andrews, JB-Andrews, MD*
*Nancy Steele, PhD, WHNP, Lt Colonel (retired), U.S. Army Nurse Corps,*
*University of South Florida*
*Megan Foradori, RN, MSN, TriService Nursing Research Program,*
*Research Agenda Coordinator, Pittsburgh, PA*

**Purposes/Aims:** The purpose of this systematic review was to compile peer-reviewed research publications on military women's health to provide a resource that will guide decision-making in care and policies regarding Servicewomen. Identified gaps in research will guide future research priorities for military women's health.

**Rationale/Conceptual Basis/Background:** Women comprise 15% of the active duty military population and have made up 10% of the deployed forces in recent conflicts. The roles are expanding for women, and as they are now eligible for the same combat assignments as men, women will find themselves in the most austere of environments and physically challenging conditions. As the Department of Defense (DoD) embarks on the full gender integration of women in the Armed Forces, military health care professionals and leaders need an evidence-based understanding of women's health issues in order to ensure the well-being of women. This systematic review provides the foundation for a public database that will streamline findings from research conducted on Servicewomen, allowing evidence-based decisions in care and policy.

**Methods:** The literature was limited to peer reviewed research publications on women serving in the military forces at the time of the study. The literature was selected and evaluated by a four-level process of screening and consensus among Subject Matter Experts from the DoD, the Department of Veterans Affairs, and academic institutions. A structured Hierarchy of Evidence was used to grade the strength of the literature, and a defined system for evaluating the quality of the research was employed. Military Healthcare System utilization data were gathered and compared to the body of literature. A gap analysis was conducted and recommendations for future research are provided.

**Results:** Three hundred and eighteen articles were selected for inclusion and were categorized into eight topics: readiness/health protection/ illness prevention, gynecological health, psychological health, deployment health, environmental and occupational exposures, obstetrics/postpartum/fertility, chronic disease, and interpersonal violence/sexual trauma. The majority of the literature on military women's health research is related to readiness and health promotion, followed by psychological health, and gynecologic health. The majority of readiness research occurs in the training environment/with recruits, with the aim of recruiting and retaining a healthy force. The main body of knowledge is drawn from single descriptive studies, a relatively weak level of scientific evidence in terms of reliability, yet the quality rating of three quarters of the literature was determined to be of good quality.

**Implications:** This review represents a decade of transition from peacetime to wartime and expansion of women's roles in the military. Yet, Warfighter research fails to investigate sex differences in combat related outcomes. Furthermore, topics relevant to maintaining level of readiness among "seasoned" military women are needed. There is a weak overall level of reliable evidence for majority of topics; future research should include cohort studies to describe incidence and analyze predictors of common illnesses, as well as meta-analyses of existing evidence.

*As of November 1, 2015.

---

**Funding:** Research reported in this abstract was supported by the TriService Nursing Research Program (TSNRP) of the Uniformed Services University of the Health Sciences (USUHS) under award number TSNRP N15-010, and with the technical support of Naval Health Research Center, San Diego, CA.

# MILITARY HEALTH

## An RCT of Nurse Coaching vs. Herbal CAM for Soldier Weight Reduction

*Mary S. McCarthy, PhD, RN, CNSC*
*Nurse Scientist*
*Center for Nursing Science & Clinical Inquiry*
*Madigan Army Medical Center*
*Tacoma, WA*

*Evelyn B. Elshaw, MS, RD*
*Project Director*
*The Geneva Foundation*
*Tacoma, WA*

*Barbara M. Szekely, BSN, RN*
*Research Nurse II*
*The Geneva Foundation*
*Tacoma, WA*

**Purpose:** The purpose of the study was to test a nurse coaching intervention and an herbal supplement for Service Member weight reduction over a 12-week period to evaluate if either approach works best alone, or if a synergistic effect exists.

**Background:** Operational demands on Service Members (SM) in both peacetime and combat environments require the highest levels of nutritional status and physical health. The number of overweight and obese SM has tripled since the beginning of Overseas Contingency Operations. The overwhelming evidence for links between obesity and increased risk for conditions including Type II diabetes, cardiovascular disease, hypertension, and certain cancers, poses a real threat to the strength of our fighting force of the future.

**Methods:** We recruited overweight SM, 18-57 years old, from a clinic-run Army weight management program, and accepted self-referrals in jeopardy of not meeting current body composition standards. Concealed randomization assigned SM to one of 4 groups. Group 5 was 100 self-referred SM who attended 12 weeks of dietitian-led lifestyle education. The primary outcome was weight loss, and secondary outcomes were % body fat (BF), waist circumference (WC), fasting blood sugar (FBS), lipid and vitamin D metabolism, bone mineral density (BMD), adherence, and motivation. Outcome measures were obtained at 3 time points. The NHC contacted SM weekly via phone/email. Adherence was measured as classes attended and return for measures and blood draws. The Self-Motivation Inventory was administered at 3 time points. Change scores were compared across study groups using general linear models, adjusted for covariates imbalanced at baseline.

**Results:** Sample demographics (N=435): mean age 30 ± 8.2 yrs, 73.4% male, predominantly white (70.1%) and non-Hispanic (80%), 71% were married and 44% married with children, 91% were enlisted, and 61% reported a history of being overweight. Vitamin D levels were insufficient (<30 ng/mL) or deficient (<20 ng/mL) in 82% of this population. Attrition rate was highest from Week 6 to 12 at 40%. Participants under 28 years old and assigned to the supplement group were more likely to drop out during this time. Other results: 1) When comparing the 3 NHC groups to the CG group only, from baseline to follow up (Week 6 +12), beneficial intervention effects were observed for heel BMD (d=0.3), vitamin D levels (d=0.43), and FBS (d=-0.4); 2) For the supplement group, there were no significant differences from baseline to follow up on any outcome, 3**)** After adjusting for differences in baseline characteristics, there were no significant differences in change from baseline to follow up on any outcome between the CG and the self-referred group.

**Implications:** The primary outcome of weight loss proved difficult for all groups; similar motivation scores and % adherence were recorded, excluding the CG. Results are likely impacted by the high attrition; it is possible younger SM had less control over their schedule and less Unit support forcing them to drop out. The education provided to this group of mostly young adults about good health behaviors may diminish chronic disease risk and the related socioeconomic burden.

**Disclaimer:** The views expressed in the presentation are those of the authors and do not reflect the official policy of the Department of the Army, the Department of Defense or the U.S. Government.

---

**Funding:** Provided by the TriService Nursing Research Program #HT9404-12-1-TS03 (N12-007).

# Abstracts of Podium Presentations

# PATIENT SAFETY

## EVALUATION OF HOSPITAL NURSE FATIGUE AND SAFETY PRACTICES

*Diane Drake, Linsey Steege*

---

## THE EFFECT OF PATIENT SAFETY EDUCATION ON NURSING STUDENTS' KNOWLEDGE OF PATIENT SAFETY

*Katreena Collette Merrill, Braidee Adams, Kevin McEwan, Karen Whitt, Brady Shepherd, Brianna Sanderson*

---

## PARTNERSHIPS TO PREVENT NON-VENTILATOR PNEUMONIA

*Dian Baker, Barbara Quinn*

---

## PARENTS' PERSPECTIVES ON NAVIGATING THE WORK OF SPEAKING UP IN THE NICU

*Audrey Lyndon, Kirsten Wisner, Carrie Jacobsen, Linda Franck*

# PATIENT SAFETY

## Evaluation of Hospital Nurse Fatigue and Safety Practices

*Diane Drake, PhD, RN*
*Nurse Research Scientist*
*Mission Hospital*
*Mission Viejo, CA*

*Linsey Steege, PhD*
*School of Nursing*
*University of Wisconsin*
*Madison, WI*

**Purpose:** The purposes of this study were to describe dimensions of hospital nurse fatigue and report differences in safety practices comparing three nurse fatigue profiles.

**Background:** The Hospital Nurse Force Theory published in 2012 in *Advances in Nursing Science* journal proposed a model to test the relationships between hospital nurse fatigue and patient harm. In 2014 the American Nurses Association updated a position statement to address nurse fatigue to promote safety and health emphasizing the shared roles and responsibilities of registered nurse and their employers to reduce risks from nurse fatigue. A 2012 presidential task force from the American College of Occupational and Environmental Medicine on fatigue risk management recognized the significant impact of fatigue for employees in 24/7 work settings. Nurse fatigue is multidimensional and has been measured by a variety of scales such as: the Chalder physical fatigue scale, Chalder mental fatigue scale, Occupational fatigue exhaustion recovery acute, chronic and inter-shift recovery fatigue scales. Hospital nurses are typically shift workers with significant fatigue risk. Identification of meaningful fatigue profiles can be used to evaluate related safety practices.

**Methods:** A secondary analysis of a hospital nurse fatigue survey was conducted using a cohort of patient-care nurses. Following Institutional Review Board approval, the 100-item online survey was emailed to approximately 1000 hospital nurses. Of the 420 responders, 340 nurses completed 90% the survey items and 227 identified as patient-care nurses. Latent profile analysis (LPA) was used to identify fatigue profiles for the patient-care nurse cohort based on five fatigue instruments. Mplus version 7.1 was used to conduct LPA and a range of information criteria such as AIC (Akaike's information criterion), BIC (Bayesian information criterion), and CAIC (consistent AIC) to determine the best fit for the number of model profiles. Competing models (k profiles vs. k-1 profiles) were also evaluated using the Lo-Mendell-Rubin likelihood ratio test and the Vuong-Lo-Mendell-Rubin likelihood ratio test. ANOVA was performed comparing fatigue with reported safety practices.

**Results:** Nurses were predominately female (93%), married (73%), and Caucasian (82%). The mean age of nurses was 46.41 (*SD* = 11.43) with a range of 25 -76 years of age. A model with three latent profiles emerged as the best fit. The three profiles were categorized as: high fatigue/low recovery (23% of sample), moderate fatigue and recovery (30%), and low fatigue/high recovery (47%). There were significant differences between fatigue profiles for half of the safety practice measures, including: supervisor expectations, overall perceptions of safety culture, teamwork across units, staffing, and handoffs and transitions. Nurses in the low fatigue/high recovery group had the highest safety practice ratings followed by those in the moderate fatigue/moderate recovery group and then those in the high fatigue/low recovery group.

**Implications:** The use of LPA identified important fatigue profiles that included measures of inter-shift recovery, acute, chronic, physical and mental fatigue dimensions to categorize nurse fatigue scores. Future comparison using longitudinal analysis of nurse fatigue will be critically important to monitor and evaluate strategies to monitor fatigue and safety practices.

## The Effect of Patient Safety Education on Nursing Students' Knowledge of Patient Safety

*Katreena Collette Merrill, RN, PhD, Assistant Professor*
*Braidee Adams, Student Nurse*
*Kevin McEwan, RN, MS, Assistant Teaching Professor*
*Karen Whitt, AGN-BC, RN, PhD, Assistant Professor*
*Brady Shepherd, Student Nurse*
*Brianna Sanderson, Student Nurse*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

**Purposes/Aims:** To assess undergraduate nursing students' perceptions of patient safety knowledge following implementation of patient safety month activities.

**Rationale/Conceptual Basis/Background:** In 2005, the quality and safety education for nurses (QSEN) initiative was formed to empower future nurses in the implementation of quality improvement and patient safety in healthcare. Over the past decade, efforts to implement QSEN principles have been made in most academic settings. However, many programs still struggle to find innovative patient safety strategies that foster application of patient safety principles into practice. The purpose of this research was to assess undergraduate nursing students' perceptions of patient safety education following implementation of month-long patient safety education and application to practice activities.

**Methods:** The researchers used a pre/post implementation survey design to measure perceptions of patient safety education of 347 undergraduate nursing students from one university. The *Health Professional Education in Patient Safety Survey (H-PEPSS),* a 37-item survey including nine subscales plus demographics was used to measure perceptions of patient safety education. Research assistants distributed a questionnaire to each student during regularly scheduled classes. Following the baseline questionnaire, students received weekly learning activities on the topics of overall patient safety, handwashing and immunizations. Activities were supplemented by 'share what you know' application exercises. For example, students distributed 'ask me 3' brochures to encourage patients to ask three questions to better understand their health. Another activity included posting of accurate immunization information on social media sites. Patient safety month culminated with a 5-hour conference where Sorrel King, a nationally known patient safety advocate, was the keynote speaker. Following the intervention, researchers distributed the same follow-up questionnaire using procedures described above.

**Results:** The baseline survey was completed by 261 students (response rate (RR) = 75.2%) with 214 follow-up surveys completed (RR = 61.7%). During patient safety month, students completed 575 activities and over 95% of students attended the conference. Overall patient safety scores and subscale scores were calculated by semester. Baseline 'overall safety' scores ranged from 3.4 – 4.1 (5-point scale). Students in their first of the nursing program scored significantly lower at baseline on 'overall safety' compared to 'overall safety' scores of students in their 5th and 6th semesters ($p<.05$). Follow-up 'overall safety' scores by semester ranged from 3.7-4.4 (5-point scale). A significant improvement in scores was identified in students in the 1st, 2nd, 5th and 6th semesters ($p<.05$). Students in the middle of their program (3rd and 4th semesters) did not show a significant improvement in their 'overall safety' knowledge scores. Results from the H-PEPSS subscales were also calculated. The mean baseline 'comfort in speaking up about patient safety' scores ranged from 2.8-3.3 with mean follow up scores ranging from 2.9-3.6. There was a significant increase in 'comfort in speaking up about patient safety' reported by students in the 2nd and 4th semesters.

**Implications:** Evaluating students' perceptions of patient safety education is an important aspect of improving patient safety curriculum. Innovative methods to teach and apply patient safety principles are essential to improving quality and safety in healthcare.

# PATIENT SAFETY

## Partnerships to Prevent Non-Ventilator Pneumonia

*Dian Baker, PhD, APRN*
*Professor of Nursing*
*California State University, Sacramento*
*Sacramento, CA*

*Barbara Quinn, MS, CNS, RN*
*Adult Clinical Nurse Specialist, Sutter Health*
*Sacramento, CA*

**Purpose:** Non-ventilator hospital acquired pneumonia (NV-HAP) is an understudied disease, with substantial fiscal impacts and potential for reduction of morbidity and mortality. Because it is not required by regulatory agencies, most hospitals do not monitor NV-HAP. We sought to utilize transdisciplinary partnerships to determine the incidence and implement a basic oral care protocol to reduce NV-HAP.

**Background:** The CDC's 2014 multi-state point prevalence study on hospital acquired infections indicated that NV-HAP (i.e., non-device related) is the leading cause of hospital-acquired infections. We mined the Healthcare Utilization Project data set and found a NV-HAP rate of 4.3% (284,601/6,567,271). In three hospital systems, we found unreported rates of 1.22–8.9 per 1,000 hospital days, mean excess stay of 14 days, and NV-HAP on all types of hospital units. Further analysis indicated than 50% of our NV-HAP occurred in post-surgical patients.

**Methods:** Our transdisciplinary team implemented a universal (i.e., every patient) new oral care protocol at a 600-bed community hospital. In addition, we partnered with perioperative nurses to implement a basic oral care protocol prior to surgery for every patient and added oral care to the standard perioperative check list. We used a descriptive, retrospective comparative study to determine changes in oral care delivery and prevalence of NV-HAP. The Influencer Model™ was used to manage the complexity of the multi-levels of intervention required.

**Results:** Implementation of a universal oral care protocol, both in the perioperative area and on the floors, resulted in an overall decrease of NV-HAP by 70%, with a 75% decrease in post-operative patients ($p<.0001$:OR = 0.51; 95% CI = 0.38, 0.70). The extra cost for new therapeutic oral care equipment was \$120,000. Cost savings resulting from 80 avoided NV-HAP cases was \$3.2 million. Thus, return on investment for the organization was \$3.08 million in avoided costs and an estimated 15 lives saved. Importantly we have sustained these positive outcomes over a three-year period of time.

**Implications:** This was a unique study as it utilized transdisciplinary partnerships across hospital service delivery lines to encompass both perioperative and floor nurses to address a serious threat to patient's health. The key to success was engagement of nursing leadership with feedback regularly shared with each unit including ambulatory care units. NV-HAP is one of the most common hospital-acquired infections and it occurs on every type of hospital unit. Nurses, using a team-based, transdisciplinary approach, can take the lead in their hospital system to monitor and implement effective NV-HAP prevention program.

---

Funding: This study was partial funded by an unrestricted grant by Sage Products, LLC.

# PATIENT SAFETY

## Parents' Perspectives on Navigating the Work of Speaking Up in the NICU

*Audrey Lyndon, PhD, RNC, FAAN*
*Associate Professor*
*Family Health Care Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Kirsten Wisner, MS, RNC, CNS*
*Doctoral Student*
*Family Health Care Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Carrie Jacobsen, PhD, CNM, RN*
*Assistant Professor*
*Reproductive Health*
*San Francisco State University*
*San Francisco, CA*

*Linda Franck, PhD, RN, FAAN*
*Professor and Chair*
*Family Health Care Nursing*
*University of California, San Francisco*
*San Francisco, CA*

**Purpose:** To describe neonatal intensive care unit (NICU) parents' perspectives on key factors influencing communication in the NICU, in order to identify barriers and facilitators of parents' ability to speak up about safety concerns.

**Background:** Infants in the NICU are especially vulnerable to injury from their medical care. Moreover, the medical errors and other iatrogenic events neonates suffer are often serious and carry permanent consequences. Parents are concerned about safety, and their role in decisions about their child's care in the NICU. Increasingly family members are asked to help maintain safety for themselves or their loved ones by speaking up about their concerns, for example by asking clinicians to wash their hands. However parents may experience substantial barriers to speaking up. Relatively few studies have been published exploring patients' or family members' perspectives on speaking up about safety concerns in inpatient settings.

**Methods:** Exploratory convergent parallel mixed-methods design using questionnaires, interviews, and observations with parents whose infants were hospitalized in an academic medical center NICU. The qualitative strand used constructivist grounded theory. Quantitative measures included parent stress, types of safety concerns, and ratings of likelihood of speaking up in response to lack of hand hygiene.

**Results:** 55 parents consented to participate, 46 of whom returned questionnaires. Of these participants, 14 parents were interviewed. Infants had a range of medical and surgical diagnoses, and parent stress levels were consistent with other studies of NICU parents. Most parents (75%) rated themselves likely or very likely to speak up in response to lack of hand hygiene; however 25% of parents rated themselves unlikely to speak up in the same situation. Parents engaged in a complex process of *navigating the work of speaking up* in the NICU. This process entailed *learning the NICU*, *being deliberate about decisions to speak up* because speaking up to clinicians was perceived as risky, and at times *choosing silence* as a safety strategy. These decisions were influenced by multiple factors including the severity of perceived threats to their infants' safety, the level of vulnerability of the infant(s), parents' own perceived competence to deal with the concern, and parents' assessment of other supports in the environment to manage the perceived safety threat. Parents identified having a defined pathway for voicing concerns, clinician availability and friendliness, and clinician responsiveness as a facilitators to speaking up. Some parents felt very uncomfortable engaging in any behaviors they perceived as potentially confrontational: even though they expressed belief that it would not occur, they worried about potential negative consequences of speaking up should a clinician become upset and "take it out" on their baby.

**Implications:** Effectively engaging parents as partners in care and encouraging them to share safety concerns will likely require more than directives to parents to speak up. Nurses need to recognize the complex social and personal dimensions of the NICU experience that influence parents' willingness to speak up about their concerns. Safety programs should include defined nursing strategies for welcoming and supporting parents as partners in safety.

---

**Funding:** This project was supported by the National Center for Advancing Translational Sciences, National Institutes of Health, through UCSF-CTSI Grant Number KL2TR000143 and by the Association of Women's Health, Obstetric, and Neonatal Nurses/March of Dimes Foundation Margaret Comerford Freda Research Grant. The study was also supported in part by a training grant (#T32 NR07088) from the National Institutes of Health, National Institute of Nursing Research. The contents of the publication are solely the responsibility of the authors and do not necessarily represent the official views of the NIH, AWHONN, or the March of Dimes.

# PHYSIOLOGIC MEASURES AND TECHNIQUES

## QUANTITATIVE EEG BIOMARKERS OF EARLY RESPONSE TO COGNITIVE BEHAVIORAL THERAPY

*Anthony McGuire, Belinda Chen, Aimee M. Hunter,*
*Andrew F. Leuchter, Lynn V. Doering*

## CYTOKINE POLYMORPHISMS ARE ASSOCIATED WITH DAYTIME NAPS IN ADULTS WITH HIV

*Eeeseung Byun, Caryl Gay, Carmen Portillo, Bradley Aouizerat, Kathryn A. Lee*

## OPTIMIZATION OF SALIVARY COLLECTION PROTOCOL FOR BIOMARKER RESEARCH

*Yvette Rodriguez, M. Danet Lapiz-Bluhm, Zaina Irion-Byrd*

## COMPARING ADHESION OVER FIVE DAYS BETWEEN THREE BRANDS OF ELASTIC THERAPEUTIC TAPE

*Topp, R., Genovese, J., Etnoyer-Slaski, J.L., Bishop, B., Page, P., Greenstein, J.*

# PHYSIOLOGIC MEASURES AND TECHNIQUES

## Quantitative EEG Biomarkers of Early Response to Cognitive Behavioral Therapy

*Anthony McGuire, PhD, ACNP-BC, FAHA*
*Assistant Professor*
*California State University*
*Long Beach, CA*

*Belinda Chen, MPH*
*Project Director*
*University of California*
*Los Angeles, CA*

*Aimee M. Hunter, PhD*
*Associate Professor*
*Semel Institute for Neuroscience*
*and Human Behavior at UCLA*
*Los Angeles, CA*

*Andrew F. Leuchter, MD*
*Professor*
*Semel Institute for Neuroscience*
*and Human Behavior at UCLA*
*Los Angeles, CA*

*Lynn V. Doering, PhD, FAAN, FAHA*
*Professor & Associate Dean*
*University of California*
*Los Angeles, CA*

**Purpose and Aims:** The purpose of this pilot study was to 1) test the feasibility of quantitative electroencephalogram (qEEG) measurement in individuals with at least moderate depressive symptoms who are receiving cognitive behavioral therapy (CBT), and 2) to explore the relationship of symptom change to changes in prefrontal qEEG measurements.

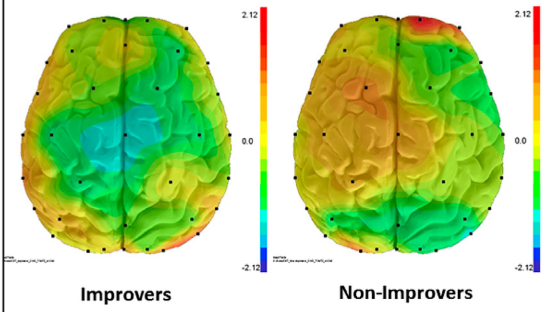
**Background:** Depressive symptoms are a common and treatable occurrence that affect up to 9% of the U.S. population at any given time. The World Health Organization considers depression to be the most important cause of disease burden in middle- to high-income countries, with work place-related costs estimated to range from \$30.1 billion to \$51.5 billion. Cognitive behavioral therapy (CBT), a leading psychotherapy for depressive symptoms, is as effective for moderate symptoms as pharmacologic treatments. To date, there is no method to assess how likely individuals are to respond to psychotherapy treatments. Thus, individuals with depressive symptoms are not able to make informed decisions regarding treatment options.

**Methods:** This pilot study used a repeated measures design. Eligible patients were enrolled in 8 weeks of CBT. Participants completed measurements (Beck Depression Inventory [BDI] for depressive symptoms, qEEG testing) at baseline after Week 2 of therapy. For qEEG, prefrontal measures were averaged across three prefrontal electrodes (Fp1, Fp2, Fpz). Correlations of change in BDI scores to changes in qEEG measures of absolute power, relative power, and cordance in four classical EEG frequency bands: (Delta, 0.5-4 Hz; Theta, 4-8 Hz; Alpha 8-12 Hz; Beta, 12-20 Hz) were evaluated.

**Results:** Larger increases in alpha cordance tended to be associated with smaller change (i.e. less improvement or worsening) of depressive symptoms ($r = .707$, $p = .181$). Decreases in theta cordance tended to be associated with greater improvement in symptoms (i.e. lower BDI scores) ($r = .667$, $p = .218$) Changes in theta cordance in improvers (LEFT) vs. non-improvers (RIGHT) is displayed in the Figure.

**Implications:** A possible relationship between early decrease in prefrontal theta cordance and early clinical response to CBT is compelling because there is an established link between this marker and clinical response to antidepressants. These pilot data provide a basis for future studies to evaluate the use of qEEG in clinical decision-making for treatment of depressive symptoms. This approach holds promise to offer individualized treatment options for this high risk population.

**FIGURE. Comparison of Prefrontal Activity in CBT Improvers vs. Non-Improvers**



# PHYSIOLOGIC MEASURES AND TECHNIQUES

## Cytokine Polymorphisms Are Associated with Daytime Naps in Adults with HIV

*Eeeseung Byun, RN, PhD*
*Post-Doctoral Fellow*
*Family Health Care Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Caryl Gay, PhD*
*Research Specialist*
*Family Health Care Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Carmen Portillo, RN, PhD, FAAN*
*Professor & Chairperson*
*Community Health Systems*
*University of California, San Francisco*
*San Francisco, CA*

*Bradley Aouizerat, MAS, PhD*
*Professor*
*Bluestone Center for Clinical Research*
*New York University*
*New York, NY*

*Kathryn A. Lee, RN, PhD, FAAN, CBSM*
*Professor*
*Family Health Care Nursing*
*University of California, San Francisco*
*San Francisco, CA*

**Introduction:** Daytime napping of 1 hour per day or more has been associated with increased risk for cardiovascular disease and all-cause mortality. Long daytime sleep episodes can be a major limitation to daily function or adherence to antiretroviral therapy in persons with HIV. Inflammatory and cytokine activity play an important role in sleep disturbance in chronic illness. Associations between cytokine polymorphisms and daytime naps in chronic illness, however, are not well described.

**Purpose:** The purpose of this study was to examine associations of cytokine polymorphisms with daytime naps in adults with HIV.

**Methods:** A cross-sectional analysis was conducted using a convenience sample of 257 adults (172 men, 63 women, and 22 transgender) living with HIV recruited from HIV clinics and community sites in the San Francisco Bay Area. Daytime sleep was assessed using wrist actigraphy data, categorized as either < 60 minutes or ≥ 60 minutes. Fifteen candidate genes involved in cytokine signaling were analyzed: interferon-gamma (IFNG), IFNG receptor 1, interleukins (IL1B, IL1R, IL1R2, IL2, IL4, IL6, IL8, IL10, IL13, and IL17A), nuclear factors of kappa light polypeptide gene enhancer in B cells (NFKB1 and NFKB2) and tumor necrosis factor alpha. A combination of tagging single nucleotide polymorphisms (SNPs) and literature driven SNPs (i.e., SNPs reported as being associated with altered function) were selected for analysis. Multivariate logistic regression was used. Given evidence that sleep phenotypes differ by ancestry, all regression models controlled for genomic estimates of ancestry as well as self-reported race/ethnicity. In addition, all demographic and clinical variables associated with daytime naps ($p < .10$) were evaluated as potential covariates. Covariates were retained if their significance was $p < .05$ prior to including genotype in the model.

**Results:** About one third of the participants napped for 60 minutes or more during the day. After adjusting for genomic estimates of ancestry, self-reported race/ethnicity, years since HIV diagnosis, and opiate-medication use, long daytime naps were associated with 14 polymorphisms from 8 genes (IFNG rs2069728; IL1B rs1143642, rs1143630, rs1143629, rs1143627, and rs16944; IL2 rs2069763; IL4 rs2243263; IL6 rs4719714 and rs2069845; IL17A rs3819024; NFKB1 rs4648068 and rs4648110; and NFKB2 rs1056890).

**Conclusions:** Cytokine genetic variations may have a role in physiological regulation of daytime sleep as well as nocturnal sleep. Cytokine polymorphisms associated with daytime naps in our study may help identify adults with HIV who may benefit from targeted therapeutic interventions. Our findings also suggested possible areas of intervention for adults with HIV to reduce the duration of their daytime napping and potentially improve adherence to medical treatment. Further research is needed to determine whether assessing and treating the inflammatory response using a more targeted approach helps to reduce daytime nap duration in adults with HIV.

---

**Funding:** This research was supported by a grant from the National Institutes of Health/National Institute of Mental Health (NIMH, 5R01MH074358). Data collection was supported by the General Clinical Research Center in the UCSF CTSA (1 UL RR024131). The authors gratefully acknowledge the post-doctoral funding for Eeeseung Byun by the National Institutes of Health/National Institute of Nursing Research (T32 NR007088).

# PHYSIOLOGIC MEASURES AND TECHNIQUES

## Optimization of Salivary Collection Protocol for Biomarker Research

*Yvette Rodriguez, BS*
*Student Nurse*
*School of Nursing*
*UT Health Science Center San Antonio*
*San Antonio, TX*

*M. Danet Lapiz-Bluhm, PhD, RN*
*Assistant Professor*
*Family and Community Health Systems*
*UT Health Science Center San Antonio*
*San Antonio, TX*

*Zaina Irion-Byrd*
*Undergraduate Student*
*Department of Biology*
*University of Texas at San Antonio*
*San Antonio, TX*

**Purposes/Aims:** This study aimed to compare three saliva collection methods (i.e., passive drool, swab and pool-swab) for reliability of volume collected and participants' perception of ease of collection and acceptability. To date, there has been no such systematic comparison of these saliva collection methods. Results from this comparison may inform the selection of the appropriate collection method for future research.

**Rationale/Conceptual Basis/Background:** Saliva has been increasingly used as a biospecimen in nursing and health-related research as it is cheaper, less time consuming, and is associated with decreased stress confound during sample collection compared to blood. However, there is no gold standard for salivary collection methods. Common saliva collection methods include the passive drool and swab methods. The passive drool offers researchers visual assurance that enough sample volume has been collected. The swab method is a more discrete method of collection, but saliva sample volumes are not known until after the centrifuge process- which may result in missing data. This study introduced a new saliva collection method called the pool-swab method, which brings in the strengths of the two existing collection methods. It was hypothesized that the pool-swab method would have higher volume reliability than the swab method; and higher acceptability of collection than the passive drool method.

**Methods:** 31 healthy participants between the ages of 20-50 who were not using psychotropic medications completed demographics questionnaire, patient health questionnaire and collected saliva using all three methods between 10 and 11am from June 2015 to September 2015. The sequence of saliva collection for each participant was randomly assigned to eliminate possible order effect. Following saliva collection, the participants identified which method they would choose in terms of ease of collection, preference for future use and recommendation for others' use. Samples were stored at -80°C until analysis. Data was analyzed accordingly with significance set at $p<0.05$.

**Results:** Both passive drool and pool-swab methods had significantly higher saliva volume ($p<0.05$) than the swab method. Both pool-swab and swab methods were chosen more frequently ($p<0.05$) than passive drool in terms of ease of collection, own preference for future use and recommendation for others to use.

**Implications:** This study showed that the pool-swab method rated better compared to existing methods in terms of reliability, ease of collection and acceptability. These results have significant implications to nursing and other health-related biomarker research designed to improve diagnosis, interventions, patient outcomes and scientific understanding of disease processes.

---

Funding: This study was supported through an Executive Funding Supplement from the Office of Nursing Research, University of Texas Health Science Center. Dr. Lapiz-Bluhm is currently funded by the Robert Wood Johnson Foundation Nurse Faculty Scholars Program. Ms. Irion-Byrd's summer research experience was funded by the City of San Antonio's Ambassador Program.

# PHYSIOLOGIC MEASURES AND TECHNIQUES

## Comparing Adhesion over Five Days between Three Brands of Elastic Therapeutic Tape

*Topp, R., Genovese, J., Etnoyer-Slaski, J.L., Bishop, B., Page, P. & Greenstein, J.*

**Purposes/Aims:** The purpose of this study is to compare the rate of adhesion over five days of TheraBand™ Kinesiology Tape (TKT) with either KT Tape® (KT) or Kinesio® Tex Gold™ (KTEX) under 25% elongation among healthy adults.

**Rationale/Conceptual Basis/Background:** The application of elastic therapeutic tape (ETT) has emerged as a method for treating a variety of musculoskeletal conditions. A critical prerequisite to the efficacy of any brand of ETT is that it remain adhered to the skin during the prescribed treatment. Clinicians who administer ETT commonly target a single application for 3-5 days at 25% elongation. No studies have compared the rate of adhesion over five days of popular brands of ETT.

**Methods:** Two independent cohorts of 20 volunteers with no low back pain were randomly assigned to simultaneously receive applications of two brands of de-identified ETT. The first cohort received TKT and KTEX tape while the second cohort received TKT and KT tape. The trial lasted 5 days and involved two different 20cm strips of the assigned ETT being applied bilaterally at 25% elongation at the L5 level to the lateral erector spinae and 2 inches lateral to the spinous process. Data were collected at 1 hour (D1), 3 days (D3) and 5 days (D5) following the initial application of the ETT. Data collected included three digital photographs (left side, right side and straight on) of the subject's lower back where the ETTs were applied. These photographs were assessed independently by three evaluators who were blind to the brand of the tape and the day during the protocol when the pictures were obtained. After observing each group of three photographs the evaluators rated the percent of the tape that remained adhered (0-100).

**Results:** Based on the high degree of inter-rater reliability among the three evaluator's rating of the percentage of tape adhered at D3 and D5 ($\alpha = .97 - .99$) these ratings were averaged to arrive at a percentage of tape adhesion for each brand of tape at each data collection point. Descriptive statistics indicated no differences in age ($27.20 \pm 4.21$), BMI ($25.32 \pm 3.71$), gender (M=60%, F=40%) or racial distribution (Caucasian=45%, African-American=35%, Other=20%) between the two cohorts. Repeated measures ANOVA of cohort 1 indicated no differences ($p=.05$) in adhesion between the TKT and KTEX at any data collection point although post hoc analysis of the significant time effect indicated that the KTEX brand declined from D1 (97%) to D3 (74%) and to D5 (59%) while the TKT tape did not change in adhesion over the duration of the study (97%, 86%, 70%). Similar analysis with the second cohort indicated a significant interaction effect with the KT brand (99%, 67%, 35%) declining over the course of the study and exhibiting lower adhesion than the TKT (99%, 83%, 76%) brand at D3 and D5. Adhesion of the TKT tape did not decline in the second cohort.

**Implications:** The evidence supports health care providers recommending TheraBand™ Kinesiology Tape to their patients engaging in ETT therapy over a five day duration.

---

**Funding:** This study was funded by Performance Health.

# Abstracts of Podium Presentations

# POLICY AND PRACTICE

## HOW SCHOOL HEALTH ADMINISTRATORS BROKER, PARTNER, AND ADVOCATE FOR STUDENT HEALTH

*Samantha Blackburn*

---

## ADDRESSING NP LEGISLATIVE BARRIERS USING NORMALIZATION PROCESS THEORY

*Lindsay Bouchard Cais, Cameron Duncan*

---

## ADVANCING HEALTH EQUITY THROUGH STUDENT EMPOWERMENT & PROFESSIONAL SUCCESS: A STATE-WIDE APPROACH

*Joanne Noone, Peggy Wros, Rana Najjar, David Cortez, Leela Magdaleno*

---

## ADVANCING NURSE EDUCATOR CAREERS: DEVELOPING SCHOLARSHIP FROM PROGRAM GRANTS

*Linda Eddy, Renee Hoeksel, Cindy Fitzgerald*

---

## KEY CONSUMER PROVISIONS IN THE DUAL DEMONSTRATIONS: FINDINGS FROM A SURVEY OF ACAP PLANS

*Angelina Flores-Montoya, Marie L. Lobo, Carol Regan*

# POLICY AND PRACTICE

## How School Health Administrators Broker, Partner, and Advocate for Student Health

*Samantha Blackburn, RN, MSN, PhD Candidate*
*University of California, Davis Betty Irene Moore School of Nursing*
*Assistant Professor*
*School of Nursing*
*California State University, Sacramento*
*Sacramento, CA*

**Purpose:** To better understand how school health administrators (SHAs) conceive of their unique work roles, what skills they utilize to accomplish their jobs, and what strategies they employ to manage school health programs in California.

**Background:** SHAs manage K-12 school health programs, including school nursing, social work, counseling, and health education services. The Centers for Disease Control and Prevention recommends that school districts employ SHAs to coordinate health program planning, staffing, budgeting, and partnerships with community agencies, though there is limited literature on the skills and knowledge needed to manage school health programs. While most SHAs come from a nursing background, there is no training specific to SHAs offered by schools of nursing. With limited funds for school health programs in California, not all districts can afford to employ a SHA. Regardless, schools have become an essential health provider for students who require treatment during the day or have no other source of care. SHAs provide critical leadership for ensuring all students' health and safety.

**Methods:** Using both purposive and snowball sampling, participants with a variety of nursing, counseling, health education, and administrative backgrounds were recruited from across large, medium, and small school districts in California. A grounded theory approach informed in-depth semi-structured interviews with 20 SHAs, 5 of their supervisors, and 5 of their staff. Interview data was organized using NVivo, a computer-assisted qualitative data analysis software program. Data coding employed a selective approach (Utrecht School of phenomenology) to highlight statements key to understanding the work of SHAs. Data from interviews with SHAs, their staff and their supervisors, and document analysis were triangulated to check for coherence.

**Results:** Participating SHAs described an organizational and funding structure in which student health programs were marginalized. Most participants had no job description or worked under one inappropriate for their role. They described a district hierarchy in which they often did not have adequate authority to secure funding, enact policies, or employ and supervise staff to ensure student health and safety. SHAs navigated these challenges by: 1) brokering: carefully building relationships and political support from school administrators, including the superintendent and his/her decision-making "cabinet," school board members, and principals; 2) partnering: collaborating with community agencies to enhance school health program funding and resources; 3) advocating: coping with job frustrations by adopting a meaningful role as a special advocate to ensure the health and safety of all students, and particularly those experiencing extreme poverty, physical illness, and trauma.

**Implications:** SHAs' work not only demands competency in children's health, public education, staff supervision, and fiscal management, but also the ability to finesse relationships with school administrators and community partners to secure needed support. The lack of SHAs' financial resources and decision-making authority indicates the need for new policies that increase funding for school health programs and elevate SHAs into the decision-making level of school district hierarchies (e.g., superintendent's cabinet). Study findings should also inform the development of school health administrative credential programs offering specialized courses for school nurses transitioning into administrative leadership roles.

# POLICY AND PRACTICE

## Addressing NP Legislative Barriers Using Normalization Process Theory

*Lindsay Bouchard Cais, MS, RN*
*DNP Student*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

*Cameron Duncan, DNP, MS, RN, FNP-C, PMHNP-BC*
*Nurse Practitioner*
*Borrego Health*
*Cathedral City, CA*

**Purpose:** To propose strategies to overcome previously identified legislative barriers to nurse practitioner full practice authority using Normalization Process Theory (NPT).
**Description of Theory:** NPT is a middle-range theory used in previous research to analyze a wide variety of complex interventions with high stability across settings. NPT includes four main concepts: cognitive participation, coherence, collective action, and reflective monitoring. Relevant sub-concepts include communal specification, internalization, enrolment, legitimization, skill-set workability, relational integration, contextual integration, systematization, and reconfiguration. NPT is a beneficial tool to explain and guide implementation processes. This framework assists in evaluating how a complex intervention interacts with current patterns of service organization and professional practice, increasing understanding of the conditions in which changes can become accepted within clinical practice.
**Concept Analysis Process:** A previously published literature review and multi-participant case study identified eight barriers to full practice authority legislation for nurse practitioners: lack of a clear vision, lack of physician support, inability to address all stakeholders, lack of a strong coalition, lack of vital resources, nurse practitioner role recognition, community and regulatory organizations, and social media. Each of these barriers was examined using corresponding concepts and sub-concepts from NPT, and confirmed between two researchers to identify potential strategies to obtain full practice authority for nurse practitioners.
**Logic Linking the Theory to Nursing Practice Problem:** Overcoming legislative barriers to achieving full practice authority for nurse practitioners can be viewed as a complex intervention within healthcare systems. These barriers include social, group, and organizational issues, which are the focus of the constructs within NPT. These constructs encourage stakeholders to focus on issues related to the work required for implementation and the need to actively engage other important actors. Therefore, potential strategies to overcome legislative barriers to full practice authority can be identified using the NPT framework.
**Conclusions:** NPT has been useful in developing, implementing, and evaluating complex interventions in a wide variety of healthcare settings. Specific strategies rooted in NPT constructs were generated to address each previously identified legislative barrier to nurse practitioner full practice authority. These strategies incorporate social, group, and organizational actions in order to overcome these obstacles, achieve greater nurse practitioner autonomy, and increase the quality and access to health care in the U.S.

# POLICY AND PRACTICE

## Advancing Health Equity through Student Empowerment & Professional Success: A State-wide Approach

*Joanne Noone, PhD, RN, CNE, Associate Professor*
*Peggy Wros, PhD, RN, Senior Associate Dean for Student Affairs & Diversity*
*Rana Najjar, PhD, RN, CPNP, Assistant Professor*
*David Cortez, M Ed, Diversity Coordinator*
*Leela Magdaleno, MS, Diversity Coordinator*
*School of Nursing*
*Oregon Health & Science University*

**Aims:** 1) To improve health equity by increasing diversity in the nursing workforce 2) To enroll, empower, and graduate nursing students from disadvantage backgrounds.
**Background:** Nursing leaders at all levels are calling for a diverse nursing workforce able to provide culturally competent care and contribute to resolution of health inequities. The Institute of Medicine's recent *Future of Nursing Report* recommended recruitment and advancement of diverse nursing students to create a workforce prepared to meet the demands of diverse populations across the lifespan. While minority nurses are increasing in the nursing workforce, the minority distribution of nurses in the United States is not representative of the working, especially for nurses of Hispanic or Latino background. The *Advancing Health Equity through Student Empowerment & Professional Success* (HealthE STEPS) program addresses social determinants of health to enroll, empower, and graduate nursing students from disadvantaged backgrounds, including underrepresented ethnic and racial minority populations, and in particular Hispanics, to improve health equity within their communities through professional nursing practice.
**Methods:** A comprehensive plan of evidence-based strategies designed to improve nursing workforce diversity and focuses on the factors contributing to student success: 1) educational opportunity; 2) economic stability; 3) socioeconomic opportunity; and 4) social inclusion;. Strategies address academic socialization, learning support, financial resources, community and professional networking, curriculum development, and campus culture. Bilingual diversity coordinators provide case management for participants in pre-nursing, community college and undergraduate nursing, and RN-BS completion programs by partnering with students to address identified academic and social barriers. Students participate in clinical learning experiences in medically underserved communities to promote nursing careers with underserved populations.
**Results:** Data collected since implementation of the HealthE STEPS program has shown improvement in several different areas for the SON, university campus sites, and trainees. The overall percentage of disadvantaged students enrolled in our undergraduate baccalaureate programs increased from 11% in the first year to 14% in the second year of the program. The percentage of disadvantaged pre-nursing students enrolled in the two university campus sites was 38% at baseline (before initiation of HealthE STEPS), 53% after year one, and 51% at year two. The percentage of disadvantaged pre-nursing students who were accepted into the nursing program at the two university campus sites nursing programs increased from 5% at baseline to 26% in year one and 32% in year two. Overall retention of the HealthE STEPS students was 98% in year one and 96% in the second year of the program. First time NCLEX pass rates for HealthE STEPS trainees after the first year of the program was 86%, which was above the national average pass rates for 2014 of 79% of first time test takers.
**Conclusion:** HealthE STEPS is a comprehensive, individualized approach to nursing education, grounded in the social determinants of health, which focus interventions on key barriers to recruitment and retention. Future plans include expansion of HealthE STEPS to additional undergraduate and community college programs on frontier campuses, and collaboration with local Native American tribes.

---

**Funding:** Health Resources and Services Administration Nursing Workforce Diversity Program Grant Number D19HP25901.

# POLICY AND PRACTICE

## Advancing Nurse Educator Careers: Developing Scholarship from Program Grants

*Linda Eddy, PhD, ARNP*
*Associate Professor and Academic Director*
*College of Nursing*
*Washington State University*
*Vancouver, WA*

*Renee Hoeksel, PhD, RN*
*Professor*
*College of Nursing*
*Washington State University*
*Vancouver, WA*

*Cindy Fitzgerald, PhD, RN, ARNP*
*Associate Professor and Associate Dean*
*College of Nursing*
*Washington State University*
*Vancouver, WA*

**Purpose:** The purpose of this paper is to describe a promising practice in advancing careers of academic nurse educators: demonstrating scholarly productivity from project grants. Nurse educators, especially at the associate and full professor ranks, are often involved in leadership activities that include writing and managing program grants, which might be less likely than research grants to advance their careers. We encourage the academy to value and support the development of clinical and educational project grants that include significant scholarly components, and we offer exemplars of associate and full professor scholarship derived from these projects.

**Background:** Scholarly productivity is often narrowly defined, especially in research intensive institutions. In previous work, the authors suggested more creative and responsive models of scholarship that demonstrated rigor in applied fields. However, in addition to scholarship outside the academic mainstream, associate and full professors in nursing have generally attained advanced expertise in their fields and are often called on as leaders. These leadership activities are more likely to benefit the institution than the individual leader/scholar. One way forward involves developing a mid-career scholarship trajectory based more on program and project grants than on individual research grants. This benefits both the institution and the scholar.

**Approach:** In dialogue format, three academic leaders (a full professor and two associate professors) from a College of Nursing at a research intensive, public university share their post-tenure scholarly trajectories based on program grants. Award types include Fulbright Senior Scholar, Health Resource Service Administration (HRSA), Department of Social & Health Services (DSHS), Academic Progression in Nursing (APIN), and a number of regional and community foundations.

**Outcomes:** Education of non-nursing academic leaders about the Scholarship of Application, intentional immersion of research outcomes into program proposals, and "telling the story" of how program grants resulted in knowledge production were key in setting the stage for successful academic progression. Numerous presentations, publications, invited keynotes, and consultations resulted from the programs, but more important were lasting interdisciplinary, inter-institutional, and international partnerships that improved the quality of nursing education.

**Conclusions:** Creativity in developing scholarly trajectories that are closely tied to daily leadership activities of senior nursing faculty can facilitate progression through academic ranks and decrease disconnects between academic missions. This can be a win-win situation for the institution and the scholar/leader whose time for scholarship is eroded by the operational demands of their administrative responsibilities. Further investigation is needed to identify other factors that contribute to stalled careers for mid-career nursing leaders.

# POLICY AND PRACTICE

## Key Consumer Provisions in the Dual Demonstrations: Findings from a Survey of ACAP Plans

*Angelina Flores-Montoya, MSN, RN*
*PhD Student*
*College of Nursing*
*University of New Mexico*
*Albuquerque, NM*

*Marie L. Lobo, PhD, RN, FAAN*
*Mentor*
*College of Nursing*
*University of New Mexico*
*Albuquerque, NM*

*Carol Regan, MPH*
*Senior Policy Analyst*
*Community Catalyst*
*Washington, DC*

**Purpose/Aims:** This study provides an early look at the experiences from not-for-profit health plans participating in the Centers for Medicare and Medicaid (CMS) Financial Alignment Demonstration. The purpose is to explore challenges and best practices in participating health plans in consumer provision areas of: care coordination, consumer-directed care, and consumer advisory committees. Finally, implications and policy recommendations are presented based on the findings.

**Rationale/Background:** The nine million beneficiaries dually eligible for Medicare and Medicaid are the most vulnerable and costly population, with 20% of this group accounting for more than 60% of combined Medicare-Medicaid spending. Based on Affordable Care Act provisions, CMS is testing capitated and fee-for-service models to financially align and better coordinate benefits and services for this population. Currently, 13 states are selected to coordinate care for 400,000 dual beneficiaries under the CMS demonstration. The Association for Community Affiliated Plans (ACAP) has 15 plans in seven states participating in the demonstration. Previous findings of this CMS demonstration have yet to focus on key consumer provisions: care coordination, consumer-directed care, and consumer advisory committees.

**Methods:** This study applied a mixed methods approach by collecting online survey data and conducting interviews with identified ACAP plan employees. Health plans selected one person to complete the Survey Monkey© questionnaire. Nine telephone interviews were conducted with a range of two to six health plan employees on the call from July to August, 2015. Sample: Nine participating ACAP plans in six states serving 100,000 dual eligible enrollees were recruited for this study.

**Results:** All plans identified challenges in poor engagement from physicians in interdisciplinary care teams. Primarily, care coordinators are registered nurses (RN) and nurse practitioners (NP), especially for those with medically complex needs. Consumer-directed care is not a widely used option for dual enrollees and is more common for members under 65 years. Consumer advisory committees are diverse in membership including: vendors, care coordinators, state ombudsman, quality and board members. Committees give members a voice in their care at the individual and system level.

**Implications:** Limited physician participation and greater NP involvement creates opportunity to expand NP primary care services in care coordination for dual beneficiaries. As RNs and NPs are primary care coordinators for medically complex enrollees, attention to education requirements and training for this role must be explored. Finally, policy considerations include reimbursement from CMS and plans to include NPs as a primary care provider to meet the demonstration's interdisciplinary care team guidelines.

## Abstracts of Podium Presentations

---

# ROLES OF THE REGISTERED NURSE

---

### VALIDATING A MODEL FOR CLINICAL NURSE LEADER INTEGRATED CARE DELIVERY

*Miriam Bender, Marjory Williams, Wei Su, Lisle Hites*

---

### MORAL DISTRESS AND COMPASSION FATIGUE AMONG HOSPITAL BASED NURSES

*Darcy Copeland, Melissa Henry*

---

### SCHOOL NURSES' INVOLVEMENT IN TEXAS ALTERNATIVE SCHOOLS

*Karen E. Johnson, Mohit Goyal, Marian Morris, Lynn Rew*

---

### NATIONAL SURVEY ON THE REQUIRED CULMINATING PROJECT OF DNP PROGRAMS

*Ellen Beth Daroszewski, Mary DeNicola*

## Validating a Model for Clinical Nurse Leader Integrated Care Delivery

*Miriam Bender, PhD, RN*
*Assistant Professor*
*Program in Nursing Science*
*University of California, Irvine*
*Irvine, CA*

*Marjory Williams, PhD, RN*
*Associate Chief*
*Nursing Research & Education*
*Central Texas Veterans Health Care System*
*Temple, TX*

*Wei Su, PhD*
*Program Manager*
*School of Public Health*
*University of Alabama at Birmingham*
*Birmingham, AL*

*Lisle Hites, PhD*
*Director of Evaluation*
*Center for Clinical and Translational Science*
*University of Alabama at Birmingham*
*Birmingham, AL*

**Purpose:** The purpose of this study was to develop and empirically validate a conceptual model for clinical nurse leader integrated care delivery as a basis for testing in practice.

**Background:** Numerous policy bodies have determined redesigning nursing care delivery is essential for improving care quality and safety. However, the science of care delivery is in its infancy, and evidence to guide effective care delivery is limited. This critical gap in nursing knowledge presents an urgent need to build an evidence base for care delivery models with the potential to consistently achieve care quality and improved patient outcomes. Many health systems have addressed this evidence gap by actively developing their own nursing care delivery innovations in response to economic and policy mandates for improved quality and safety. Clinical nurse leader (CNL) integrated care delivery is one example of a promising nursing-led innovation. The CNL is a Master's prepared registered nurse educated to apply advanced competencies in clinical leadership, clinical outcomes management, and care environment management to change multi-disciplinary practice dynamics and improve care quality and safety. CNL practice has a promising track record of success, but, as with most care delivery innovations, lacks a reliable theoretical and empirical knowledge base.

**Methods:** A sequential mixed methods design was used. A preliminary CNL practice model was developed via grounded theory analysis of the existing CNL literature. The model was then refined and survey items corresponding to model domains and components developed via a Delphi consensus process with a multi-professional CNL expert panel. The survey was pretested, then administered to a national sample of certified CNLs and leaders, managers, and clinicians involved in a CNL initiative. Confirmatory factor analysis and structural equation modeling were used to validate the measurement and model structure.

**Results:** Final sample was 518. The final model had good fit: $\chi^2(62)=173.54$, p=.000 (ratio $\chi^2/df=2.8$); Comparative Fit Index=0.92; Tucker Lewis Index=0.90; Root Mean Square Error Of Approximation=0.06 (90% CI: 0.05-0.07); and Standardized Root Mean Square Residual=0.07. All hypothesized pathways were significant, with strong coefficients suggesting good fit between theorized and observed domain relationships.

**Conclusions:** This study produced an empirically validated conceptual model of CNL practice that links structuring, practices and outcomes into a causal pathway and begins to explain CNL mechanisms of action. The validated model and corresponding survey provide a basis for implementation and effectiveness research measuring and comparing CNL structuring and practice across care settings, and more rigorously linking CNL practice to care quality and safety outcomes.

**Implications:** Nurses comprise the largest sector of the healthcare workforce and are in a vital position to shape clinical settings into spaces where the multi-professional healthcare team work together to deliver high quality patient care. Health systems are actively seeking evidence-based approaches to organizing nursing care delivery to achieve cost effective and consistent positive patient outcomes. The validated CNL practice model provides the foundation to produce a reliable evidence base for a nursing-led care delivery model that can be deployed across the care spectrum to achieve consistent high quality care and patient outcomes.

---

**Funding:** This study was funded by the Commission on Nurse Certification (award #AACN-201805), Washington DC and the University of California's Center for Organizational Research (award #COR-2015). This work was completed with support from the Veterans Health Administration. The views are those of the authors and do not necessarily represent the views of the Department of Veterans Affairs. The authors have no other disclosures.

# ROLES OF THE REGISTERED NURSE

## Moral Distress and Compassion Fatigue among Hospital Based Nurses

*Darcy Copeland, RN, PhD*
*Assistant Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

*Melissa Henry, RN, PhD*
*Associate Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

**Background:** Moral distress was originally described in the 1980's as a complex situation in which a nurse develops an ethical or moral judgment about patient care, but is unable to act or voice concern on that judgment (Jameton, 2013). The dissonance that can develop from repeatedly experiencing these situations can have significant impact on the way a nurse feels about their job, their colleagues, and their patients. However, little is really known about nurses' experience of moral distress or how it relates to other job-related concepts such as burnout and compassion fatigue. Development of these negative job-related factors can lead to poor patient care and outcomes, and thus understanding these complex conceptual relationships is crucial.

**Purpose:** The purpose of this study was to examine relationships between compassion fatigue, burnout and moral distress among hospital based nurses in all roles.

**Method:** A cross-sectional design was used to survey nurses at all levels working in three suburban hospitals, including a Level 1 Shock Trauma Center. The survey included demographic questions, the Professional Quality of Life v. 5 survey (Stamm, 2010), which includes subscales of compassion satisfaction and burnout, and the Moral Distress Scale – Revised (Hamric, Borchers, & Epstein, 2012).

**Results:** Nurses who participated in this study (N = 413) were predominately female (n = 371), BSN prepared (n = 283), staff RNs (n = 298) who worked in the ED (n = 56), ICU (n = 73), or med/surg units (n = 92), although many other departments and nursing roles were represented. The mean age of participants was 42.3 ± 11.6 years and the average length of time within their role was 4.9 ± 6.0 years.

Nurses in this study demonstrated an overall low to moderate level of moral distress ($M = 49.9 \pm 37.9$; range 0-169). Moral distress was moderately correlated with burnout ($r = .408, p < .001$) and inversely correlated with compassion satisfaction ($r = -.262, p < .001$). Moral distress was significantly different by role ($F = 2.6, p = .01$), with managers experiencing the greatest level of moral distress ($M = 66.7 \pm 41.2$). Additionally, nurses working within different departments experienced different levels of moral distress ($F = 3.276, p < .001$), with nurses working within the Stepdown/ IMU and ICU experiencing the greatest levels (IMU: $M = 72.0 \pm 49.2$; ICU: $M = 70.7 \pm 32.4$). There was no difference in nurse's experience of moral distress based on education, gender or shift worked.

**Implications:** Moral distress is experienced by most nurses within a hospital setting. We found that nurses working within the ICU/IMU and nurse managers had the greatest levels of moral distress. Additionally, we found that moral distress is correlated with the development of burnout and compassion fatigue among nurses. By improving our understanding of these complex concepts we can better develop and promote strategies to protect nurses from these negative job-related factors leading to better quality patient care.

# ROLES OF THE REGISTERED NURSE

## School Nurses' Involvement in Texas Alternative Schools

*Karen E. Johnson, PhD, RN*
*Assistant Professor*
*School of Nursing*
*University of Texas at Austin*
*Austin, TX*

*Mohit Goyal, MD, MPH*
*PhD Student*
*School of Medicine*
*Virginia Commonwealth University*
*Richmond, VA*

*Marian Morris, MPH, RN*
*Graduate Research Assistant*
*School of Nursing*
*University of Texas at Austin*
*Austin, TX*

*Lynn Rew, EdD, RN, FAAN*
*Professor*
*School of Nursing*
*University of Texas at Austin*
*Austin, TX*

**Purpose/Aims:** To describe school health policies and practices related to school nurses in alternative high schools in Texas.

**Rationale/Conceptual Basis/Background:** Students who attend alternative high schools serving those at-risk for school dropout engage in higher levels of health-risk behaviors (e.g., substance use, sexual risk-taking), have higher levels of mental health problems, and report higher levels of adverse childhood experiences compared to their peers in traditional high schools. School nurses are well-positioned to address health-risk behaviors, mental health, and health and social disparities among high school students. Yet, little is known about school nurses in the alternative high school setting.

**Methods:** We used data from principals (n = 14) and lead health educators (n =14) from a convenience sample of schools participating in the Texas Alternative School Health Study. The 14 schools in the study served a total 1646 students, with enrollments across schools ranging from 14-415. Survey items, which were derived from the Centers for Disease Control and Prevention's School Health Profiles survey, assessed a wide range of school health policies and practices. For this study, we examined six questions that specifically mentioned school nurses.

**Results:** Six of 14 principals (43%) reported that their school had a full-time registered nurse, while one reported having a part-time nurse (4 hours/week) and one reported sharing a registered nurse with a middle school. Six principals (43%) reported that their school had at least one group that offers guidance on policies or coordinates activities on health topics; of these six schools, 83% (n = 5) reported that a school nurse was a part of this group. Eight principals (57%) reported that students are screened for mental health problems by a school nurse or other staff. Nearly all (86%; n=12) principals reported that students are screened for adverse childhood experiences by a nurse or other staff; 79% of schools (n =11) screen for current and past adverse childhood experiences, while 7% (n = 1) screen only for current adverse childhood experiences. Finally, 57% of lead health educators (n = 8) reported that the health education staff at their school has worked with registered nurses or other health services staff on health education activities in the past year.

**Implications:** Findings from this descriptive study offer insights into the nursing resources available to alternative schools and raise additional questions about current roles of school nurses in alternative schools and future opportunities for expanding the role of the school nurse. For example, while most schools screened for mental health problems and adverse childhood experiences—both of which are highly prevalent among AHS students and strongly associated with involvement in health-risk behaviors such as substance use—most schools did not have a full-time registered nurse. Future studies should explore who is assessing AHS students for mental health problems, adverse childhood experiences, and involvement in health-risk behaviors and how the school nurse can be involved in assuring students are receiving quality care from professionals who are trained in assessing and managing health-related issues among vulnerable adolescents.

---

Funding: Robert Wood Johnson Foundation Nurse Faculty Scholars Program #72111 (PI: Johnson).

# ROLES OF THE REGISTERED NURSE

## National Survey on the Required Culminating Project of DNP Programs

*Ellen Beth Daroszewski, PhD, APRN*
*Senior Research Chair, Center for Health Engineering Research*
*School of Advanced Studies, University of Phoenix*
*Tempe, AZ*
*Ellen.Daroszewski@Phoenix.edu*

*Mary DeNicola, DNP, FNP*
*College Campus Chair, Southern California*
*College of Health Professions, University of Phoenix*
*Tempe, AZ*
*Mary.DeNicola@Phoenix.edu*

The growth and maturation of Doctor of Nursing Practice (DNP) programs has prompted continuing curricular discussion and debate, especially regarding the required culminating program scholarship which has taken on a variety of forms and designations. There has even been argument that any sort of final project should not be required in practice-focused education. The American Association of Colleges of Nursing (AACN, 2006) describes the final scholarship of DNP education as ... "a practice application-oriented "final DNP project," which is an integral part of the integrative practice experience" (p. 4), allowing individual programs to delineate this application-based product.

A 10 question online survey was administered anonymously via Survey Monkey from June to October 2014 to examine the opinions and preferences of DNPs and academics involved in doctoral nursing education about the required DNP program final product. The survey collected demographic information; opinions about the necessity and rigor of a final project, and the use of the term "dissertation" for the project; and preferences for what a final project should be called. An invitation to participate and a link to the survey were posted on a national DNP online community blog, and e-mailed to the leadership and DNP faculty of DNP programs across the country with an attempt to invite individuals from as many DNP programs as possible to complete the survey.

A diverse sample of 849 respondents from 49 states (except South Dakota), Canada and Puerto Rico completed the survey. DNPs accounted for 54.9% (465) of the sample, 24% (203) were DNP students, 15.1% (128) were not DNPs but taught in DNP programs, and 2.2. % (19) were doctoral nursing educators who were not DNPs and did not teach DNPs. Academia was reported by 48.75% (411) of the respondents as their primary employment, 32.45% (2730) reported practice employment, and 9.6% (81) identified themselves as administrators. The average age of the respondents was 51.4 (SD 9.5), 90.6% (765) were female and 9.4% (79) were male. The average numbers of years in nursing was 26.3 (SD 11). As a whole the sample represented experienced academics and clinicians.

Seventy six percent (642) of the respondents felt that a culminating scholarly project should be required in DNP education, with 78.9% (662) reporting that if a culminating project was required that it should have the same expectations of rigor as other doctoral nursing education culminating projects such as PhD dissertations. Over half (53.4%; 450) felt that the term "dissertation" should not be restricted to designate only the culminating projects of nursing PhD programs. Slightly less than a third (31.1%; 253) felt DNP culminating projects should be called "dissertations," 29.1% (237) felt they should be called "capstones," 25.5% (207) chose "projects," 3.9% (32) chose "thesis, and 10.3% (84) "other."

Subgroup analyses demonstrated age-based, regional, and degree-based variation in responses. Many unsolicited comments were collected via the blog page and direct e-mails to the researchers. The comments represented a wide variety of passionate opinions about the final DNP project and the future of DNP education.

# Abstracts of Podium Presentations

# STUDENT ISSUES

### UNDERREPRESENTED MINORITY HEALTH PROFESSIONS STUDENTS' RISK OF STEREOTYPE THREAT

*Kupiri Ackerman-Barger, Claire P. Valderama-Wallace*

---

### EXPERIENCES OF REGISTERED NURSES WHO VOLUNTARILY WITHDRAW FROM THEIR BSN PROGRAMS

*Samantha A. Girard, Roxanne Vandermause, Renee Hoeksel, Linda Eddy*

---

### EXPERIENCES OF STUDENTS & NEW NURSES WITH LEARNING DISABILITY IN TRANSITION TO PRACTICE

*Laura Mood*

---

### DOES NURSING RESEARCH MATTER? STUDENT LEARNING USING VALIDATED EBP INSTRUMENTS

*Marian Wilson, Ruth Bryant, Elizabeth Schenk*

# STUDENT ISSUES

## Underrepresented Minority Health Professions Students' Risk of Stereotype Threat

*Kupiri Ackerman-Barger, PhD, RN*
*Assistant Director for the Master's Entry Program in Nursing*
*Assistant Adjunct Professor*
*The Betty Irene Moore School of Nursing*
*Sacramento, CA*

*Claire P. Valderama-Wallace, MS, MPH, RN, PHN*
*Doctoral Student*
*Nursing Science and Health Care Leadership*
*The Betty Irene Moore School of Nursing*
*Sacramento, CA*

**Purposes/Aims:** The purpose of this study was to examine self-perceptions of stereotype threat (ST) susceptibility among underrepresented minority (URM) medical and nursing students. The aims were to: 1) understand the degree to which stereotype threat risk exists among URM students in schools of medicine and nursing and 2) reveal strategies for decreasing stereotype threat for these students.

**Rationale/Background:** ST is a disruptive psychological state that people experience when they feel at risk for confirming a negative stereotype associated with their social identity such as their race, gender, ethnicity, social class, sexual orientation, etc. In the context of students' experiences, energy spent on vigilance or anxiety is energy not spent on learning or performing. Nurse educators are in a unique position to identify students who may be experiencing ST in classroom and clinical settings.

**Methods:** Medical and graduate nursing students enrolled at a public university in northern California were invited to complete a 54-question online survey in February 2015. The final sample included 111 students, indicating a response rate of 25.4%. The survey included questions about students' anxiety in relation to clinical, writing, and standardized testing components as well as 28 questions from the Social Identities and Attitudes Scale, previously validated to measure ST among college students. Responses for most questions consisted of a seven point Likert scale ranging from strongly disagree to strongly agree. The total SIAS score ranged from 0 to 196 and was separated into three equal quantiles to denote low (up to 100), moderate (101-150), and high (151-196) susceptibility. Fisher's exact Chi-square tests were conducted to determine if URM students were at greater risk of experiencing ST.

**Results:** The primary finding of this study is that URM students, defined as African American, Hispanic/Latino, or American Indian/Native Alaskan, were significantly more susceptible to ST than their White counterparts (n=105, p=0.001). Students who were URM, 1st generation college students, or grew up in poverty or low income households, were more likely to worry about their performance in clinical rotations, standardized tests, and writing skills including a thesis and dissertation. Additionally, URM students reported faculty as a source of negative perceptions.

**Implications:** A deeper understanding of how ST can be interrupted and ameliorated would enhance the ability of nurse educators to promote diversity within the nursing workforce. Social psychologists and scientists who specialized in higher education have posited a number of strategies to address ST. These approaches include engaging in supportive mentoring relationships, providing high standard feedback that includes strategies to achieve desired outcomes while minimizing the occurrence of what Claude Steele (2010) calls over-efforting. An example of over-efforting is when students engage in excessively long hours of study behind closed doors in the pursuit of academic success. A concerted effort to mitigate nursing students' experiences of ST can strengthen the ability of a nursing school to ensure a diverse health care workforce that is equipped to provide culturally sensitive care.

## Experiences of Registered Nurses Who Voluntarily Withdraw from Their BSN Programs

*Samantha A. Girard, MN, RN, PHN*
*PhD Candidate*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Roxanne Vandermause, PhD, RN*
*Associate Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Renee Hoeksel, PhD, RN*
*Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Linda Eddy, PhD, RN, ARNP*
*Associate Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

**Purpose/Aims:** The purpose of this study was to develop an understanding of the lived experience of registered nurses who voluntarily withdraw from RN-BSN programs. The research aims are to generate a comprehensive understanding of (1) the experiences of RN-BSN non-completers (2) interpret the meaning non-completers ascribe to the experience of withdrawal and (3) the interplay between factors that influence withdrawal decisions.

**Rationale:** The need for a more highly educated nurse work force is evident as research studies are beginning to examine the effect of higher levels of nursing education and skill mix on nurse-specific indicators of patient care. Increasing the number of baccalaureate prepared RNs is critical at this time more so than ever before. This is because of the challenging and complex health care environments in which nurses are expected to function and the evolving and dynamic nature of the United States Health Care System. Despite the numerous interventions aimed at reducing attrition and increasing retention in nursing programs, graduation rates have remained virtually unchanged. Embedded in the significance of this study is the critical need to understand the experiences of RN-BSN student non-completers which have not been explored in the literature. Understanding the withdrawal experience in this unique population is a first step in so that barriers to degree completion may be eliminated.

**Methodology & Method:** A Heideggerian hermeneutic approach was used to interpret the meaning of the experiences of RNs who prematurely withdraw from their BSN programs.

**Results:** Through interpretive phenomenological analysis two overarching patterns of understanding emerged. Revisiting Failure shows itself as overlapping ideas of *self takes a hit and juggling balls and spinning plates*. Withdrawing as Impasse: On One Side of the Divide shows itself as *threats from within and out* overlapping with *being valued, cost versus benefit and the relevancy of the degree.* What lies underneath these accounts is the belief that their nursing experience, regardless if it is 6 years or 41 years at the bedside, has somehow become inadequate. This is the crux of the withdrawal experience, feeling stuck and placebound because they don't have a BSN and explaining that it offers little value to them because it won't increase their salaries or cause them to care for their patients differently. The factors that play into whether or not a nurse finishes a BSN are many, but the effect on dignity and well-being are immeasurable. Placebound and stuck, these incompletions affect not only the nurse but also the profession, leaving a deficit.

**Implications:** A formal program aimed at easing the transition into and throughout a BSN program will provide the support registered nurses need for completion. The cost and benefit of completing a BSN are factors which nurses consider when they decide to withdraw from a BSN program. When tuition reimbursement is offered by employers, one significant barrier to completion is removed. The impact of BSN education on patient outcomes is quantifiable, and these impacts need to be widely disseminated to encourage registered nurses to pursue BSN education.

# STUDENT ISSUES

## Experiences of Students & New Nurses with Learning Disability in Transition to Practice

*Laura Mood, PhD, MSN, RN*
*Assistant Professor*
*School of Nursing*
*University of Portland*
*Portland, OR*

**Purpose/Aims:** Through a critical interpretive study and implementation of a narrative life history method, I sought to: (1) describe what pre- and post-licensure transition to clinical nursing practice (TTP) was like for persons with learning disability (LD) from the perspectives of those living the experience; and (2) examine the identities and belief systems embedded in the life histories of this group that may contribute to inequities within their TTP experience.

**Rationale/Conceptual Basis/Background:** LD identity compounds and intensifies one's experiences in nursing school and work, positioning those with LD pursing nursing careers at risk for school and work-related transition failures. There is evidence within the profession of intolerance toward this group as well further complicating their career pursuits. The disability studies model was used as a critical lens in implementing this study. This model assumes disability is contextual and dependent on beliefs of ability, and that such beliefs can only be revealed from the position of those who claim disability as part of their experience.

**Methods:** Inquiry focused on history, biography, and epiphanies -- or moments or events that leave marks on people's lives. For this study, participants' discoveries of learning disability were assumed biographical turning points. Recruitment involved identifying individuals with LD who were at different time points within a TTP trajectory. The cross-sectional, convenience sample included eight participants. Each participant was interviewed two-three times over 10 months. In sum, I conducted 23 1:1 interviews resulting in over 1000 pages of textual data. Analysis included identification of epiphanies within the life histories of each participant and uncovering of linkages between historical experiences and present day responses to TTP. Each individual case was analyzed at multiple levels of abstraction using various coding methods. Upon cross-case thematic analysis the core narrative emerged; that is, *the battle of becoming*.

**Results:** I re-presented findings via 10 data based short stories, composite in form. Each story has a plot, protagonist, and antagonist. The protagonist reflects the primary archetype of the *hero* -- a character who intends to do *good* in most situations but is thwarted by obstacles. Participants' stories revealed the battle was twofold: Their non-negotiable mission was to become (1) safe, competent, and effective nurses, and (2) accepted as valued members of society through careers in nursing. Their mission was curbed by taken-for-granted beliefs about ability. Such beliefs were embedded in situations involving people who misunderstood participants' intentions; exclusionary pedagogies; misinformation, untimely information, or a lack of information; and/or prescriptive time limits. Participants acted courageously to surmount ideologies of ability when they presented. In the face of adversity, their acts were demonstrative of personal resilience and professional integrity.

**Implications:** Results of this work point to the need for: (1) faculty, nurse educators, and managers to normalize learning differences in classroom/clinical settings and welcome all students and new RNs to talk about learning goals and struggles without the fear of reprisal; (2) cultural competence specific to disability; (3) revision of policies at multiple levels; and (4) a cultural shift toward inclusivity and civility within the profession.

---

Funding: Study funded in part by STTI/Western Institute of Nursing research grant, 2013-14.

# STUDENT ISSUES

## Does Nursing Research Matter? Student Learning Using Validated EBP Instruments

*Marian Wilson, PhD, MPH, RN*
*Assistant Professor*
*Washington State University*
*College of Nursing*
*Spokane, WA*
*marian.wilson@wsu.edu*

*Ruth Bryant, PhD(c), RN*
*Nurse Scholar in Residence*
*Washington State University/*
*Providence Health Care*
*ruth.bryant@wsu.edu*

*Elizabeth Schenk, PhD, MHI, RN*
*Nurse Scientist*
*Washington State University/*
*Providence St. Patrick Hospital*
*Missoula, MT*
*elizabeth.schenk@wsu.edu*

**Purpose:** This study analyzes outcomes of an RN-to-BSN undergraduate nursing research course that was designed to increase nurses' ability to incorporate evidence-based practice into their clinical settings. A "hybrid" course delivery approach was used with a mixture of in-person classes and online participation via discussion boards. We used the four steps of evidence-based practice (EBP), "Ask, Access, Appraise, and Apply" to develop a course outline and structure using active learning techniques. The specific aims were to determine whether significant improvements could be detected after 15 weeks of course enrollment on the measurements of confidence, ability, desire, and frequency of behaviors related to evidence-based nursing care.

**Background:** Nurses are increasingly being asked to earn a BSN with the assumption that doing so will improve patient care. While evidence exists to show improvements in patient outcomes when nurses are prepared at the BSN level, it is not clear what mechanisms are responsible for these improvements. Measuring the effectiveness of research related education may help explain and justify the value of advancing nursing education, and specifically, what benefits are achieved from enrolling in research courses. Testing new education models using reliable measurement tools contributes to current knowledge and may help enhance access to effective education for clinicians.

**Methods:** This is a pretest-posttest quasiexperimental study to test whether significant improvements in EBP abilities, behaviors, desire, and self-efficacy could be detected after 15 weeks of course delivery at a state university college of nursing. Data were collected from consenting students using online surveys including two validated instruments: (1) the Evidence-based Practice Capabilities Beliefs Scale to measure self-efficacy and EBP use; and (2) the Healthcare EBP Assessment Tool (HEAT) to measure ability, desire, frequency of desired behaviors, and barriers to EBP.

**Results:** Results of paired $t$ tests (pretest/post-test) showed significant improvements in EBP ability ($p < .05$) and behaviors ($p < .05$) among 49 students. A strong significant relationship was observed between reported EBP ability and EBP frequency of behaviors ($r = .58, p < .001$).

**Implications:** An active learning environment using the steps of EBP provides a practical approach for RN-to-BSN students to apply nursing research course content to their clinical settings. Significant improvements on EBP ability and behaviors are consistent with desired outcomes for BSN-prepared RNs. Low-burden instruments and educational research methods were identified that may be useful for trialing other approaches in a variety of health professional curriculums. Future research can link EBP abilities and behaviors to improved patient outcomes.

# TECHNOLOGY FOR NURSING EDUCATION AND PRACTICE

## DEVELOPMENT OF A PEDIATRIC SIMULATION SCENARIO & CHECKLIST ON MEDICATION COMPETENCIES

*Deborah J. Bennett, Celestina Barbosa-Leiker, Ruth Bindler, Suzan Kardong-Edgren*

---

## END OF LIFE SIMULATION IN A BACCALAUREATE NURSING PROGRAM

*Robin M. White*

---

## USING TELEPRESENCE AND HIGH FIDELITY SIMULATION IN A BOOT CAMP FOR PROSPECTIVE NURSING STUDENTS

*Deborah J. Kenny*

---

## E-LEARNING IN NURSING: EFFECTIVENESS OF VIRTUAL CLINICAL EXCURSIONS

*Alham Abuatiq*

---

## DEVELOPING “DRAWNTOGETHER”: AN ART-BASED COMPUTER APP FOR CHILDREN

*Martha Driessnack*

# TECHNOLOGY FOR NURSING EDUCATION AND PRACTICE

## Development of a Pediatric Simulation Scenario & Checklist on Medication Competencies

*Deborah J. Bennett, PhD, RN*
*Faculty/Nursing Simulation Director*
*School of Nursing*
*California State University, San Marcos*
*San Marcos, CA*

*Celestina Barbosa-Leiker, PhD*
*Program Director*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Ruth Bindler, RNC, PhD*
*Professor Emeritus*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Suzan Kardong-Edgren, PhD, RN,*
*ANEF, CHSE, Faculty*
*College of Medicine*
*Drexel University*
*Philadelphia, PA*

**Purpose:** Currently, there is no valid and reliable simulation-based scenario and performance checklist instrument that evaluates medication administration competencies in nursing baccalaureate programs. The purpose of this study was to develop a pediatric simulation-based scenario and performance checklist on administering medication to a toddler to include physiological, cognitive, and socioemotional developmental dimensions of this age group, and test the psychometric properties of the pediatric simulation-based scenario and performance checklist used to evaluate competency of students enrolled in a baccalaureate nursing program.

**Background:** Medical errors are one of the leading causes of death and injury in United States (U.S.) hospitals today. The risks of medication errors that may cause potential harm are three times higher in children than they are in adults and occur in all healthcare settings. There are a variety of reasons why administering medication to children is complex, and the margin for error is very small. Pharmacokinetics are different in children due to their physiological development and there are few medications that have standardize dosing regimen. Weight-based dosing involves dosage calculation that increases the opportunity for tenfold error, caused by misplaced decimal points. Clinical practice opportunities for nursing students in the pediatric setting are limited.

**Methods:** The methods involved development of a simulation-based scenario and performance checklist. The scenario was developed by the author using Erikson's developmental theory, Piaget's cognitive theory, physiological development, and medication guidelines on how to administer medications to children. Performance checklist was developed using Cazzell's pediatric medication administration objective structured clinical evaluation, cognitive, socioemotional, and physiological developmental considerations for a toddler.

Five pediatric nursing experts assessed the scenario for face validity and the checklist for face and content-related validity. The nursing experts viewed videos and scored 84 baccalaureate students administering medications to a child manikin in a simulated environment with the performance checklist at two time points (3 months apart). Percent agreement, inter-rater reliability and intra-rater reliability were then determined for the total checklist score and for each item.

**Results:** The scenario demonstrated good face validity and the performance checklist had good content-related validity with S-CVI/AV = .94 according to five pediatric experts. Overall percent agreement across raters was 85 percent among all five raters for Time 1 assessment and 84 percent agreement for Time 2 assessment among four raters. The intraclass correlation coefficient (ICC) of the total scores were .629 for Time 1 assessments and .660 for Time 2 assessments, indicating good inter-rater reliability. Intra-rater reliability was found to be consistent with an ICC range of value of .932 to .975.

**Implications:** This study presents a valid and reliable simulation-based scenario and performance checklist with developmental considerations for a toddler that is unique and will assist nurse educators to evaluate pediatric medication administration competencies through simulation.

## End of Life Simulation in a Baccalaureate Nursing Program

*Robin M. White, PhD, MSN, RN*
*Assistant Professor, Interim Director/Interim Chair*
*Nursing Department*
*Ohio Northern University*
*Ada, OH*
*r-white.5@onu.edu*

**Purposes/Aims:** It is important for student nurses to practice care approaches in end-of-life situations to better enable them to care for patients and their families as they move through the dying process. It is through the virtual environment that effective symptom management, communication, and conflict resolution on common end-of-life issues can take place.

**Rationale/Background:** Nurses' role at the bedside to provide the highest quality care and to provide support for both patients and their loved ones is both accepted and expected. This requires the provision of comfort and relief of suffering in the physical, emotional, and spiritual dimensions. Although academic preparation should prepare nurses to provide comprehensive and compassionate end-of-life care, end-of-life content in nursing curricula is limited. The primary emphasis of nursing education in baccalaureate programs is health promotion, acute care, and chronic care. End-of-life and palliative care are vaguely introduced to students in the classroom setting, but little prepares them to encounter, effectively communicate with, and provide support for dying patients and their significant others. Innovative approaches to providing end-of-life care content are needed to stimulate critical thinking and cognitive and affective learning on end-of-life issues.

**Best Practice/Approach/Methods:** High-fidelity simulation was used to create a scenario in which a patient presented with signs and symptoms at end-of-life. Sixteen students were divided into two simulation groups, actively interpreting and acting on the information given in a controlled environment while participating in the scenario through role play. In this mixed-methods study, pre- and post-surveys related to end-of-life content were given to the students before and after the simulation experience. An audio-taped debriefing session took place after the simulations to determine both the cognitive and affective learning that took place.

**Outcomes:** During the simulation, students interacted with the dying patient, family member at the bedside, other members of the health care team, and chaplain in the patient's room. They also contacted a physician and a hospice nurse on the telephone. During the debriefing, students commented on the experience, stating "It was uncomfortable in a good way because it pulled us out of our comfort zones" and "It was a lot different because you go into most situations with a curative mindset but this time the patient is going to die." This qualitative data demonstrated the active learning that took place.

**Conclusions:** Simulation of a dying patient in a safe, controlled environment can provide an environment for nursing students to experience an end-of-life situation before it actually happens in the health care setting. This may better prepare them with clinical competence on ways to provide compassionate end-of-life care as well as exploring psychosocial and emotional responses of all involved in life-threatening situations. It also provided a venue for the students to work through the feelings and emotions that may be a part of this clinical situation. It is suggested that an interdisciplinary approach be used in the future, including students on campus in various other majors to practice interdisciplinary communication at the end-of-life.

## Using Telepresence and High Fidelity Simulation in a Boot Camp for Prospective Nursing Students

*Deborah J. Kenny, PhD, RN, FAAN*
*Associate Dean*
*Carole Schoffstall Endowed Professor*
*University of Colorado, Colorado Springs*
*Colorado Springs, CO*

**Purpose:** The purpose of this pilot program was to determine the feasibility of using telepresence, coupled with high fidelity simulation scenarios to aid both rural pre-nursing and underserved and minority urban high school students to understand the nursing process and to provide students with an experience for both teaching and learning from each other.

**Rationale/Background:** This project was a collaborative project between two separate grants, the Southern Colorado (SoColo) Reach and the HRSA Nursing Workforce Diversity project, both housed at the University of Colorado Colorado Springs (UCCS). It was conceived out of a mutual interest between the College of Education and the College of Nursing at UCCS to assist at-risk rural pre-nursing students in success and, at the same time, to provide low-income minority urban high school students an opportunity to earn summer college credit while exploring interest in a nursing career.

**Brief Description:** Twenty-five students attended a week long Reach for Nursing Boot Camp. Thirteen high school students and two pre-nursing students participated on site and twelve pre-nursing students attended via telepresence. Over the course of one week, students together were given didactic lectures on such things as social determinants of health, college success and study skills, fundamental math skills, and the nursing process. At the beginning of the week they were divided into working groups consisting of both nursing students and high school students. They were given an assignment to complete a care plan for an unfolding case scenario. After participating in two days of high fidelity simulation, both onsite and via telepresence, they were to give a collaborative presentation on their patient. Following the week, both quantitative and qualitative evaluations were held to get student and faculty feedback on the experience.

**Conclusions:** Aside from minor technology glitches, the student feedback was mostly positive. More importantly, we determined it was not only feasible, but quite effective to deliver a program and have students actively engaged with each other, even when separated by hundreds of miles. The distance students were able to coach and direct the onsite students in interactions with the simulation manikins. The onsite students were able to communicate their findings to the distance students accurately. Both groups enthusiastically participated in preparing a care plan and in giving high quality presentations of their patient and care plan at the end of the week.

**Implications:** Telepresence is a viable option for delivering nursing education and, in combination with high fidelity simulation, can provide students with scenarios with which to practice in a safe environment, or practice situations they may not see often. Additionally, collaboration between groups of students is not only possible, but can be very productive in thinking and skill development.

---

Funding: HRSA Nursing Workforce Diversity Grant D19HP25910.

# TECHNOLOGY FOR NURSING EDUCATION AND PRACTICE

## E-Learning in Nursing: Effectiveness of Virtual Clinical Excursions

*Alham Abuatiq, PhD, MSN, RN*
*Assistant Professor, Nursing Department*
*California State University, San Marcos*
*San Marcos, CA*

**Background:** Virtual Clinical Excursions (VCE) is an online program that guides nursing students through a virtual hospital in which they can provide basic nursing care to virtual patients. This e-learning program provides a virtually safe, individualized, and computer evaluated virtual training for students. Students can navigate in the virtual hospital and learn basic nursing skills including physical assessment, check labs, medication administration, and online drug resource along with videos reflecting patient-nurse communication skills.

There is a need to investigate the effectiveness of using VCE on students' learning experiences in order to provide a quantitative and qualitative evidence for nursing faculty to integrate virtual e-learning programs in class assignments.

**Objectives:** The purposes of this study is to first investigate nursing students' perceptions about the effectiveness of implementing the VCE in improving their learning experiences. Second, to evaluate the effectiveness of (VCE) in improving students assessment skills, and third, to investigate if the (VCE) improved students oral and written communication skills.

**Methodology:** Mixed methods descriptive design, virtual clinical excursions (VCE) was integrated in the theory course during the last hour of the lecture; the students were assigned to a virtual patient's case synchronized with the theory content.

This study was held in the spring quarter with an 11 week time frame, and by the end of the spring quarter the students were given a survey with Likert type scale, slide numeric scale, and an open ended question format to collect data about their perceptions online via Survey Gizmo. Data analysis was done using SPSS, with a significance level of $p<0.05$

**Settings:** This study was conducted in one of the large governmental universities in California, in one of the BSN degree nursing programs, in a medical surgical course held for third year nursing students. Institutional Review Board approval was taken from the targeted university, along with full ethical considerations to conduct this study.

**Sample:** The sample size included 42 students in their third year of the nursing program, who are enrolled in this targeted medical surgical course. Consent forms were collected from participants, who voluntarily, and anonymously participated in this study.

**Findings:** Quantitative findings about VCE effectiveness was evaluated using a scale from 0 to 10 (10= very effective). 26.2 %( n=11) of students reported that the VCE was very effective (Score=10) in improving their nursing learning experience. However, 23.8% (n=10) reported that the (VCE) met their nursing learning needs.

VCE effects on improving students' physical assessment skills were evaluated by using Likert type scale questions from 0="not applicable" to 5= "strongly agree". Findings reflected that 23.8 %( n=10) reported "Strongly agree", and 50% (n= 21) reported "Agree" responses the VCE improved their physical assessment skills.

Moreover, the majority of students 45.2% (n= 19) reported "Agree" that (VCE) improved their written communication skills. Versus 40.5% (n= 17) of students reported "Neutral" for the (VCE) effects on improving their oral communication skills. Qualitatively student #11 reported that "E-learning is an immensely helpful tool both in the class & outside. E-learning creates a light-weight versatile approach to the nursing process & learning".

**Implications:** Descriptive findings supported the implementation of VCE on nursing students' learning experiences. Overall, students reported that the VCE was an effective e-learning program, and it is a great way to connect many materials, including pharmacology, medical surgical, and pathophysiology. This study provides evidence for nursing programs to integrate Virtual e-learning in the nursing education.

## Developing “DrawnTogether”: An Art-Based Computer App for Children

*Martha Driessnack, PhD, PPCNP-BC*
*Associate Professor*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

**Purpose:** To engage children in the development of an art-based computer app designed to facilitate information exchange between children and their health care providers.

**Background:** As the demand to include children in health-related research increases, current tools and techniques cannot simply be ‘adjusted’ for language level or embellished with “child-friendly” pictures and be expected to obtain equivalent data from children. The recent child-centered movement is beginning to produce novel approaches that are not adult ‘hand-me-downs’, but created with thought and acknowledgement of children’s cognitive abilities and developmental strengths. One approach is the *Draw-and-Tell Conversation* (DTC), an art-based technique that facilitates bi-directional communications or “conversations” with children. The DTC actively engages children in conversation by inviting each child to draw and then tell about her/his health-related experience(s) and/or symptom(s). Its use continues to showcase children as competent historians. Today, as technology becomes increasingly prevalent in the lives of children, developing a parallel computer app was embraced.

**Project Description:** This project represents the Phase I development of an art-based computer app called *DrawnTogether*, which was designed to support DTC interactions between children and their health care providers using touch screen drawings, as well as image scanning of paper drawings. The plan was that the child’s uploaded drawing could be annotated with text, tags and diagnoses, and synced to the child’s electronic health record (EHR). The app design team consisted of a pediatric nurse expert, medical informatics experts and graduate students, and school age children. The approach incorporated user-centered design (UCD), Cooperative Inquiry, and agile software development methodology. The purpose of UCD is to involve “end users”, the individuals who will eventually use the technology, in the design process. CI is a collaborative design process created specifically to design technology with and for children. An important feature of CI is its intergenerational nature. In CI, children must be invited to dialogue and interact with the team, providing direct input as technology is being developed, rather than simply observed in interaction with the new technology only after it has been developed. Agile software development is based on input and feedback in frequent, small steps, which enables the design to evolve more quickly and responsively to end users’ needs.

**Outcomes Achieved:** The primary outcome was the development of a “prototype” app called *DrawnTogether*. Of note is that the prototype won first place in the 2014 American Medical Informatics Association (AMIA) graduate student design competition.

**Next Steps:** It is important to include children in designing technology, especially when it is intended for their use. The next step represents Phase II app development, which includes further development, moving the app from its prototype format to full functional capacity. This process includes creation of essential use (high-level task descriptions) and concrete use (detailed task descriptions) cases with continued engagement of children as informants. Once complete, the app will be ready for practice-based field studies to document its uptake at the point of care, direct/indirect impact on clinical outcomes, and challenges syncing across various EHR formats.

# THE ADOLESCENT/YOUNG ADULT

## ADOLESCENT SUBSTANCE USE SCREENING & MANAGEMENT: THE SBIRT APPROACH

*Mandy Wilson McKimmy, Elizabeth Pruett*

---

## UNDERSTANDING INTERACTIONS BETWEEN AYA CANCER SURVIVORS AND OCC HEALTH PROVIDERS

*Dawn Salpaka Stone, Wendie Robbins, Carol Pavlish*

---

## SCHOOL-BASED HEALTH CENTER PROVIDERS' ADHERENCE TO OBESITY GUIDELINES

*Heather Aldrich, Bonnie Gance-Cleveland, Sarah Schmiege*

---

## APPLICATION OF CRITICAL CARING THEORY TO COMPREHENSIVE SEXUALITY EDUCATION ADVOCACY

*Elizabeth Dickson, Marie L. Lobo*

---

## PSYCHOMETRIC TESTING OF SELF-EFFICACY & RECALL QUESTIONNAIRES FOR CHILDREN

*Jane H. Lassetter, Christopher I. Macintosh, Mary Williams, Gaye Ray,*
*Martha Driessnack, Jonathan J. Wisco*

---

## ADOLESCENT PREGNANCY AND DEPRESSION AND MIGRATION: A BINATIONAL ANALYSIS

*Mary Lou de Leon Siantz, Nicte Castaneda Camey,*
*Lisceth Brazil Cruz, Rosa Manzo, Phillip Bautista*

# THE ADOLESCENT/YOUNG ADULT

## Adolescent Substance Use Screening & Management: The SBIRT Approach

*Mandy Wilson McKimmy, DNP*
*Clinical Assistant Professor*
*FNP and DNP Programs*
*Oregon Health & Science University*
*Portland, OR*

*Elizabeth Pruett, MSN*
*Instructor*
*Merlo Station SBHC*
*Oregon Health & Science University*
*Portland, OR*

**Purpose:** To determine the incidence of substance use by adolescents via implementation of SBIRT (Screening, Brief Intervention, Referral to Treatment) in a school based health center (SBHC) in Oregon.

**Background:** Nearly 70% of high school seniors report having tried alcohol and approximately half of all high school seniors report having tried an illegal substance, such as marijuana (Johnson et al., 2013). Almost one quarter of adolescents report having ridden in a car with a drive who has been drinking (U.S. Department of Health & Human Services, 2015). Research has indicated that the age at first usage is directly linked with lifetime incidence of developing a substance use disorder (AAP, 2011). Establishing methods for screening, and a protocol for managing positive screenings with adolescents is vital to address this growing health problem.

**Methods:** After undergoing a 2 day training on Screening, Brief Intervention and Referral to Treatment (SBIRT) in School Based Health Centers (SBHCs), primary care providers in the SBHC began a 2 year pilot project to address the growing health concern of adolescent substance use. Patients were routinely screened at office visits using the CRAFFT Screening Interview. Part A of the CRAFFT includes questions relating to alcohol use, marijuana use, or using "anything else" to get high in the prior 12 months. Part B of the CRAFFT includes questions targeted at driving or riding in a car with someone who has been using alcohol or drugs, using alcohol or drugs to relax, using alcohol or drugs alone, forgetting things while using alcohol or drugs, having family or friends suggest cutting down on use of substances, and getting in trouble while using alcohol or drugs. Data were collected, de-identified and stored in a password protected file. Data was evaluated and presented in percentages. Based upon the screening questionnaire results, patients who qualified for brief advice, brief intervention or referral to treatment were given the option to receive these services.

**Results:** A total of 108 patients were screened over approximately 5 months. 53% of patients answered "No" to part A of the CRAFFT screening tool. Of the patients screened, 54% were ranked in "low risk" category, receiving positive reinforcement. 16% of patients ranked in the "medium risk", and 30% in "high risk" category. Patients ranked as "medium or high risk" qualified for brief intervention. An additional 3% of patients ranked as "high risk" qualified for referral to treatment.

**Implications to Clinical Practice:** The findings of this project seemed to align with the national statistics for use of substances in this patient population. The findings from this project will be compared with other SBHC's and used by the National School Based Health Alliance to inform new clinical guidelines/standards of care for screening adolescents for substance use.

---

Funding: Partially funded by "SBIRT for SBHCs" initiative, a School-Based Health Alliance project funded by the Conrad N. Hilton Foundation.

## Understanding Interactions between AYA Cancer Survivors and OCC Health Providers

*Dawn Salpaka Stone, RN, ANP-BC, COHN-S*
*Doctoral Candidate*

*Wendie Robbins, PhD, RN*
*Professor*

*Carol Pavlish, PhD, RN*
*Associate Professor*

*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Purposes/Aims:**

- To understand the interactions of employed young adult cancer survivors with occupational and environmental health professionals within the workplace
- To understand the contextual factors in the work environment affecting interaction and processes

**Rationale/Background:** Approximately 70,000 adolescents and young adults (age 15-39) are diagnosed with cancer annually in the United States (NCI, 2015). Despite this high number, young adult survivors have received little attention from researchers in comparison to children and older adults diagnosed with cancer. Recent studies support the view that people between the ages of 18 and 40 are the most underserved age group in cancer research (NCI, 2011). The National Institute of Occupational Health and Safety also recognizes the need to research and eliminate health discrepancies in cancer survivors as indicated in their Occupational Health Disparities Program (2012).

**Methods:** Constructivist grounded theory was the qualitative design used for this study. Semi-structured individual interviews generated data from young adult cancer survivors (age 15-39 at diagnosis) five years post treatment. Recruitment and sampling was through a dataset obtained from the California Surveillance Program in Los Angeles after obtaining IRB approval from the state of California. During the interviews, survivors identified who was most helpful to them in the workplace. Based upon this feedback, occupational health professionals (Nurses, safety professionals and human resources specialists) were recruited from their respective professional organizations and also interviewed individually. Data analysis utilized constant comparative analysis of verbatim transcription of interviews and memos that constructed categories and themes. IRB approval for this study was also obtained from UCLA.

**Results:** Many young adult cancer survivors are generally doing well, however some experience lingering pain or fatigue, influencing physical and social functionality in the workplace. Cancer survivors often expressed fear about limited employment opportunities as a consequence of the late effects of cancer or its treatments, as well as stigma or discrimination from others. The impact of cancer on people's working lives is an increasingly important concern but knowledge about this issue by occupational and environmental health professionals is variable. Major themes grounded in the words of the participants included identity, disclosure, support, and uncertainty.

**Implications:** Understanding the interactions between young adult cancer survivors and occupational health professionals within the context of the workplace has potential to improve quality of life for survivors while promoting awareness of the challenges confronted and the services needed for support. Ultimately, assessments and interventions can be developed with the aim to manage symptoms associated with the consequences of cancer while promoting adaptation to the workplace. Exploring strategies to keep survivors working will help reduce fiscal burdens of utilizing public support for those that are disabled. The National Cancer Institute can use this theory to develop evidence-based guidelines for occupational health and oncology nursing practice.

---

**Funding:** CDC NIOSH Center for Education and Research, Southern California.

# THE ADOLESCENT/YOUNG ADULT

## School-Based Health Center Providers' Adherence to Obesity Guidelines

*Heather Aldrich, PhD*
*Professional Research Coordinator*
*College of Nursing*

*Bonnie Gance-Cleveland, PhD, RNC, PNP, FAAN, Professor, Loretta C. Ford Endowed Chair, College of Nursing*

*Sarah Schmiege, PhD*
*Assistant Research Professor*
*Department of Biostatistics and Informatics*

*University of Colorado Anschutz Medical Campus*
*Aurora, CO*

**Purposes/Aims:** A comparative effectiveness randomized clinical trial was designed to evaluate implementation of current obesity prevention guidelines into practice in school-based health centers using a virtual obesity collaborative, with and without decision-support technology. The purpose of this study was to assess process and outcome variables including attitudes, barriers, skills, approaches to assessment, and treatment methods of school-based health center providers who work with overweight/obese youth.

**Background:** Significant health disparities exist with minority youth at risk for obesity and related chronic conditions. School-based health centers offer primary care services for many underserved, high-risk youth and may provide an avenue for addressing these health disparities.

**Methods:** Twenty-four school-based health centers in six states (AZ, CO, NM, MI, NY, NC) participated in the project (n=33 providers). Providers completed the International Life Science Institute (ILSI) Research Foundation Assessment of Overweight in Children and Adolescents Survey at three time points: baseline, after completing web-based training, and six months after training. The survey consists of 35 questions, most with multiple parts. Composites were calculated for survey questions to give an indicator of change for the following topic areas: attitudes, barriers, counseling proficiency, medical assessment, laboratory evaluations, family history, psychological/emotional assessment, activity, inactivity, referrals, follow-up visits, diet assessment, and weight assessment. Most questions were ranked using a 5-point Likert-type scale, from most of the time (5) to never (1). Means or percentages for all of the above items were compared over time and between the technology and non-technology groups using repeated measures analyses conducted in a multilevel modeling framework.

**Results:** Many of the process and outcome variables reported by providers on implementation of the obesity guidelines improved over time ($p<0.05$), including counseling proficiency, medical assessment, psychological/emotional assessment, activity, inactivity, and diet assessment. Providers' report of clinic/setting barriers in the treatment of childhood overweight/obesity decreased (improved) in the non-technology group, while increasing in the technology group ($p=.009$). Follow-up visits also were different between groups ($p=.05$), with the non-technology group improving from 23% to 50% for providers who schedule follow-up visits at least once per month, while the technology group stayed relatively stable near 40% over time. Psychological/emotional assessments approached significance ($p=.06$), with the technology group increasing more over time.

**Implications:** School-based health center providers can improve obesity care in the high-risk populations they serve by implementing current evidence-based recommendations. Participation in a virtual obesity collaborative significantly improved the providers' self-reported adherence to many of the obesity guidelines. Future work should evaluate the impact of the virtual collaborative with and without decision-support technology on patient outcomes.

---

Funding: This project was supported by grant number R18HS018646 from the Agency for Healthcare Research and Quality. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Agency for Healthcare Research and Quality.

# THE ADOLESCENT/YOUNG ADULT

## Application of Critical Caring Theory to Comprehensive Sexuality Education Advocacy

*Elizabeth Dickson, MSN, RN*
*PhD Candidate, RWJF Nursing and Health Policy Fellow*
*University of New Mexico, College of Nursing, Albuquerque, NM*

*Marie L. Lobo, PhD, RN, FAAN*
*Professor*
*University of New Mexico, College of Nursing, Albuquerque, NM*

**Purpose/Aims:** This paper applies Critical Caring Theory to the role of nurses advocating for comprehensive sex education (CSE) for populations at risk for unplanned teen pregnancy. The presentation aims to use Critical Caring Theory to frame nursing's role in addressing implementation of CSE in communities facing the challenges of unplanned teen pregnancy, further develop Critical Caring Theory application to nursing practice, and inform nursing practice, education, and research regarding the importance of CSE to reduce rates of unplanned teen pregnancy. The United States has the highest teen pregnancy rate of all developed countries with the highest rates affecting children of racial and ethnic minorities (Kost & Krenshaw, 2014). While health disparities often contribute to an environment in which teen pregnancy rates can increase, teen pregnancy also can result in significant health, social, and financial disparities on adolescents, their families, and communities (National Campaign to Prevent Teen and Unplanned Pregnancy, 2013). CSE is a medically accurate, evidence-based, and age-appropriate, primary prevention intervention for reducing teen pregnancy rates and has a protective effect over adolescent sexual choices and reproductive health outcomes (Kirby, 2007; Lindberg & Maddow Zimet, 2011). However, many sexually actives teens do not receive any sex education at all (Strasburger & Brown, 2014). Public health nurses (PHNs) are essential advocates for any adolescent at-risk for unplanned pregnancy.

**Description of Theory:** Critical Caring Theory is a descriptive, middle-range, hybrid theory that combines Waton's Theory of Human Caring and critical feminist approaches into seven *carative health promoting processes* that apply concepts of human caring to public health nursing practice (Falk-Rafael, 2005). Using a concept of social justice, the theory describes the expression of nursing care to focus on prevention of health disparities, use epidemiological data to identity issues and evaluate outcomes, and allow nurses' relationships with individuals and families in the community to inform practice (Falk-Rafael, 2012).

**Logic Linking Theory to Problem:** PHNs working with adolescents at risk for unplanned pregnancy can apply Critical Caring Theory to define their role as advocates for CSE. More specifically, the fifth *health promoting process* of the theory outlines how PHNs contribute to the creation of supportive school policies and environments that address inequities of unplanned teen pregnancy. Critical Caring Theory defines the critical role PHNs fill at the intersection of public policy and personal lives (Falk-Rafael, 2005), where the decision to implement CSE can include a PHN voice speaking on behalf of the adolescent population without one, and helps frame inequitable access to CSE as a social justice issue.

**Conclusions:** This unique application of Critical Caring Theory supports theory-guided, nursing research to inform PHN practice and education supportive of CSE for all adolescents at risk for unplanned teen pregnancy with the goal to create equitable access to preventative education for all adolescents.

## Psychometric Testing of Self-Efficacy & Recall Questionnaires for Children

*Jane H. Lassetter, PhD, RN*
*Associate Professor*
*College of Nursing*
*Brigham Young University, Provo, UT*

*Christopher I. Macintosh, BS, RN*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Mary Williams, PhD, RN*
*Associate Dean*
*College of Nursing*
*Brigham Young University, Provo, UT*

*Gaye Ray, MS, FNP*
*Assistant Professor*
*College of Nursing*
*Brigham Young University, Provo, UT*

*Martha Driessnack, PhD, PNP-BC*
*Associate Professor*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

*Jonathan J. Wisco, PhD*
*Associate Professor*
*Physiology & Developmental Biology*
*Neuroscience Center*
*Brigham Young University, Provo, UT*

**Purposes/Aims:** To assess the psychometric properties of the Healthy Eating and Physical Activity Self-Efficacy Questionnaire for Children (HEPASEQ-C) and the Healthy Eating and Physical Activity Behavior Recall Questionnaire for Children (HEPABRQ-C), which are questionnaires we developed with and for children.

**Rationale/Conceptual Basis/Background:** It is vital to engage children in research using instruments that have been designed specifically for them. With input and feedback from children, we recently developed the HEPASEQ-C and HEPABRQ-C and continued, in this study, with psychometric testing.

**Methods:** We administered our 9-item HEPASEQ-C and 10-item HEPABRQ-C to a sample of fourth to sixth grade children. Exploratory factor analysis was conducted using data from the 492 children who completed the questionnaires. Internal consistency reliability was also evaluated.

**Results:** Principal Axis Factoring with orthogonal rotation resulted in a one-factor solution for the HEPASEQ-C. All items loaded on a single factor named Self-Efficacy. Internal consistency reliability was deemed acceptable with a Cronbach's alpha value of .749. All items except item six, which is about dairy consumption, were moderately correlated with the total ($r$ = .422 to .481). Item six demonstrated a low item-total correlation ($r$ = .257). However, retaining item six did not significantly lower the Cronbach's alpha for the questionnaire, and we retained it in interest of theoretical completeness. The results of this exploratory factor analysis demonstrate construct validity for the HEPASEQ-C. Regarding the HEPABRQ-C, quantitative recall items were combined for an overall healthy eating and physical activity index score. Behavior recall index items correspond with self-efficacy questionnaire items and allow for comparison between self-efficacy, as assessed by the questionnaire, and self-reported behaviors, as assessed by the index. Pearson product moment correlation between self-efficacy and recall scores was significant ($r = .501$, $p = .000$).

**Implications:** Our questionnaires, HEPASEQ-C and HEPABRQ-C, fill a gap in health and behavior research by providing a quick and simple way to reliably and validly assess and compare children's self-efficacy and recalled behavior related to healthy diet and physical activity.

---

Funding: Mentoring Environment Grant, Brigham Young University, Office of Creative Activity.

# THE ADOLESCENT/YOUNG ADULT

## Adolescent Pregnancy and Depression and Migration: A Binational Analysis

*Mary Lou de Leon Siantz, PhD, RN, FAAN*
*Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

*Nicte Castaneda Camey, PhD*
*Professor*
*Centro Universitario de Ciencias*
*Economico Administrativa*
*University of Guadalajara*
*Jalisco, MX*

*Lisceth Brazil Cruz, PhD*
*Post-Doctoral Fellow*
*Center for Transnational Health*
*University of California, Davis*
*Davis, CA*

*Rosa Manzo, PhD*
*Post-Doctoral Fellow*
*Center for Transnational Health*
*University of California, Davis*
*Davis, CA*

*Phillip Bautista, RN*
*Research Assistant*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

**Purpose:** Adolescent depression and pregnancy are the two most significant problems affecting adolescent health in the Americas (PAHO 2010). The effect of migration on risk for adolescent depression and pregnancy is not well understood. The purpose of this binational study was to explore and compare the migration experience and its impact on the depression, pregnancy rates, and access to care among 14-17 year old Mexican origin girls from Jalisco, Mexico, and the California Central Valley.
**Background:** The effect of migration on risk for depression and pregnancy during adolescence is not well understood. Limited research exists concerning the experience and prevalence of mental health problems among immigrant Latino adolescents in general, particularly those who migrate. Cross sectional and longitudinal research have determined that depressive symptoms are associated with earlier onset and more persistent patterns of risky sexual behavior among adolescents. Health policies in the U.S. rarely focus on the migration experiences, mental, reproductive health, and access to care of adolescent Mexican origin girls who migrate (Zimmerman, Kiss, Hossain, 2011). The phenomenon of juvenile Mexican migration into the U.S. has been traditionally viewed as a pattern of displacement explained by the migration of parents or other family members, focused primarily on males. Thus, the study of youth has narrowly focused quantitatively on a minor data point, lacking differentiation of generations, gender, migration stage, or its impact on mental, reproductive health, and access to care, especially among adolescent girls. A need exists to explore both the experience as well as risk for depression, pregnancy, and access to care during migration of adolescent girls.
**Methods:** Grounded in a gender focused multistage migration framework (Zimmerman, Kiss & Hossain, 2011), a mixed method design employing both qualitative and quantitative approaches was used to compare the migration experiences of girls in Jalisco Mexico and Central California. A sample of convenience included 120 Mexican origin girls, 14 – 17 years of age with 60 girls from Jalisco, Mexico and 60 from the Central Valley of California.
**Results:** Study participants in both locations reported higher rates of depression than expected, with similarities in both countries. Pregnancies were also documented as well as limited or no access to health care for reproductive or general health, especially mental health. Through focus group discussions, girls in both countries revealed that they were afraid to seek health care for their reproductive health needs, especially contraception. They related that confidentiality and privacy were not respected in the small towns where they either passed through or relocated. Girls described fear of violence and rape during migration, especially if traveling alone. They avoided traveling after dark if at all possible when alone.
**Implications:** The insensitivity of health staff to the needs of immigrant girls from cultures different from host countries is often more pronounced in the context of migration. Health policies have been developed in binational silos with contradictory health policy goals. A need exists for collaborative binational approaches to prevent not exacerbate the mental and reproductive health risks of Mexican origin adolescent girls during migration.

---

**Funding:** By PIMSA: Health Initiatives of the Americas, School of Public Health, UC Berkeley.

# THE CHALLENGE OF MANAGING SYMPTOMS

## CHILD SYMPTOM MANAGEMENT IN THE EMERGENCY DEPARTMENT: A DIMENSIONAL CONCEPT ANALYSIS

*Donald W. Mitchell*

## "ONE HUNDRED CLOSED DOORS": TREATMENT DECISION-MAKING IN UNCONTROLLED FOCAL EPILEPSY

*Huibrie C. Pieters, Sandra Dewar*

## "TAKING CONTROL": SYMPTOMS AND QUALITY OF LIFE IN PERSONS ON HEMODIALYSIS

*Kim J. Cox, Stephen H.A. Hernandez, Mark B. Parshall,*
*Sanah Z. Parvez, Mark L. Unruh*

## EXPLORATION OF EFFECTS OF FEMALE URINARY INCONTINENCE ON THE INTIMATE RELATIONSHIP

*Lori S. Saiki*

## IMMIGRATION TRANSITION AND CARDIOVASCULAR SYMPTOMS IN MIDLIFE WOMEN

*Eun-Ok Im, Young Ko, Eunice Chee, Wonshik Chee*

# THE CHALLENGE OF MANAGING SYMPTOMS

## Child Symptom Management in the Emergency Department: A Dimensional Concept Analysis

*Donald W. Mitchell, PhD, RN, CPEN*
*Postdoctoral Fellow*
*School of Nursing*
*University of California, San Francisco*
*San Francisco, CA*

**Purpose:** The purposes of this study are to conduct an analysis of the concept of children's acute symptom management in the Emergency Department (ED) from the parent's perspective, and develop an initial model of children's ED symptom management to guide future research. Three questions guided this analysis: (1) What is the nature of children's acute symptom management?; (2) What are the dimensions of children's symptom management that apply to the ED setting/context?; (3) What does children's symptom management in the ED mean from the parent's perspective?

**Definition of Concept:** Child symptom management in the ED context from the parent perspective is a process with four central dimensions. (1) *Symptom processing* is comprised of two sub-dimensions: *noticing symptoms*, where parents observe their child's intentional and unintentional illness symptom expressions; and *symptom appraisal*, where parents interpret the symptom expressions and decide what to do about them. (2) *ED symptom interventions* involve parents choosing to access the ED and the actual symptom-related interventions by providers. (3) *Parent's perception of symptom control* is the proximate outcome of treatment, and ideally consists of parents both gaining sufficient understanding of the underlying illness process and what, if anything, they need to do to manage the illness symptoms at home. This can affect (4) *symptom status outcomes*: perception of decreased frequency, severity, and distress of acute illness symptoms; and optimal perceived child health status.

**Concept Analysis Approach:** This synthesis was conducted using a dimensional concept analysis (DCA) approach. Originally described as a variant of Grounded Theory, DCA not only analyzes the dimensions of a concept and their relationship, but emphasizes that concepts only have meaning when considered in terms of their context and perspective.

**Linkage of Concept to Nursing Research:** Acute illness symptoms and acute symptoms of chronic illness in children are frequently alarming to parents, and in the United States, this often leads to seeking treatment through the Emergency Department. Despite millions of such visits annually, the meaning of child symptom management has not been described in the ED context or from the parent perspective. This is an obstacle to nursing research in this area.

**Conclusions:** The conceptual dimensions identified allow the construction of a testable theoretical model of child acute symptom management in the ED context from the parent perspective. A subsequently validated model of this phenomenon will allow clinicians and nurse researchers to better understand which interventions are effective for child symptom management in the ED, and to what extent.

---

Funding: 5T32NR007088-20 National Institutes of Nursing Research, Bethesda, MD.

# THE CHALLENGE OF MANAGING SYMPTOMS

## “One Hundred Closed Doors”: Treatment Decision-Making in Uncontrolled Focal Epilepsy

*Huibrie C. Pieters, PhD, DPhil, RN*
*Assistant Professor*
*School of Nursing*
*University of California, Los Angeles, CA*

*Sandra Dewar, RN, MS*
*Clinical Nurse Specialist*
*Seizure Disorder Center*
*University of California, Los Angeles, CA*

**Aims:** The aim of our research was to describe patient perspectives of how and when specialist treatment for drug-refractory epilepsy is sought.

**Background:** Referral rates to comprehensive epilepsy centers are disappointing despite Class 1 evidence (2001) and practice guidelines (2003) communicating best practice for patients with uncontrolled focal epilepsy. While patient perceptions of disease severity may drive access to specialized epilepsy centers, the literature has neither described patient decisions to undergo evaluation at a comprehensive epilepsy center nor when patients are willing to consider surgical options.

**Methods:** Constructivist grounded theory was used to describe decision-making from a personal perspective. Eligible participants were patients with focal epilepsy able to consent for treatment and communicate in English. Personal, semi-structured interviews were completed with two groups of participants: in-patients undergoing a pre-surgical evaluation for uncontrolled focal epilepsy (n=15) and out-patients that met criteria for epilepsy surgery and had signed an informed consent to pursue surgery (n=18). The total sample (N=33) included 13 men and 20 females with a mean age of 36 years (range 18-68 years). Data analysis comprised initial coding, focus coding and theoretical coding with reflexive memo-writing and diagramming throughout.

**Results:** Narratives traced a long journey from diagnosis to seeking specialist treatment and highlighted many “closed doors.” Treatment experience is frequently accompanied by doubt and disbelief. Accepting a diagnosis and seeking care was influenced by how epilepsy was understood and how the functional role of the brain was perceived.

Two interconnected categories describe how and when evaluation at an epilepsy center is undertaken: (a) how patients create meaning of a complex disorder and accept a seizure diagnosis, and (b) reflect on the functional role of the brain. Making sense of a condition that is outwardly invisible and frequently not regarded as disabling, contributes to a lonely journey. The central role of the brain was described with words such as “the master organ” and “the core of the self”. Although surgery to this vital body part evokes fear, surgery is regarded as an opportunity to restore a true self, independence and hope.

**Implications:** Doors that were perceived as closed needed to be opened to facilitate surgical consent. We recommend communication strategies that promote informed decision-making and timely treatment thereby enabling patients with epilepsy to move on with their lives. Nurses across disciplines and treatment settings can play a key role in opening doors to optimize care for people living with uncontrolled seizures.

# THE CHALLENGE OF MANAGING SYMPTOMS

## “Taking Control”: Symptoms and Quality of Life in Persons on Hemodialysis

*Kim J. Cox, PhD, RN*
*Assistant Professor, College of Nursing*

*Stephen H.A. Hernandez, PhD, RN*
*Assistant Professor, College of Nursing*

*Mark B. Parshall, PhD, RN*
*Professor, College of Nursing*

*Sanah Z. Parvez, MD*
*Post-Doctoral Fellow, Nephrology*
*Dept. of Internal Medicine*
*School of Medicine*

*Mark L. Unruh, MD*
*Chief of Nephrology*
*Dept. of Internal Medicine*
*School of Medicine*

*University of New Mexico*
*Albuquerque, NM*

**Purposes/Aims:** The purpose of this study was to examine the values, preferences, and domains of interest that affected the quality of life of adults on hemodialysis. We aimed to describe the effect of their hemodialysis-related symptoms on quality of life and to determine whether there were differences in patient-expressed values related to gender, race, or ethnicity.
**Background:** Assessment of quality of life is a requirement for hemodialysis providers in the US. This is routinely done in dialysis centers using standard questionnaires. Despite this ongoing assessment, there is little evidence that quality of life has improved. Experts have suggested that the lack of improvement in quality of life may be related to the type and severity of symptoms that hemodialysis patients experience. However, the use of standardized questionnaires alone is unlikely to capture symptoms with the greatest impact on QOL or the nuances of how patients experience, prioritize, and manage their symptoms.
**Methods/Sample:** Qualitative study using semi-structured interviews conducted during regularly-scheduled hemodialysis visits. Participants (N = 50; 48% female; 42% Hispanic; 30% American Indian; 14% Black; 12% non-Hispanic White) were recruited from 6 outpatient dialysis centers (4 urban, 2 rural) in the southwestern US. Median (25th, 75th percentiles) age and duration of hemodialysis was 53 (46, 64) and 4.0 (1.9, 6.5) years. Interviews were audio-recorded, transcribed, and analyzed thematically using Thorne’s method of interpretive description.
**Results:** Three primary themes emerged: accepting life on dialysis, educating yourself, and maintaining quality of life. Most participants reported having come to acceptance of dialysis after an initial period of shock and denial. “It’s me that has to do it;” keeping a positive attitude, and taking control were key aspects of acceptance. Educating yourself focused primarily on dietary and fluid management. Maintaining quality of life consisted of managing symptoms and strengthening relationships. Cramping and fatigue were the most common and bothersome symptoms. Negotiating fluid removal with dialysis personnel helped to manage cramping. Choice over days and shifts for hemodialysis contributed to managing fatigue. There were few differences in symptoms by sex, race or ethnicity. American Indian participants had some distinctive perspectives on quality of life.
**Implications:** Convenience sampling in one state and potential self-selection bias may limit interpretation of the findings. Committing to the need for dialysis, maintaining a positive outlook, learning to live with fluid and dietary restrictions, managing fatigue and cramping, and relationships with family and health care providers were crucial aspects of maintaining quality of life on hemodialysis. Nurses and other health care providers can assist in improving quality of life by helping patients to control dialysis-related symptoms and listening carefully for values and preferences that matter most to them.

---

**Funding:** This study was supported by Grant #S-2580 from Dialysis Clinic, Inc. The authors declare that they have no competing financial interests or relationships relevant to the design, conduct, or reporting of this research.

## Exploration of Effects of Female Urinary Incontinence on the Intimate Relationship

*Lori S. Saiki, PhD, RN*
*Assistant Professor*
*Department of Nursing*
*Metropolitan State University of Denver*
*Denver, CO*

**Purpose:** The purpose of this study was to explore the potential for impact of female urinary incontinence on the midlife woman's relationship with her intimate partner, from a chronic illness framework. The specific aims were to explore potential associations among urinary incontinence symptom severity, relationship satisfaction, select biographical work factors (self-esteem, body image, depression, anxiety), and select relationship work factors (relational ethics, sexual quality of life, incontinence-related communication).

**Rationale:** Urinary incontinence is a major chronic health concern for midlife women, with demonstrated effects on self-concept, life-style, and sexual function. Potential effects of female urinary incontinence on women's intimate relationships remain underexplored. The Corbin and Strauss Collaborative Chronic Illness Trajectory Model identifies biographical work and relationship work engaged in when coping with a chronic illness as a couple.

**Methods:** This study utilized a descriptive, exploratory, point-in-time design. Partnered women aged 45-65 with self-reported stress, urgency or mixed urinary incontinence were recruited through purposive, community-based, social media, and snowball sampling methods. Recruited women offered participation to their partner. Participants completed anonymous, confidential, mailed surveys. Established valid, reliable instruments were chosen as operationalized measures of the study variables.

**Results:** No significant correlations were found for women ($N$ = 57) or for partners ($N$ = 43, male) between urinary incontinence symptom severity and a) relationship satisfaction, b) all measures of biographical work, or c) all measures of relationship work. Women and partner scores on measures of the relationship were congruent by paired samples $t$-test. Significant correlations were demonstrated among all women's biographical variables and their relationship variables ($r$ = -.39 to -.71, $p < .05$), and with these variables and women's relationship satisfaction ($r$ = .31 to .87, $p < .05$). Partners' scores on incontinence-related communication demonstrated significant correlations with women's biographical measures ($r$ = -.36 to -.60, $p < .05$) and with partners' relationship measures, including relationship satisfaction ($r$ = .36 to .47, $p < .05$). On exploratory standard multiple regression, women's scores on self-esteem, body image, depression, anxiety, sexual quality of life, and incontinence-related communication explained 56% of the variance in women's scores on relationship satisfaction ($F$ (6, 47) = 9.93, $p < .001$; $R^2 = .56$), with significant unique contributions from sexual quality of life (19%) and women's depressive symptoms (9%).

**Implications:** Nurses are encouraged to consider the potential for impact of female urinary incontinence symptom management on the intimate relationship from a chronic illness perspective. Findings in this study suggest that when partnered midlife women describe symptoms of urinary incontinence during routine health screening, an assessment of sexual quality of life and depressive symptoms may be helpful in assessing the impact of symptoms on the woman's intimate relationship. Contribution of incontinence-related communication patterns between women and partners needs further exploration.

---

Funding: This study was funded in part by a research grant from Sigma Theta Tau International, Gamma Sigma Chapter.

# Immigration Transition and Cardiovascular Symptoms in Midlife Women

*Eun-Ok Im, PhD, MPH, RN, CNS, FAAN*
*Professor & Marjorie O. Rendell Endowed Professor*
*School of Nursing*
*University of Pennsylvania*
*Philadelphia, PA*

*Young Ko, PhD, RN*
*Assistant Professor*
*School of Nursing*
*Gachon University*
*Incheon, South Korea*

*Eunice Chee, BSE*
*Research Assistant*
*School of Engineering and Applied Science*
*University of Pennsylvania*
*Philadelphia, PA*

*Wonshik Chee, PhD*
*Independent Consultant*
*School of Nursing*
*University of Pennsylvania*
*Philadelphia, PA*

**Purpose/Aims:** The purpose of the study is to determine the relationship between immigration transition and cardiovascular symptoms experienced by midlife women from four major ethnic groups in the U.S.

**Background:** Midlife with menopausal transition is reportedly a life stage with multiple changes that could make women at risk of cardiovascular diseases. Furthermore, when immigration transition is added to the women's menopausal transition, the picture of their cardiovascular disease and/or symptom experience becomes more complex. In general, immigration transition has been reported to influence midlife women's cardiovascular risks across the globe, but the direction of the relationships is not consistent in the literature.

**Methods:** This is a secondary analysis of the data from two national Internet surveys on menopausal symptoms and physical activities of midlife women in menopausal transition. A total of 1,054 midlife women in the original studies were selected for this study. The instruments included questions on background characteristics and immigration transition, and the Cardiovascular Symptom Index for Midlife Women (CSIMW). The data were analyzed using inferential statistics including hierarchical multiple regressions.

**Results:** The total numbers ($t=5.268$, $p<.01$) and total severity scores ($t=5.493$, $p<.01$) of cardiovascular symptoms were significantly different by immigration status. However, there were no significant differences in the total numbers and total severity scores of cardiovascular symptom by immigration status in each ethnic group. The self-reported racial/ethnic identify was a significant factor influencing the women's cardiovascular symptoms, and accounted for 2.2% of the total variances of total numbers ($Fch=9.100$, $p<.01$) and 2.0% of the total variances of total severity scores of cardiovascular symptoms ($Fch=8.564$, $p<.01$). However, immigration status, length of stay in the U.S., and level of acculturation were not significant factors influencing the total numbers and total severity scores of cardiovascular symptoms when background characteristics and self-reported racial/ethnic identify were controlled.

**Conclusions/Implications:** Self-reported racial/ethnic identity could be used as a better predictor of midlife women's cardiovascular symptoms than other immigration transition variables (immigration status, length of stay in the U.S., and level of acculturation) in future development of interventions for cardiovascular health of midlife women.

---

**Funding:** The original two studies that provided the data for this secondary analysis were funded by the National Institutes of Health (NIH/NINR/NIA and NIH/NINR/ NHLBI) (R01NR008926 and R01NR010568).

# WOMEN MOVING THROUGH MIDLIFE

### CHANGES IN PERIMENOPAUSAL WOMEN'S BONE HEALTH: A LONGITUDINAL BMD STUDY

*Ann Falkenberg Olson*

### DEPRESSED MOOD DURING THE MENOPAUSAL TRANSITION: IS IT MENOPAUSE OR IS IT LIFE?

*Nancy Fugate Woods, Ellen Sullivan Mitchell*

### TESTING OF A MODEL OF SELF-AWARENESS ON HOT FLASH SEVERITY

*Lisa J. Taylor-Swanson*

### ASSESSING SELF-CONSCIOUSNESS SCALE VALIDITY IN A MIDLIFE WOMEN SAMPLE

*Lisa J. Taylor-Swanson*

# WOMEN MOVING THROUGH MIDLIFE

## Changes in Perimenopausal Women's Bone Health: A Longitudinal BMD Study

*Ann Falkenberg Olson, PhD, RN, FPNP-BC, WHNP-BC, FAANP*
*Nurse Research Scientist*
*Gundersen Health System*
*La Crosse, WI*

**Purposes/Aims:** To determine bone mineral density (BMD) changes among a cohort of healthy aging women over time.

**Rationale/Conceptual Basis/Background:** Projected incidence and economic burden of osteoporosis will escalate sharply in the near future, with 80% of cases affecting women. Osteoporosis risk increases during perimenopause; despite this predictable risk, most women and their providers are unaware of their BMD/bone health status. Evidence supports that adults reach and maintain peak bone mass by age 40. Current age-related clinical guidelines (baseline BMD screening at age 65) for healthy women miss opportunities for early risk detection. Research is needed among women younger than age 65 to assess evidence and progression of low bone density over time. Further study may determine if age-related guidelines should recommend earlier baseline BMD screening.

**Methods:** The first phase of this ongoing longitudinal comparative descriptive study evaluates individual BMD change over time among 150 perimenopausal women (aged 35-55) who participated in a baseline 2008 experimental study (behavioral effects of BMD testing and bone health information interventions). The average participant, at baseline, was 46.4 years old, married, Caucasian, with a BMI of 27.7, with some post-secondary education, and was engaging in appropriate bone health behaviors. The original baseline study, using the lowest T-score (hip, femoral neck, lumbar spine, forearm) to categorize BMD status, demonstrated low BMD prevalence of 28%. IRB-approved quarterly health-record review of BMD results began June 2015, with annual review/renewal. Baseline (2008 original study) and the first follow-up BMD test results were compared and categorized according to current osteoporosis risk categories; June-September 2015 data were analyzed. All follow-up BMD testing was performed at least two years past baseline.

**Results:** N=148. Of those with low baseline BMD (n=43), 27.8% (n=10) had at least one BMD test/follow-up since 2008; BMD% change (range; mean) per anatomical site was: hip (-8 to -1; *M*=-4.2); femoral neck (-11 to +2; *M*=-5.2); lumbar spine (-9 to -3; *M*=-7.5). All had sustained low BMD status. Of those with normal baseline BMD (n=105), 12.4.8% (n=13) had at least one BMD test/follow-up since 2008; BMD% change (range; mean) per anatomical site was: hip (+8 to -14; *M*=5.2); femoral neck (+5 to -20; *M*=6.4); lumbar spine (0 to -17; *M*=6.6). Four advanced to low BMD status.

**Implications:** Early detection of osteoporosis risk is imperative for patients and nursing professionals to promote effective interventions and clinical surveillance, as well as for researchers to explore innovative strategies that impact bone health. This ongoing longitudinal study, with the first two quarters of data analyzed, supports current evidence that BMD loss occurs during perimenopause. This study addresses the need for earlier baseline screening among women, prior to current age-related guidelines.

# WOMEN MOVING THROUGH MIDLIFE

## Depressed Mood during the Menopausal Transition: Is it Menopause or is it Life?

*Nancy Fugate Woods, PhD, RN, FAAN*
*University of Washington, Seattle*

*Ellen Sullivan Mitchell, PhD*
*University of Washington, Seattle*

**Background:** Although some evidence suggests that women may develop a first major episode of depression during the menopausal transition, there has been limited effort to distinguish the influence of the menopausal transition on depressed mood symptoms. Some question whether we are overpathologising the menopause as we focus on association with studies of major depressive disorder.

**Aim:** The aim of this set of analyses is to examine the evidence for an association of menopausal transition factors (endocrine levels, stages of reproductive aging) vs health-related factors, social factors, stress, and symptoms with depressed mood.

**Methods:** A subset of Seattle Midlife Women's Health Study participants (n= 131 with up to 4905 observations) provided data during the late reproductive, early, and late MT stages and early PM, including menstrual calendars, annual health updates 1990, and symptom diaries and urine specimens assayed for hormones several times per year. Multilevel modeling with an r program was used to test models accounting for hot flash severity. Separate models of endocrine factors and stress-related, health-related, and personal factors were tested using $p<.05$.

**Results:** In individual models with age as a covariate, being in the early PM stage was associated with lower severity depressed mood, as were having a higher estrone levels and being partnered. Amount of exercise, greater perceived stress, having a history of sexual abuse, difficulty getting to sleep, early am awakening, and awakening at night were all associated with higher depressed mood severity. When all significant variables were considered in a multivariate model, the most important factors influencing depressed mood included perceived stress, history of sexual abuse, amount of exercise, problem getting to sleep, early awakening, and being partnered. There were no effects of hot flashes, number of births, BMI, alcohol use, FHS level on depressed mood.

**Conclusion:** Depressed mood was affected largely by factors other than the menopausal transition, such as perceived stress, history of sexual abuse, being partnered, physical activity, and sleep symptoms. Clinicians need to consider factors other than reproductive hormones in the maintenance of depressed mood during the menopausal transition and early postmenopause.

---

**Funding:** National Institute of Nursing Research R01-NR 04141; NINR P30 NR 04001.

# WOMEN MOVING THROUGH MIDLIFE

## Testing of a Model of Self-Awareness on Hot Flash Severity

*Lisa J. Taylor-Swanson, PhD, MAcOM, EAMP*
*Part-Time Lecturer*
*School of Nursing and Health Sciences*
*University of Washington Bothell*
*Bothell, WA*

**Background:** Although some non-pharmacologic therapies for symptoms (such as yoga or mindfulness-based stress reduction) rely on methods that promote self-awareness, little is known about the relationship of self-awareness and symptom experience, particularly in the symptom evaluation phase. Symptoms may be perceived to be severe, bothersome, or interfering.

**Objective:** The purpose of this study was to test the effects of internal states awareness (ISA), self-reflectiveness (SR), perceived stress, anxiety, attitudes, beliefs, and menopausal transition stage on hot flash (HF) severity.

**Design:** Women from the Seattle Midlife Women's Health Study (N=219) provided data for these analyses. Structural equation modeling was used to evaluate ISA, SR, perceived stress, anxiety, attitudes toward menopause, health perceptions, and menopausal stage with respect to HF severity.

**Results:** The measurement and structural models were tested with a maximum likelihood missing values estimator and displayed good model fit. Significant pathways were demonstrated between MT stage and HF severity ($\beta = .20$, $p<.01$), perceived stress and attitudes toward menopause ($\beta = -.30$, $p<.001$), perceived stress and anxiety ($\beta =.63$, $p<.001$), and SR and perceived stress ($\beta =.51$, $p<.001$). ISA predicted hot flash severity in a final trimmed model ($\beta =.17$, $p<.05$).

**Conclusion:** ISA was predictive of HF severity with a positive relationship, not with a negative predictive relationship, as originally hypothesized. This novel finding merits further study to further clarify how ISA affects symptom evaluation. Stress mediates a causal pathway between SR and attitudes toward menopause as well as SR and anxiety. As SR increases, stress increases, as does anxiety, and attitude worsens. Perceived stress, anxiety, and attitude are plausible targets for future intervention design and testing.

# WOMEN MOVING THROUGH MIDLIFE

## Assessing Self-Consciousness Scale Validity in a Midlife Women Sample

*Lisa J. Taylor-Swanson, PhD, MAcOM, EAMP*
*Part-Time Lecturer*
*School of Nursing and Health Sciences*
*University of Washington Bothell*
*Bothell, WA*

**Background:** The Self-Consciousness Scale (SCS) assesses the tendency to direct one's attention inward or outward and has been utilized since the mid-1970s (Fenigstein et al., 1975). The scale initially included three subscales: private self-consciousness, public self-consciousness, and social anxiety. Researchers subsequently identified two factors to comprise private self-consciousness: internal state awareness (ISA) and self-reflectiveness (SR), resulting in a four-factor structure to the scale. ISA is designed to measure reflection, or balanced self- awareness; SR is designed to measure rumination, or self-absorption. A five-factor model has also been identified and includes ISA, SR, social anxiety, and two factors comprising public self-consciousness: appearance self-consciousness and style self-consciousness.

**Objectives:** The purpose of this study was to evaluate the SCS factor structure and construct validity with data collected from a community sample of midlife women. It was hypothesized that a four-factor model would best fit the data. These analyses are undertaken to determine if the SCS is a reliable and valid measure of self-awareness and rumination in a sample of midlife women.

**Method:** A confirmatory factor analysis was conducted on data collected from 232 women participating in the Seattle Midlife Women's Health Study (SMWHS). Data collected included the Self-Consciousness Scale. Items used for construct validity analyses were from the Symptom Checklist-90-Revised (three subscales of the SCL-90-R: somatization, obsessive-compulsiveness and hostility), Life Orientation Test-Revised (LOT-R subscale: optimism), the Center for Epidemiologic Studies-Depression (CESD), and questions regarding anxiety, coping, and stress.

**Results:** Confirmatory factor analyses did not confirm any of the factor models. The ISA and SR subscales both demonstrate good fit indices, with ISA being established with CFI=1.00; TLI=1.03; RMSEA=0.00, while fit indices for SR were CFI=1.00; TLI=1.03; RMSEA=0.00. Good fit was also demonstrated when ISA + SR subscales were evaluated together (CFI=.95; TLI=.94; RMSEA=.05). Construct validity correlations were as hypothesized: SR significantly positively correlated with anxiety (.25, <.001), depression (.18, $p<.05$), and hostility (.21, $p<.01$); ISA was not correlated with psychological concepts; and public SC was positively correlated with somatization (.71, $p<.05$) and obsessive-compulsiveness (.76, $p<.05$). Additionally, ISA and SR were significantly positively correlated with one another (.41, $p<.001$).

**Conclusion:** This analysis did not confirm any of the factor models, and relationships between ISA, SR and public SC were identified in the construct validity analyses. The ISA and SR subscales appear to measure distinctly different concepts in a valid way. It is reasonable to use the ISA and SR subscales to assess concepts of balanced self-awareness (ISA) and rumination (SR). However, if all the concepts evaluated by the SCS were to be assessed in a future study, the scale as a whole is of concern as we were not able to confirm the overall factor structure.

# Abstracts of Poster Presentations

## ACUTE CARE

### PATIENT ATTRIBUTES AND THEIR EFFECTS ON ALARM BURDEN IN THE ICU

*Deborah A. Rothhaar*

---

### A NEW PERSPECTIVE ON CATHETER-ASSOCIATED URINARY TRACT INFECTIONS

*Alecia Cosgrove Nye, Gail Oneal, Kenn B. Daratha, Janessa Graves*

---

### PREDICTORS OF SEPTIC PATIENT OUTCOMES

*Kim Reina Failla, Cynthia D. Connelly*

---

### IMPACT OF NURSE DRIVEN LACTATE PROTOCOL FOR EARLY SEPSIS IDENTIFICATION

*Cynthia Briner, Shawn Cosper*

---

### THE EFFECT OF NURSES ROLE EXPANSION ON PATIENT'S OUTCOMES

*Kathy Lopez-Bushnell*

---

### DOES THE DEDICATED EDUCATIONAL UNIT CLINICAL MODEL IMPROVE CRITICAL THINKING

*Thomas J. Hendrix, Maureen O'Malley*

---

### ACHIEVING ZERO: ELIMINATING CENTRAL LINE-ASSOCIATED BLOOD STREAM INFECTIONS

*Catherine L. Van Nieuwenhuyzen*

## IMPLEMENTATION OF AN ORAL CARE PROTOCOL TO IMPROVE NURSING PRACTICE

*Acamie DeNette Anderson*

---

## UNDER PRESSURE: HOW THE CVICU REDUCED THE PREVALENCE OF UNIT-ACQUIRED PRESSURE ULCERS

*Emelia Gubrud, Sarah Erickson*

---

## PREVENTING PRESSURE ULCERS: AN EDUCATIONAL APPROACH

*Carolina Baldwin, Julie Arbogast, Sandi Baus, Christian Beier, Katherine Hendricks, Lourdes Leon, Megan Poje, Alina Wingstad*

---

## MONITOR ALARM FATIGUE IN CRITICAL CARE NURSES

*Robin M. White*

---

## BRIEF DE-BRIEFING OF CRITICAL INCIDENTS WITH MEDICAL INTENSIVE CARE STAFF

*Karen Reavis, Lacy Dahlgren*

# ACUTE CARE

## Patient Attributes and Their Effects on Alarm Burden in the ICU

*Deborah Rothhaar, MSN, RN*
*UCLA School of Nursing*
*Los Angeles, CA*

**Purpose/Aims:** To determine environmental and patient attributes that increase the risk for alarm fatigue among nurses. We tested the hypothesis that monitor and alarm responses are positively associated with increased patient age, obesity, discordancy between nurse-patient race and ethnicity, and concordance with gender, and number of unit-wide alarms/hr.

**Rationale/Conceptual Basis/Background:** Electronic instruments routinely provide vital cardiovascular (CV) and neurological information about acutely ill patients. Sensory overload related to the number and quality of external monitor alarms may lead to nurse fatigue in acute care settings. When alarms are excessive, nurses may lower the volume, and disable or ignore alarms, possibly due to overconfidence in their assessment. The U.S. Food and Drug Administration estimates greater than 90 deaths/year result from alarm fatigue. Experts evaluate alarm fatigue as the number one health technology hazard for 2015. Factors that favorably and adversely affect nurse interactions with monitoring technology are unclear.

**Methods:** This cross sectional study evaluates the association between patient and environmental characteristics and the rate and character of alarms (/hr) as well as alarm response characteristics by nurse providers. Patient demographic, diagnostic and morphological characteristics were abstracted from the medical record. The sample was 102 patients all greater than 18 years of age admitted to 1 of 4 intensive care units in a single major tertiary care center. Exposure of interest included patient age, gender, race, BMI and patient care acuity rating. Outcomes of interest included number, timing, duration of alarms detected by electronic monitoring instruments using AlarmX and Bedmaster software.

**Results:** Descriptive and tabular analyses were used to explore the data. The association between patient care acuity evaluation and number of alarms/24 hour period were evaluated using odds ratios and 95% Confidence Intervals. Bivariate analyses suggest that a higher acuity rating is positively associated with greater frequency of greater than 100 alarms in a 24 hour period, Latinos have a proportionately higher patient care acuity rating tan other racial groups in this study sample. BMI, race and gender were not associated with higher rates of alarms in this study sample.

**Implications:** Patient acuity is positively associated with greater alarm frequency and may require additional external monitoring management to prevent caregiver alarm fatigue.

# ACUTE CARE

## A New Perspective on Catheter-Associated Urinary Tract Infections

*Alecia Nye, RN, MN, Doctoral Student*
*Kenn B. Daratha, PhD, Associate Professor*
*Gail Oneal, RN, PhD, Assistant Professor*
*Janessa Graves, PhD, Assistant Professor*
*Washington State University College of Nursing*
*Spokane, WA*

**Background:** Catheter-associated urinary tract infection (CAUTI) is the most common healthcare-associated infection. There are almost 450,000 CAUTI events annually, accounting for more than 40% of acute care hospital infections. There are 13,000 annual deaths from UTIs, and the total cost of care for CAUTI events is estimated at more than $340 million annually.

CAUTIs are clearly a problem of epic—and perhaps nearly epidemic—dimensions. While this has provoked a concerted effort to improve prevention, that effort has not extended to seeking multifactorial and potentially interacting points of causality at the patient, nursing, unit, and facility level that might account for increased patient risk of CAUTIs.

CAUTIs have three significant impacts that make incidence reduction a compelling national healthcare priority.

- They are responsible for substantial morbidity.
- They are responsible for substantial mortality.
- They have become very costly to hospitals. As of October 2008 they are one of eight "never events" for which Medicare/Medicaid (and by extension, many commercial insurers) will not reimburse the hospital, skilled nursing facility, or long-term care facility.

**Purposes/Aims/Methods:** Using a retrospective observational cohort study design, the study in progress is analyzing data for the years 2009-2013 drawn from the Washington state Comprehensive Hospital Abstract System (CHARS) database with the goals of

1. Identifying the patient, nursing, unit, and facility factors associated with CAUTIs among adult hospitalized patients;
2. Describing the demographic and clinical characteristics of those patients;
3. Describing the magnitude and direction of the relationships between the predictive variables and development of CAUTIs;
4. Identifying the characteristics of patients at greatest risk for a CAUTI so that human, fiscal and physical resources can be most effectively and efficiently applied to reduce infection rates.
5. Providing an evidence-based strategic plan for better deployment of nursing resources to break the chain of CAUTI causality and improve patient outcomes.

**Results and Outcomes:** In progress.

**Significance/Implications:** This study is important at four levels: patient, policy, cost, and nursing strategy.

At the patient level, there is an urgent need to seek further reductions in the incidence of CAUTI. With more than 400,000 people a year affected, and 13,000 dying, this is a challenge that must be met. At the policy level, solid evidence for multi-level factors would enable CDC, The Joint Commission, and other standards-setting organizations to provide evidence-based guidance on new initiatives that would yield reduction in infection rates.

CMS payment policy has shifted a third of a billion dollars in annual costs to hospitals, many of which are already financially stressed.

Finally, and most importantly, the results of this study will provide nurses with an important evidence-based first step in developing a more comprehensive tool that enables them to positively affect patient outcomes, reduce patient morbidity, and help avoid patient mortality.

This study seeks to demonstrate that with a better understanding of the fundamentals, the rate of CAUTIs could be significantly reduced, simultaneously yielding a large human and economic benefit.

# ACUTE CARE

## Predictors of Septic Patient Outcomes

*Kim Reina Failla, MSN, RN, NE-BC*
*Doctor of Philosophy in Nursing Candidate*
*University of San Diego Hahn School of Nursing and Health Science*
*Beyster Institute for Nursing Research*
*San Diego, CA*

*Cynthia D. Connelly, PhD, RN, FAAN*
*Professor and Director of Nursing Research*
*University of San Diego Hahn School of Nursing and Health Science*
*Beyster Institute for Nursing Research*
*San Diego, CA*

**Purpose:** Despite advances in the recognition and treatment of sepsis, its incidence with accompanying mortality remains high and its reduction is a health care priority. The purpose of this study is to explore relationships between patient characteristics, including gender disparities, clinical variables including specific care management processes, and sepsis survival.

**Background:** Sepsis results from the body's response to infection and may lead to organ failure, shock, and death. In the United States, sepsis is the 11th leading cause of death, and mortality is as high as 50%. By 2020, it is estimated an additional 1 million cases per year will occur due to the aging population, increased invasive procedures, and comorbidities. Additionally, sepsis was the most expensive condition treated in hospitals in 2011 and beginning in 2017, financial penalties will be imposed for management of Medicare patients diagnosed with severe sepsis or septic shock.

**Conceptual Frameworks:** Donabedian's *Model of Healthcare Quality* conceptual framework, composed of conceptually-related variables will be used to study factors associated with the structures and processes used in treating septic patients and a patient's outcome. Kilbourne's *Framework for Reducing Disparities in Health Care Systems* will also be used to focus on opportunities to reduce or eliminate differences in the quality of healthcare delivery.

**Methods:** A descriptive correlational design using retrospective data will be used and data will be abstracted from the electronic medical records of patients. The purposive sample will include patients 18 years or older previously admitted through the emergency department with a discharge diagnosis of severe sepsis, or septic shock as defined by the Surviving Sepsis Campaign. Patients who have previously selected end-of-life or palliative care measures will be excluded. Descriptive statistics will be used to describe patient characteristics. Analysis of Variance will be used to test the significance of group differences and variation among and between groups. Crosstab (Chi-Square) Correlation will be used to make inferences about the existence of a relationship between two categorical variables. Logistic regression, odds ratios, and confidence intervals will be reported to identify relationships between multiple independent variables and a single dependent variable. It is estimated that 400 cases are needed for 20 predictor variables.

**Results:** Pending.

**Implications:** Understanding current septic patient care processes will assist in identifying factors associated with the improving patient outcomes. Notably successful implementation of processes that integrate sepsis protocols may reduce patient mortality and hospital costs.

Policy and practice changes may occur in order to ensure equality of care delivery and improved processes of care.

## Impact of a Nurse Driven Lactate Protocol for the Identification of Early Sepsis

*Cynthia Briner, MSN*
*Clinical Excellence Manager*
*Clinical Quality*
*Brookwood Medical Center*
*Birmingham, AL*

*Shawn Cosper, MSN*
*Nurse Educator*
*Nursing Education*
*Brookwood Medical Center*
*Birmingham, AL*

**Purpose/Aims:** The purpose of the study is to determine if having a nursing protocol for ordering lactate for the early recognition of sepsis has a positive impact on patient outcomes.

**Rationale/Conceptual Basis/Background:** The use of lactate levels in the identification of early sepsis has been well documented in the literature. Lactate within three hours of patient arrival or symptom recognition is part of the 3 hour bundle for the Society of Critical Care Medicine's Surviving Sepsis Campaign and new Center for Medicare Services recommendations. In May 2015, our facility implemented a nurse driven protocol for the measurement of lactate based on the results of the patient's sepsis screen. The sepsis screen incorporates Systemic Inflammatory Response Syndrome (SIRS) criteria and patient assessment for a suspected or known infection. For any patient who exhibits 2 or more of the SIRS criteria and has a suspected or known infection, the nurse may order a lactate level per protocol. Based on the test results, the physician is then notified and the additional elements of the 3 hour and 6 hours bundles are implemented.

**Methods:** A retrospective chart review for all patients with a discharge diagnosis of sepsis (DRG 870, 871, 872) in 2015 will be conducted for point of arrival, presence of SIRS indicators, completion of a sepsis screen, presence of suspected or confirmed infection, MD or RN order for lactate use, timing, and result of lactate levels, length of stay, and discharge disposition. January through May will be the comparison group as the protocol was initiated in late May.

**Results:** Final results are pending due to continued data collection. Prior to implementation of the nurse driven protocol, lactate levels were collected in 41.56% (34/82) of patients with a final diagnosis of sepsis. For the same patients, mortality rate was 25.61% (21/82) and 37.7% (23/88) of patients were discharged to a rehabilitation facility, skilled nursing facility, hospice, or long term acute care hospital.

**Implications:** Final implications pending completion of data collection and analysis. Potential implications for nursing are the use of a nursing protocol for lactate in the early recognition of sepsis and that earlier recognition may lead to better patient outcomes, including decreasing length of stay, mortality, and the number of patients who are discharged at less than their pre-admission functional baseline.

# ACUTE CARE

## The Effect of Nurses Role Expansion on Patient's Outcomes

*Kathy Lopez-Bushnell, EdD, MPH, MSN, CTSC*
*Director of Nursing Research*
*University of NM Hospital*
*Albuquerque, NM*

**Purpose/Aims:** This IRB approved clinical research study evolves from the need for primary care patients with foot problems to receive cost effective, comprehensive and clinically beneficial care for their foot issues. There are limited resources available, with only one podiatrist who is assigned to serve all of the UNMH, primary care clinic patients. During the past few years, many of the UNMH nurses who work in the primary care clinics have been educated and received their certification as "foot care nurses." There is no published research to-date on the outcomes of this national nursing change in practice that has been conducted.

The aims of the study are to; describe the process and effect of ambulatory care certified foot care nurses (CFCNs) regarding foot care process and outcomes, to measure the impact of the CFCNs evaluation and interventions on patient's overall foot assessment, infection rate, amputations, hospitalizations, ICD-10 codes, treatment regimens, referrals and costs of care, to evaluate the effectiveness of brief individualized documented education intervention on reducing the occurrence of foot ulcers and lower extremity amputation and improving patient foot self-care knowledge and to compare the "foot care" patient outcomes to those patients who do not receive foot care.

**Background:** Foot disease and injuries in primary care are common problems which can result in significant pain and disability leading to economic burden for patients and their families. Most foot problems are initially noted in primary care and the nurse is often the first person to assess the patient and identify any foot problems. The primary care nurse also establishes a relationship with the patient and family and is readily accessible to care for problems related to the feet.

**Methods:** This is an IRB approved clinical intervention research study with a non-randomized comparison group that will measure patient outcomes including; foot infections, leg and foot amputations, hospitalizations and the expenses of patients who receive foot care from a certified foot care nurse in comparison to non-identified, aggregated data from the EMR of patients with the same ICD-10 codes. The comparison group will include de-identified EMR data from patients with the same diagnosis as the experimental group.

Recruitment will take place at eight Ambulatory Care Clinics within the UNMH system.

**Results:** The results will include the number of patients cared for by the CFC Nurses, the patients with foot or leg amputations, re-hospitalizations, infections, and any adverse events related to the feet. The secondary study endpoints will include; the number of clinic appointments, HgA1c, cholesterol levels, smoking status, BMI, co-morbidities and satisfaction with care. Other endpoints include patient satisfaction, patient education and referral to appropriate setting.

**Implications:** The implications of this study are that the ambulatory care nurses who are Certified Foot Care Nurses will be able to practice to their full capacity and the study findings will reflect the care they provide as well as the patient outcomes

## Does the Dedicated Educational Unit Clinical Model Improve Critical Thinking

*Thomas J. Hendrix, PhD, RN*
*Associate Professor*
*University of Alaska Anchorage*
*School of Nursing*
*Anchorage, AK*

*Maureen O'Malley, PhD*
*Associate Professor*
*University of Alaska Anchorage*
*School of Nursing*
*Anchorage, AK*

**Purposes/Aims:** The purpose of this study is to examine the difference in the ability of students to critically think. One cohort of students is assigned to a Dedicated Education Unit (DEU) and four other cohorts are assigned to units using the traditional model of clinical instruction. A pre-test/post-test designed is utilized.

**Rational/Conceptual Basis/Background:** The DEU model of clinical instruction partners a student with a working nurse and they are scheduled together to work together for the majority of the semester. The students choose to be in the DEU rotation and the nurses volunteer to be DEU clinical adjunct instructors. This relatively new model of clinical instruction has been studied and the evidence seems clear that students, teachers and staff nurses enjoy the model. However, although most studies posit that they believe critical thinking skills are enhanced as a result of this close relationship, objective evidence is hard to find. This pilot study intends to address this gap.

**Methods:** The students are all enrolled in the KAPLAN program of nursing instructional support which includes many tests. The students in this study are third semester students and all have taken three comprehensive KAPLAN tests prior to their clinical time under study. Each of these exams contain a critical thinking sub score which is extracted for each student. These individualized scores are then aggregated and serve as the pre-test. After the clinical semester has ended, the entire pool of students take a dedicated critical thinking comprehensive KAPLAN exam. This exam is the post-test. Students are grouped by clinical cohort and a difference in means t-test will be applied.

**Results:** We have completed a single analysis on one complete cohort and the DEU group, thus far, has the most improved scores. However, we cannot yet say they are significant, although they approached significance ($p = 0.12$). This is encouraging with only an $n=8$ in each clinical group. We will have completed the analysis on three cohorts before the WIN conference in April which will conclude this pilot.

**Implications:** The DEU model of clinical instruction requires "buy-in" by acute care facilities because the nurses that work with the students have a reduced patient workload while students are there. If it is shown that the graduate nurses of schools using the DEU model of clinical instruction are better critical thinkers, these facilities may be more likely to support this relatively new model of clinical instruction.

# ACUTE CARE

## Achieving Zero: Eliminating Central Line-Associated Blood Stream Infections

*Catherine Van Nieuwenhuyzen, BSN, RN, CCRN*
*Graduate Student*
*School of Nursing*
*California State University, Stanislaus*
*Turlock, CA*

**Purpose:** The purpose of this project is to eliminate central line-associated blood stream infections (CLABSI) at a multispecialty acute care hospital by implementing a nurse-led Vascular Access Team (VAT) who will take ownership of central line maintenance throughout the hospital.

**Background:** The cost of CLABSIs is substantial, in terms of morbidity, mortality, and financial resources expended. The rate of CLABSIs at an acute care hospital located in the rural agricultural area in the Western US remains at an undesirable level, despite evidence based policies targeted at preventing such hospital acquired infections. While the CLABSI rate at the facility is better than the national average, senior leadership desires to be positioned within the tenth percentile nationally. Based on National Healthcare Safety Network data, this requires a rate of zero CLABSIs. Currently, central line maintenance at this facility is the responsibility of the bedside nurse. Prevalence study data and a gap analysis revealed that adherence to the CLABSI prevention bundle is inconsistent and suboptimal. Clearly, the current implementation strategy of CLABSI prevention needs to change.

**Description:** Many acute care facilities with a zero incidence of CLABSIs can attribute their success to a dedicated VAT. With the backing of senior hospital leadership, the decision was made to implement a nurse-led VAT to take ownership of central line maintenance. In addition to inserting peripherally inserted central catheters, the VAT nurses will be responsible for assessment, maintenance, and discontinuation of central venous access devices throughout the facility, ensuring that the existing CLABSI prevention bundle is adhered to. This group of specialized nurses will address the current variability in practice by establishing a more consistent, standardized approach to vascular access and CLABSI prevention. Success of the VAT will be measured by comparing CLABSI rates before and after implementation of the team.

**Expected Outcomes:** Because VATs have shown an unequivocal effectiveness in reducing the incidence of CLABSIs, it is expected that the hospital will achieve a rate of zero CLABSIs.

**Implications:** Hospitals that have not adequately reduced their CLABSI rates should look beyond the conventional CLABSI bundle. Achieving a rate of zero CLABSIs is possible, but not without implementing a comprehensive prevention strategy with the support of senior leadership. If successful, other acute care facilities may want to replicate this strategy in order to eliminate CLABSIs.

# ACUTE CARE

## Implementation of an Oral Care Protocol to Improve Nursing Practice

*Acamie Anderson, RN, MSN/Ed*
*Staff Nurse*
*4th Telemetry Oncology*
*Providence Little Company of Mary Torrance*
*Torrance, CA*

**Purpose/Aim:** To determine whether a standardized oral assessment and the implementation of an intervention protocol will improve nursing knowledge, attitudes, and perceptions of performing an oral assessment and increase compliance with documentation.

**Rationale/Background:** Consistent assessment and documentation of the oral cavity is often lacking on the telemetry and oncology unit. Many of the patients hospitalized there are at increased risk for developing oral complications, related either to their diagnosis or treatment plan. Commonly noted abnormalities include xerostomia (dry mouth), mucositis (inflammation and ulceration of the oral mucous membranes), and thrush (fungal infection characterized by white patches in the oral cavity). In addition to delays in progression to normal health and discharge from acute medical centers, patients report a negative impact on their physical, psychological, and social well-being. Although nurses recognize the importance of promoting good oral hygiene in hospitalized patients, they do not regularly and directly participate in its maintenance because of unclear responsibilities and a lack of guidelines regarding oral care performance. Thus, a standardized and nurse driven protocol to promote oral health will be implemented to increase compliance in the provision and documentation of oral assessments and oral care.

**Description:** Nurse participants for this project were chosen using explicit inclusion criteria. The study procedures include initial random audits of client charts to determine baseline compliance with nursing documentation and circulation of a survey regarding the provision and documentation of an oral assessment, to establish baseline data. The next study procedure includes educating participants regarding performing a complete oral assessment, a review of the proposed protocol of treatment for detected abnormalities, and a step-by-step guide for proper documentation of findings and performed interventions in the electronic medical record. The remaining procedures include follow up survey of participants and a final chart audit after intervention is completed. Data regarding nursing knowledge, attitudes, and perception will be gathered via survey. Compliance with documentation will be measured through random chart audits.

**Outcome:** Results of this best practice project are still pending. Preliminary findings will be reported pending abstract acceptance.

**Conclusion/Implication for Nursing Practice:** As the oral cavity is often overlooked during physical assessment, ongoing nursing education and the provision of a protocol, at the very least, raises awareness of the issue. Future research can be conducted in this area with a focus seeking to determine whether an implemented, nurse driven oral care protocol will reduce incidence and prevalence of oral health abnormalities.

# ACUTE CARE

## Under Pressure: How the CVICU Reduced the Prevalence of Unit-Acquired Pressure Ulcers

*Sarah Erickson, RN, BSN, CCRN and Emelia Gubrud, RN, BSN, CCRN*
*12K CVICU, Oregon Health & Science University, Portland, OR*

**Problem:** The prevalence of unit-acquired pressure ulcers (UAPU) in the Cardiovascular ICU (CVICU) was routinely exceeding NDNQI benchmark levels.

**Background/Evidence:** The CVICU's defined patient population has many risk factors that increase susceptibility to the development of pressure ulcers, including decreased nutrition and mobility, poor tissue perfusion, hypovolemia, invasive monitoring devices, and the administration of medications such as vasopressors.

**Purpose:** This presentation will explain how a staff nurse-driven skin team reduced the prevalence of UAPUs in the CVICU patient population.

**Methods:** The CVICU had formed a skin team in 2009 that audited the unit on a monthly basis. Due to the large percentage of patients acquiring ulcers during their stay on the CVICU, the skin team changed its formula to conduct weekly skin rounds beginning in 2014. The remodeled Skin Team, performed weekly audits, tracked multiple data points associated with pressure ulcer trends, and educated fellow staff on pressure ulcer prevention. The documentation of pressure ulcers was standardized, and weekly audit results were emailed to staff to increase awareness of trends. The overall method for reducing pressure ulcers was to help nurses identify how to mitigate the risk factors that contributed to pressure ulcer development. These risk factors were identified in chart reviews conducted by skin champions to assess what treatments, or lack of treatments, might have contributed to the development of a UAPU.

**Results:** Education released in weekly e-mails or at weekly audits prevented the recurrence of more common injuries, resulting in a decrease of Stage I and II pressure ulcers below NDNQI benchmarks. Following the institution of weekly skin audits, the unit went 19 weeks without a UAPU and there were no ulcers identified in 4 consecutive NDNQI quarterly surveys in 2014. The ulcers that developed were less severe. Before weekly skin rounds, Stage I and II unit-acquired pressure ulcers occurred in 8.2-15.3% of the unit's patients; after 12 months of instituting weekly skin rounds in 2014, stage I and II UAPUs were accounted in only 4.3% of the identified patient population. Figure 1 below demonstrates the improvement in skin protection after weekly audits began in 2014.

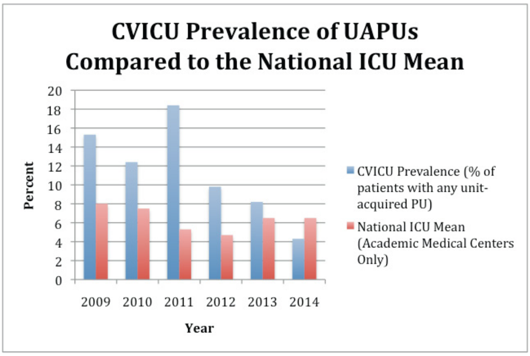


*Figure 1*

**Conclusion:** The CVICU has developed a reputation for having no UAPUs nearly every NDNQI audit. As a result, the unit has gone to trialing skin rounds every other week. So far the CVICU has still maintained a culture of proper skin protection indicated by low prevalence of UAPUs (currently at 4.3% of the patients that have been through the CVICU this year). The skin champions of the CVICU have developed a culture of skin protection and empowered other bedside nurses to protect their patient's skin through education. The unit maintains a high standard for protecting patient's skin, evidenced by the decrease in stage I and II UAPU development. Education and resources will still be provided by skin champions to other staff in order to facilitate this long-term culture change; a change that's better for patients, their families, and the staff of OHSU's 12K CVICU.

# ACUTE CARE

## Preventing Pressure Ulcers: An Educational Approach

*Carolina Baldwin, DNP, RN, CCRN, Clinical Assistant Professor/Staff RN*[1,2]
*Julie Arbogast, BSN, RN, CWON, Wound Ostomy Continence Nurse*[2]
*Sandy Baus, MSN, RN, Director Patient Care Services*[2]
*Christian Beier, BSN, RN, Clinical Educator*[2]
*Katherine Hendricks, Patient Care Technician*[2]
*Lourdes Leon, RN, Assistant Nurse Manager*[2]
*Megan Poje, BSN, Staff RN*[2]
*Alina Wingstad, BSN, RN, CCRN, Clinical Educator*[2]
[1]*The University of Arizona College of Nursing, Tucson, AZ*
[2]*Tucson Medical Center, Tucson, AZ*

**Purpose:** This quality improvement project was a pilot for an educational intervention geared towards bedside nurses and patient care technicians (PCT) in order to improve knowledge regarding pressure ulcer prevention. The purpose of this project was to determine if increasing knowledge base regarding pressure ulcer prevention of bedside staff had a positive impact on pressure ulcer reduction rates. The project was designed with two outcomes in mind, to reduce the overall pressure ulcer rate and to increase knowledge base regarding pressure ulcer prevention of bedside staff.

**Background:** Hospital acquired pressure ulcers are a national concern related to patient pain, increased mortality, and increased healthcare costs. The rate of pressure ulcer related hospital admissions at the organization in question is 4.32%. In alignment with the patient experience and safety pillars of the organization's nursing strategic plan, the Centers for Medicare and Medicaid (CMS) standards and Healthy People 2020 goals, this organization has a goal to reduce the rate of pressure-ulcer related hospitalizations by 50% by December 2016. This quality improvement project aligns with one of the research priorities put forth by The National Pressure Ulcer Advisory Panel (NPUAP) regarding the need for increased knowledge regarding pressure ulcer prevention by bedside staff. The Agency for Healthcare Research and Quality (AHRQ) has also identified nursing education as a best practice shown to be effective in reducing the occurrence of pressure ulcers.

**Approach:** An interdisciplinary project team of institutional stakeholders guided development and planning of the curriculum. The team followed NPUAP curriculum recommendations for nurses. The curriculum was tailored to the needs of bedside staff and the patient population served by this organization. Curriculum was put forth to the two pilot nursing units during July 2015. These units were chosen due to their higher incidence of pressure ulcer rates. The curriculum was delivered in 4-hour blocks for nurses and 2-hour blocks for PCTs, it included theory as well as hands on practice. Assessment took place in the form of a pre-test and post-test, both designed by the team. Further assessment includes the post intervention reduction of pressure ulcers in the pilot units.

**Outcomes:** In the two months since the intervention, preliminary data regarding the reduction of pressure ulcer rate for both pilot units has been encouraging. Both units had a reduction in pressure ulcers for the month of August and had no pressure ulcers during September. Data collection will continue until December 2016. Results from pre and post-test show an increase of at least two points in the post-test scores for 80% of participants.

**Conclusions:** The results of the pilot are encouraging. Starting in January 2016, after minor revisions to the curriculum, bedside staff from all nursing units, including new hires and preceptors will be required to attend the training. Long-term plans include, annual completion of the curriculum as a computer module for all bedside staff. Long-term positive implications are expected for patients in the form of reduced risk and associated complications of pressure ulcers.

# ACUTE CARE

## Monitor Alarm Fatigue in Critical Care Nurses

*Robin M. White, PhD, MSN, RN*
*Assistant Professor, Interim Director/Interim Chair*
*Nursing Department*
*Ohio Northern University*
*Ada, OH*
*r-white.5@onu.edu*

**Purposes/Aims:** The purpose of this study is to determine if nurses in the Emergency Department (ED), critical care, and step-down units are at risk for developing monitor alarm fatigue. This study will also provide educational information as well as useful skills in preventing or decreasing monitor alarm fatigue in nurses working in the ED, critical care, and step-down units at a local hospital.

**Rationale/Background:** Previous studies have shown that although devices to monitor various aspects of a patient in the hospital setting are intended to improve safety, sometimes they actually cause harm. When alarm frequency is high, nurses can become desensitized and develop “alarm fatigue.” “Monitor alarm fatigue” is generally caused by a large number of alarms as well as a lack of nurses’ knowledge on ways to properly set alarms. In April 2013, Joint Commission (JCAHO) issued a sentinel event alert for 98 alarm-related incidents that occurred between January 2009 and June 2012 that led to 80 patient deaths, 13 patients with a permanent loss of function, and five patients requiring additional or extended care. Sensory overload from monitor alarms can make it difficult for staff to distinguish the urgency of an alarm and identify its source since alarms blend into background noise. Improving monitor alarm management requires a proactive, systematic approach. All members of the care team in the ED, critical care units, and step-down units at a local hospital will be provided with training on the organization’s process for safe monitor alarm management, ultimately improving health outcomes of patients.

**Approach/Methods/Process:** This descriptive study will determine if nurses working in the ED, critical care, and step-down units at a local hospital currently have or are at risk for developing monitor alarm fatigue. Nurses will be surveyed to determine baseline knowledge of monitor alarm management. Researchers will then observe nurses responding to monitor alarms on the respective units. Education will be conducted with the nurses on these units on methods to decrease the incidence of alarm fatigue such as reviewing alarm policies and educating them on appropriate setting of alarms. A post-education survey will then be given to determine any change in knowledge of methods to reduce alarm fatigue.

**Outcomes/Conclusions:** This study will be performed from September, 2015 through Spring 2016. Results will be completed by April 2016.

# ACUTE CARE

## Brief De-Briefing of Critical Incidents with Medical Intensive Care Staff

*Lacy Dahlgren, MSN, RN*
*Clinical Nurse*
*Medical Intensive Care*
*Sharp Memorial Hospital*
*San Diego, CA*

*Karen Reavis, MBA, MSN, PhD, APRN-BC*
*Clinical Nurse*
*Medical Intensive Care*
*Sharp Memorial Hospital*
*San Diego, CA*

**Purposes/Aims:** The purpose of this evidence based practice (EBP) project is to implement a regularly occurring structured 2 to 3 minute debriefing after critical incidents in a medical intensive care unit for the purposes of decreasing post incident stress. Within this project, evaluation of nursing and support staff stress levels after critical incidents will be evaluated prior to and after the implementation of debriefing into unit work-flow.

**Rationale/Background:** Critical incident stress debriefing based on the widely used "Mitchell Model" was developed in the 20th century as an intervention to manage stress for workers in high risk occupations such as emergency medical personnel and disaster response teams. This model is still in use today. In the intensive care setting, critical incidents can happen on an almost daily basis. These incidents such as code blues, withdrawal of life-support, and unexpected deaths in the young have been described in the literature as leading to moral distress. The National Institute of Occupational Safety and Health has found that debriefing in the healthcare setting has been shown to foster feelings of department support and teamwork. De-briefing sessions traditionally have been hours long, infrequent, and have taken place outside of the work setting. A shorter peer to peer debriefing has been implemented in 2002 in the peri-operative area which led to improved teamwork and an increase in feelings of support. Our inquiry for this project is to find out how structured, shortened "Mitchell Model" type debriefing impacts nursing stress levels following critical events as compared to standard practice.

**Undertaking/Best Practice/Approach/Methods/Process:** This non-experimental EBP project includes a pre and post intervention evaluation. Our subjects include registered nurses and support staff in our 24 bed Medical Intensive Care Unit. The project intervention is to train Charge and Resource nurses to complete a 2 to 3 minute "Mitchell Model" style de-briefing with any staff member that experiences a critical incident at the end of their shift or soon after. Staff pre and post incident stress levels will be measured utilizing a visual analogue scale. Institutional Review Board approval was sought for human subject's protection since the staff was surveyed. (IRB #1507802).

**Outcomes Achieved/Documented:** Will be presented.

**Conclusions/Implications:** Nursing stress and moral distress have been associated in the literature. Results of decreased stress levels after brief de-briefing may imply a potential decrease in nursing staff moral distress. Moral distress has been well documented to lead to burn-out, absenteeism, and impaired team functioning. Incorporating brief de-briefing into daily workflow ensures that all staff members have the opportunity to reflect and voice concerns about critical and stressful events.

# Abstracts of Poster Presentations

## CANCER SCREENING AND CARE

### SOCIOCULTURAL BARRIERS TO LUNG CANCER SCREENING AMONG KOREAN IMMIGRANT MEN

*Mo-Kyung Sin*

---

### FACILITATORS AND BARRIERS TO GASTRIC CANCER SCREENING AMONG KOREAN AMERICANS

*Mo-Kyung Sin, Il-Ho Kim*

---

### A NURSING-LED INTERVENTION FOR LATINO MEN WITH LATER STAGE PROSTATE CANCER

*Cecille Marie Basilio, Stephanie Fletes,*
*Elisabeth M. Hicks, Sally L. Maliski*

---

### CPHC HEALTH SCREENING CLIENTS: SUCCESSFUL FOLLOW UP WITH PRIMARY CARE PROVIDERS

*Judy H. Pedro, Kevin Santos, Jennifer Roman*

---

### EXAMINATION OF CHARACTERISTICS OF ADULT ONCOLOGY PATIENTS READMITTED WITHIN 30 DAYS

*Emma J. Blackmon*

---

### TIME SPECIFIC SYMPTOM EXPERIENCES IN HEAD AND NECK CANCER PATIENTS

*Maria Cho, Marylin Dodd*

---

### CERVICAL CANCER SCREENING AMONG VIETNAMESE WOMEN: PROVIDERS' PERSPECTIVE

*Connie Kim Yen Nguyen-Truong, Frances Lee-Lin, Dena Hassouneh,*
*Chiao-Yun Hsiao, Tuong Vy Le, Joannie Tang, Margret M. Vu, Anthony M. Truong*

# CANCER SCREENING BEHAVIORS AND SPOUSAL SUPPORT AMONG THAI-AMERICANS (TAS)

*Bulaporn Natipagon-Shah*

---

# PRACTICAL ISSUES IN RECRUITING ASIAN AMERICAN BREAST CANCER SURVIVORS

*Eun-Ok Im, Yaelim Lee, Xiaopeng Ji*

---

# PSYCHOSOCIAL BARRIERS TO CERVICAL CANCER SCREENING AMONG AGING WOMEN IN GHANA

*Stella Turkson*

## Sociocultural Barriers to Lung Cancer Screening among Korean Immigrant Men

*Mo-Kyung Sin, PhD, RN*
*Associate Professor*
*Seattle University*
*College of Nursing*
*Seattle, WA*

*Ara Ha, BS*
*Family Nurse Practitioner Student*
*Seattle University*
*College of Nursing*
*Seattle, WA*

**Background:** Lung cancer is the third most common cancer among Korean American men. However, Korean Americans were found to have lowest rates of cancer screening among Asian Americans yet little is known about what influences cancer screening behavior in this population.

**Purpose:** The purpose of this study was to explore facilitators and barriers to lung cancer screening (low dose CT) of Korean immigrant men, using qualitative individual interviews and focus groups.

**Methods:** A convenience sample of 24 Korean immigrant men who were Washington State residents, able to discuss in Korean, and age 55-79 with a ≥30 pack-year history: current smokers or former smokers who have stopped smoking within the previous 15 years were recruited from Korean churches and senior centers. Five focus groups of 2-5 and nine individual interviews were conducted in a private location of their choice. The discussions lasted about 25 - 45 minutes. Direct content analysis was used to analyze the data.

**Results:** Facilitators of lung cancer screening include recommendations from physicians, family, and Korean Women's Association, willingness, co-morbidity and present symptoms, aging, and good health care system in Korea. Barriers include lack of knowledge, no preventive measures, flaws in the American health care system, passive health management, discrepancy of health care providers on screening recommendations, and hard environment.

**Discussion:** This study adds new knowledge to a field where scarce scientific information is available and lays the groundwork for developing culturally relevant interventions that enhance health care providers' awareness while empowering Korean Americans to prevent lung cancer.

---

Funding: This study was funded by Seattle University Summer Faculty Fellowship.

## CANCER SCREENING AND CARE

### Facilitators and Barriers to Gastric Cancer Screening among Korean Americans

*Mo-Kyung Sin, PhD, RN*
*Associate Professor*
*Seattle University*
*College of Nursing*
*Seattle, WA*

*Il-Ho Kim, BSN*
*Seattle University*
*College of Nursing*
*Seattle, WA*

**Background:** Gastric cancer is the most highly prevalent cancer among Korean Americans, occurring at a higher rate than among other Asian Americans and non-Latino Whites**.** But little is known about the culturally specific barriers to gastric cancer screening among Korean Americans.

**Objective:** The purpose of this study was to explore facilitators and barriers to gastric cancer screening among Korean Americans.

**Methods:** In this qualitative focus group study, a convenience sample of 50 Korean Americans in age 21-75 was recruited from the Puget Sound area of Washington with the assistance of Korean churches. Five focus groups of 6-8 and one focus group of 13 were conducted in a church, a café, and an apartment community center. The focus group discussions lasted about 30 minutes to an hour. Direct content analysis was used to analyze the data.

**Results:** Facilitators included exposure to Korean media, history of and prevalent gastric problems, good health care system in Korea, physician recommendations, technology, and church health fair. Barriers included a lack of knowledge, finance/ lack of health insurance, fear of test results, health care system in the U.S., lack of knowledge of American health care providers on culturally-related health risks, a dislike of medical procedures, and no preventive measures.

**Discussion:** This study adds new knowledge in a field with scarce scientific information available. Considering gastric cancer being poorly managed in America, this study heightens health care providers' awareness of the need for more studies to manage the culturally-related health risk.

---

**Funding:** This study was supported by Seattle University College of Nursing Faculty Seed grant.

# CANCER SCREENING AND CARE

## A Nursing-Led Intervention for Latino Men with Later Stage Prostate Cancer

*Cecille Marie Basilio, MSN, PHN, RN*
*Doctoral Student/Research Nurse*
*University of California, Los Angeles*
*School of Nursing*
*Los Angeles, CA*

*Stephanie Fletes, BA*
*MECN Student/Cultural Liaison*
*University of California, Los Angeles*
*School of Nursing*
*Los Angeles, CA*

*Elisabeth M. Hicks, MA*
*Research Project Manager*
*University of California, Los Angeles*
*School of Nursing*
*Los Angeles, CA*

*Sally M. Maliski, PhD, FAAN, RN*
*University of California, Los Angeles*
*School of Nursing*
*Los Angeles, CA*

**Purpose:** To describe our Staying Strong and Healthy nurse-led intervention to promote healthy activity and nutrition during androgen deprivation therapy for Latino men with later stage prostate cancer.

**Background:** Previous qualitative data suggest that androgen deprivation therapy (ADT) initiation provides a window of opportunity for promoting healthy activity and diet with Latino men diagnosed with later stage prostate cancer. The increased use of ADT over the past decade has made it the mainstay treatment for advanced stage prostate cancer. Along with survival benefits, ADT is well known to increase rates of obesity, diabetes, metabolic syndrome and hypertension which are risk factors for cardiovascular disease (CVD), the leading cause of mortality for men with prostate cancer. Latino men are predisposed to these risk factors, and are at even greater risk as they tend to be diagnosed with later stage prostate cancer than non-Hispanic White men. Ongoing qualitative studies highlight the lack of understanding and awareness of ADT side effects in Latino men, but suggest heightened interest in lifestyle behavior change in the face of serious illness. Our pilot intervention study of healthy diet and exercise, which included spouses, stabilized cholesterol for Latino men receiving ADT.

**Method:** We will use a 2-group (intervention and usual care with attention arms) mixed methods randomized control trial. The 12-week intervention uses bicultural and bilingual mobile health (mHealth) strategies to provide education on ADT, nutrition and exercise guidelines, and support from a RN and *promotora de salud* team. Personal trainers work with the team to create an individualized exercise training program for each participant. Web-based modules are used to track nutrition data during 24-hour dietary recalls. A nutrition tutorial developed by the RN provides nutrition education on building a healthy meal, calorie management and healthy substitution. Smartphones, heart rate monitors, and personal training apps allow for timely, individualized and multi-modal educational messaging such as video, audio, text and web resources. Spouses of the men will be included during intervention and data collection. The RN and *promotora* speak to the men and their spouses on a weekly basis to encourage participant driven, incremental goal setting.

**Results:** Data collected during the study include pre-and post-intervention body mass index, lipids, waist-to-hip ratio, blood glucose, HbA1C, remote exercise monitoring, dietary recalls, quality of life measures, and evaluation interviews. Ultimately, Staying Strong and Healthy seeks to stabilize and maintain the men's health related quality of life, blood glucose, body mass index, waist-to-hip ratio and lipid profile while empowering strategies to manage ADT side effects long term. Nursing key considerations and strategies used to culturally tailor the mHealth intervention will be presented.

**Implications:** The outcome of this study will guide nurses in the development of effective culturally sensitive lifestyle interventions that involve the spouses to minimize ADT-induced CVD. The findings from this study will identify successful messaging and roles used by Latino men and spouses, as well as nursing efforts to promote cardiovascular health though nutrition and exercises that has broad implications to reduce metabolic syndrome and associated diseases for Latino families.

## CPHC Health Screening Clients: Successful Follow Up with Primary Care Providers

*Judy H. Pedro, MSN, RN, APHN-BC, CNS*
*Assistant Professor*
*Department of Nursing*
*California State University, Bakersfield*
*Bakersfield, CA*

*Kevin Santos, Student Nurse*
*Department of Nursing*
*California State University, Bakersfield*
*Bakersfield, CA*

*Jennifer Roman, Student Nurse*
*Department of Nursing*
*California State University, Bakersfield*
*Bakersfield, CA*

**Purpose:** The purpose of this study was to examine whether clients of health screenings would seek follow up medical care after receiving a referral for elevated test results.

**Background:** Community Preventive Health Collaborative (CPHC) allows student nurses to provide health promotion education and preventive health screenings to underserved populations in Kern County. In Kern County, 75.2% of adults have health insurance, 12.5% have difficulty accessing health care, and 84.7% have a usual source of health care (Healthy Kern, 2015). In addition, 9.2% have diabetes, 33.2% of adults are obese, 28.6% have hypertension, and there are 134.2 heart disease deaths per 100,000 population, ranking Kern 54 out of 58 California counties (Healthy Kern, 2015). Health screening programs are excellent venues for reaching populations at risk for disease (Lucky, Turner, Hall, Lefaver, & deWerk, 2011). CPHC student nurses performed blood pressure, blood sugar, total cholesterol, and body mass index screenings at various locations within this community. Clients with abnormal results were given medical referrals and were encouraged to see a primary care provider.

**Methods:** Permission to conduct the study was obtained by the CSUB Institutional Review Board. CPHC clients that received a medical referral were invited to participate in the follow up study. Participants consented to allow a student nurse to conduct a follow up interview by phone after one month from the date of the screening.

**Results:** Data was collected from June 24, 2013 through July 9, 2014. There were 20 clients that were successfully contacted out of 42 clients that consented to participate. Follow up contact was not successful due to a lack of address, non-working phone number, or the clients had normal test results and were not contacted. Out of the 20, eight were Caucasian, three were Hispanic, and nine were unknown. Fifteen were successful in seeing a primary care provider. Eight of these clients were already aware of their chronic disease diagnosis. Two were seen by a primary care provider but did not receive a medical diagnosis. Five reported receiving a new medical diagnosis of which included: three with hypertension, one with hyperlipidemia, and one with both hypertension and hyperlipidemia. Five clients did not see a primary care provider. The most common reason given for not seeking care was a lack of health insurance.

**Implications:** Health screening services are successful strategies for detecting chronic disease risk factors in clients that may have been unaware of their health status. Preventive screenings and referrals that link clients to primary care providers can improve quality of life and reduce healthcare costs. CPHC student nurses extended the health care workforce and were able to detect elevated results, which led clients of health screenings to successful medical diagnosis and treatment. Health screening programs that conduct referral and follow up can be replicated in other communities to meet the needs of at risk populations.

---

Funding: CPHC funded by a grant from The California Wellness Foundation.

# Examination of the Characteristics of Adult Oncology Patients Readmitted within 30 Days

*Emma J. Blackmon, RN, MS, Doctoral Student, ejblackmon@ucdavis.edu*
*Janice F. Bell, MN, MPH, PhD, Associate Professor*
*Jill Joseph, MD, PhD, MPH, Associate Dean*
*Jeri Bigbee, RN, PhD, Adjunct Professor*
*Betty Irene Moore School of Nursing*
*University of California, Davis*
*Sacramento, CA*

**Aim:** To examine adult oncology readmission rates in a large tertiary academic medical center, specifically 30-day readmissions, patient and readmission characteristics and reasons for readmissions.

**Background:** Hospital readmissions place excess demand on our health care system utilizing vital resources. As costs related to the care and treatment of oncology patients exceeds $100 billion dollars, oncology patients are at high risk for hospital readmission due to their complex medical needs. Few studies have examined 30-day readmissions in this vulnerable population.

**Methods:** This retrospective cohort study used institutional data collected from a large, tertiary academic medical center in the University HealthSystem Consortium (UHC) database, which compiles discharge summary data from large academic medical centers in a secure web-based database. The study sample included all 30-day readmissions among active adult oncology patients (18 years and older) with a principal diagnosis of cancer between January 1 2010 and December 31 2013 (n=344 readmissions). Planned readmissions for chemotherapy or radiotherapy were excluded. Four attributes of readmission were examined: 1) admission status, (emergent, urgent, or elective); 2) Length of stay (LOS) in days; 3) Discharge disposition (home, facility, death or other) and 4) Intensive Care Unit stay (yes/no). Reasons for readmissions were defined by the International Classification of Disease, 9th Revision (ICD-9) codes and All Patient Refined Diagnostic Related Groups. All outcomes were also compared by readmission "service line" defined as being readmitted to a surgical service, a medical service, or a mixed medical-surgical service.

**Results:** Readmission characteristic examination revealed LOS differed significantly across service lines with longer stays under surgical care (compared to non-surgical care) and nearly 50% of surgical readmissions being 8 days or longer ($p<0.01$). Readmissions were most commonly admitted emergently ($p<0.01$) with over 60% of those readmissions to a medical service line. ICU stays also differed significantly by service line ($p<0.01$), with surgical readmissions spending over twice as long in the ICU than their non-surgical care counterparts. APR-DRG and ICD-9 codes corresponding to post-operative infections and gastrointestinal complications were the most commonly reported and significant across all service lines ($p<0.01$).

**Implications:** The results of this study point to the need for interventions such as improved education, discharge planning and post-discharge care coordination which are vital to preventing readmissions in this high-risk population. Ideally, such interventions would focus on addressing the needs of post-surgical patients and, specifically, on post-operative infections and gastrointestinal complications.

## Time Specific Symptom Experiences in Head and Neck Cancer Patients

*Maria H. Cho, PhD, RN, AOCNS®, FNP*
*Assistant Professor*
*Nursing and Health Sciences*
*California State University, East Bay*
*Hayward, CA*

*Marylin J. Dodd, PhD, RN, FAAN*
*Professor Emerita*
*Physiological Nursing*
*UCSF School of Nursing*
*San Francisco, CA*

**Purpose/Aims:** To evaluate how symptoms manifest, the number of symptoms and its intensity correlated with quality of life at specific time points during and after radiation treatment in head and neck cancer patients.

**Background:** With the advancement of radiation therapy, head and neck cancer patients have received highly desirable treatment. However, one third of head and neck cancer patients have symptoms that persist months to years after receiving radiation and/or chemotherapy. Few studies have reported the symptom experiences in a time specific approach in a longitudinal time period. The Symptom Management Model was used as a framework for the study.

**Methods:** The present study is a secondary analysis of data collected as part of a randomized controlled trial that tested the innovative mouthwash in head and neck cancer patients who received radiation treatment. Patients were analyzed together to evaluate their experiences of symptoms during and after cancer treatment due to no significant differences in the clinical trial. Symptoms Checklist included 33 symptoms with scales of 0 to 10, measuring intensity. Symptoms were measured at four times (beginning of RT [baseline], onset of mucositis [OM], end of RT [ERT], and healing of mucositis [H]) over an approximate 10 - 12 week period. Descriptive statistics and Pearson correlation were used.

**Results:** Ninety-one head and neck cancer patients were enrolled at T1. Sample characteristics were mean age 54.8 (SD=12.39), 73% male, 62% white, 67% married; 15.3 mean education years; 44% employed full time; 71% squamous cell carcinoma.

In this result, symptoms with >50% of patients experienced were reviewed. Patients had 5, 24, 23, and 13 symptoms at baseline, OM, ERT, and healed accordingly. At the beginning of OM, patients experienced 15 new symptoms such as sores in mouth and taste changes. Within these 15 symptoms, 8 symptoms (taste change, smell changes, difficulty concentration, difficulty swallowing, lack of appetite, weight loss, mood changes, and appearance changes) persisted during the time of healing of mucositis. Pain was only reported at onset of mucositis and end of RT. Notably, five symptoms: 'dry mouth' 'thirst', 'sleep problems', and 'fatigue' and 'depressed' were present at all time points. After healing of mucositis, patients still experienced 13 symptoms. Negative correlations existed between QOL and the numbers of symptoms at all four time points ($r=-.39$ to $-.59$, $p<.001$). Intensity of symptoms were negatively correlated to QOL. Greater than moderate symptoms intensity has negative correlation with QOL and no difference of correlation even in severe intensity of symptoms and QOL. Overall QOL ranged from 6.9 to 7.4 (possible range 0-10); and KPS ranged from 76 to 86 (possible range 0-100).

**Implications:** HNC patients experience multiple symptoms both during and after RT; these multiple symptoms are significantly and negatively associated with QOL. Five consistent symptoms manifested at all time points and needs to be manage throughout the RT. In addition, it is important to provide a time specific supportive approach to effectively manage symptoms in HNC patients.

# CANCER SCREENING AND CARE

## Cervical Cancer Screening Among Vietnamese Women: Providers' Perspective

*Connie Kim Yen Nguyen-Truong, PhD, RN, PCCN*
*Assistant Professor*
*College of Nursing*
*Washington State University Vancouver*
*Vancouver, WA*

*Frances Lee-Lin, PhD, RN, OCN, CNS, Associate Professor, OHSU SON, Portland, OR*
*Dena Hassouneh, PhD, RN, ANP, PMHNP, FAAN, Professor, OHSU SON, Portland, OR*
*Chiao-Yun Hsiao, BS, Community Advisor, Asian American Community, Portland, OR*
*Tuong Vy Le, MS, Community Advisor, Asian American Community, Portland, OR*
*Joannie Tang, BS, Community Advisor, Asian American Community, Portland, OR*
*Margret Vu, AD, Community Advisor, Asian American Community, Gresham, OR*
*Anthony Truong, BS, RPh, Community Advisor, Asian American Community, Portland, OR*

**Purposes/Aims:** The purpose of this qualitative study was to explore primary health care providers' perspectives on Vietnamese women's beliefs about symptom perception, preventive care-seeking, and cervical cancer screening.

**Rationale/Conceptual Basis/Background:** Vietnamese women are diagnosed higher with advanced cervical cancer (36%) than non-Hispanic White (28%), Korean (34%), and Japanese (32%) women. Only 69% of Vietnamese women reported adherence to national cervical cancer screening guidelines, which is low compared to the Healthy People 2020 goal of 93%. Vietnamese women who reported having a health care provider who recommended cervical cancer screening were more likely to adhere to the guidelines. Vietnamese women also reported that while they respected their primary health care providers' ability to detect and treat disease, medical care was less of a priority for those who strongly believed in their personal preventive health regimens (e.g., vaginal washing). The ecological model framed an understanding of intrapersonal and provider influences on screening.

**Methods:** Principles of community-based participatory research were used to create a partnership between community members and nurse scientists to inform the research. Snowball sampling (referrals from our community advisory board and from participants) was used to recruit, which resulted in ten primary health care provider participants in the Portland, OR metropolitan area. Participants were interviewed for one hour using an open-ended, semi-structured guide, digitally recorded, and transcribed verbatim. Thematic analysis was used to identify major themes. Debriefings with the qualitative consultant and with Vietnamese women were done as external checks on the inquiry process.

**Results:** Of the ten participants, five were Vietnamese bilingual, three were multi-racial, and two were non-Hispanic White, with specialties in family, internal medicine, and combined specialties in obstetrics/ gynecology/ preventive medicine/ public health. Participants range from 2 to 23 years of experience treating Vietnamese women. Two major themes were identified. One theme focused on primary health care providers' perceptions that Vietnamese women decline or delay cervical cancer screening based on the women's beliefs (e.g., infection of the genitalia represents very bad/ immoral behavior; being healthy means to not have symptoms; a normal Pap test means that future testing is not needed). The other theme related to primary health care providers' perceptions regarding communication between the primary health care provider and client. For example, asking about sexual history equals prying. Primary health care provider messaging included building a trusting relationship prior to doing a cervical cancer screening; and enhancing access to cancer screening. All participants felt constrained in their ability to provide education given the brief appointment time. Primary health care providers who were Vietnamese bilingual perceived that Vietnamese women viewed them as being understanding because of the cultural background. Other participants relied on the quality of consistent interpreters with whom they and Vietnamese women clients trusted.

**Implications:** Understanding these beliefs that led to a decision to decline or delay cervical cancer screening and the messaging approach that occurs in the primary health care provider and client relationship are crucial for the development of a targeted educational intervention to improve cervical cancer screening rates among Vietnamese women. **Funding:** National Institute of Nursing Research (T32 #5T32NR007061); Beta Psi Chapter of Sigma Theta Tau.

# CANCER SCREENING AND CARE

## Cancer Screening Behaviors, Knowledge, Beliefs, and Spousal Support among Thai-Americans (TAs)

*Bulaporn Natipagon-Shah, PhD, RN*
*Associate Professor, School of Nursing*
*Point Loma Nazarene University*
*San Diego, CA*

*Samantha Sangsanoi, PhD, RN*
*Assistant Professor, School of Nursing*
*Palomar College*
*San Marcos, CA*

*Eunice E. Lee, PhD, RN*
*Associate Professor, School of Nursing*
*UCLA*
*Los Angeles, CA*

**Purposes:** To describe practices, knowledge, beliefs, and spousal support on screening of colorectal cancer (CRC) and cervical in Thai American (TA) women.

**Background:** In the past decade, TA population in the United States has been increased by 58.08%. However, very little is known about screening behaviors, knowledge, and belief on colorectal and cervical cancer in this population. About 61% of 322 TA women reported having pap smears in the past 3 years (Tusi and Tanjasiri, 2008) which is lower than national screening rates. Furthermore, through the extensive literature search, screening behaviors and knowledge on other preventative types of cancer especially CRC among TAs population are still unknown.

**Methodology:** A total of convenient sample of 200 self-identify Thais (100 men aged 50 to 80, and 100 women aged 25 to 80) currently live in the US was recruited via Thai community center and temples. Eligible participants agreed to consent and then answered a self-report questionnaires addressing: demographic data, participation in CRC and cervical cancer screening; the perception and belief about of CRC and cervical cancer; and perceived support from spouse on receiving screenings. A descriptive correlational design was used to explore behaviors, knowledge, beliefs, and spousal support about cancer screening.

**Results:** CRC's participants composed of 34.8% male and 64.2% female aged between 50 and 86 with an average age of 64. About 95% of these participants has lived in the US for more than 10 years. About nearly half of them can speak a little English, and received college education. A large percentage of TAs do not know about preventive screening to CRC. About one fourth of them do not know about fecal occult blood screening. Although majority of them know about colonoscopy, almost half of them have never had colonoscopy. For those women responded to the cervical cancer questionnaire, their mean age was 56 (ranged from 36 to 78). Half of them received college degree, have lived in the US for more than 10 years, and knew about cervical cancer screening although only one third of them received screening in the past 3 years. Prior colonoscopy (in both genders) is correlated with years in the United States and older age. Intention to obtain a colonoscopy screening (in both genders) in the next 12 months is correlated with years in the United States, and (in women) having had a Pap smear in the past. Regarding spousal support, TAs do not tend to discuss about health prevention with their spouses.

**Keywords:** Thai-Americans, Cancer screening, Breast Cancer, Cervical Cancer, Colorectal Cancer, spousal support.

# CANCER SCREENING AND CARE

## Practical Issues in Recruiting Asian American Breast Cancer Survivors

*Eun-Ok Im, PhD, MPH, RN, CNS, FAAN*
*Professor & Marjorie O. Rendell Endowed Professor*
*School of Nursing*
*University of Pennsylvania*
*Philadelphia, PA*

*Yaelim Lee, PhD, RN*
*Nurse Researcher*
*Catholic University*
*Seoul, South Korea*

*Xiaopeng Ji, MSN, RN*
*Research Assistant & Doctoral Student*
*School of Nursing*
*University of Pennsylvania*
*Philadelphia, PA*

*The ICSG Research Team*

**Purpose/Aims:** The purpose of this presentation is to explore practical issues in recruitment of Asian American breast cancer survivors through the Internet and provide directions for future recruitment of racial/ethnic minorities into Internet research.

**Background:** High potential of the Internet as a research medium and/or setting has been pointed out, and the number of Internet research in nursing has drastically increased in recent years. Among various recruitment issues in Internet research, a prominent one is the difficulty in recruiting racial/ethnic minorities into research projects. Indeed, it could be even more complicated and difficult to recruit racial/ethnic minorities in Internet research than in traditional research because of inherent characteristics of Internet interactions and skewed sociodemographics of Internet users. It is therefore important to identify strategies for successful recruitment of racial/ethnic minorities into Internet research.

**Methods:** The pilot study that was used as the case example in this presentation was an Internet intervention study to determine the preliminary efficacy of a culturally tailored Internet cancer support group for Asian American breast cancer survivors. To identify practical issues in recruitment of Asian American breast cancer survivors, we analyzed the memos and written records on issues that were discussed and recorded by each of the research team members. Throughout the research process, the research team held weekly group meetings, discussed emerging issues in the study, and recorded any recruitment issues as they arose in the minutes of the research team meetings. Then, the memos and written records were reviewed and analyzed using content analysis.

**Results:** Six practical issues in Internet recruitment of Asian American breast cancer survivors were identified: (a) a relatively fewer number of Internet communities/groups; (b) hindrances in establishing authenticity; (c) difficulties in gaining entrée from the moderators/owners of the Internet communities/groups; (d) the necessity of racially/ethnically matched research team members; (e) flexibility required in recruitment strategies; and (f) strategies to overcome the low response rate.

**Conclusions/Implications:** We suggest: (a) the use of hybrid recruitment strategies using both Internet and physical communities/groups; (b) regular updates of researchers' knowledge and skills related to Internet interactions and technologies; and (c) the use of racially/ethnically matched research team members.

---

**Funding:** The ICSG research team includes: Jingwen Zhang, MS, Sangmi Kim, MPH, Eunice Chee, BSE, Wonshik Chee, PhD, Hsiu-Min Tsai, PhD, FAAN, Masakazu Nishigaki, PhD, RN, PHN, CGC, Seon Ae Yeo, PhD, FAAN, Marilyn Shapira, MD, MPH, and Jun James Mao, MD, MSCE. The study was funded by the Population Science Pilot Project Award, the NCI Cancer Center Support Grant (P30 CA016520) and the Abramson Cancer Center of the University of Pennsylvania.

# CANCER SCREENING AND CARE

## Psychosocial Barriers to Cervical Cancer Screening among Aging Women in Ghana

*Stella Turkson, MSN, CDU/UCLA PHD Bridge Scholar*
*Attallah Dillard, MSN, CDU/UCLA PHD Bridge Scholar*
*Abayomi Lawal, RN, MSN, CDU/UCLA PHD Bridge Scholar*
*Maria Cajucom, MSN, CDU/UCLA PHD Bridge Scholar*
*Shirley Every-Manly, RN, PhD, FAAN*
*Mervyn M. Dymally School of Nursing*
*Charles R. Drew University of Medicine and Science*
*Los Angeles, CA*

**Purpose:** This integrative literature review identified psychosocial barriers for aging women in Ghana obtaining cervical cancer screening. Understanding the influence of these barriers will aid in increasing the low rates of cervical cancer screening among this population.

**Background:** Studies demonstrate that cervical cancer is the most common gynecological cancer among women in developing countries and the leading cause of cancer death among women in Ghana. Low rates for cervical cancer screening make women more susceptible for late diagnosis. Cervical cancer research shows that the prevalence of cervical cancer among women is increasing especially in the African American and Hispanic populations in the U.S. In addition, new studies show that mortality rates for women with cervical cancer in Ghana, a sub-Saharan African country, is three times the global mortality rate. Although cervical cancer screening tools are available, studies demonstrate that Ghanaian women do not commonly seek cervical cancer screening.

**Methods:** Literature was drawn using journal databases such as Pub Med, CINAHL, and PsychInfo to explore a relationship between psychosocial barriers and cervical cancer screening by examining international and national studies specifically with countries and population in West Africa. Analysis examined the extent to which measures of psychosocial barriers (i.e social stigmatization, lack of family support, socio-demographic status, unavailability of screening sites) were associated with cervical cancer screening among Ghanaian women. Only ten studies were found to have reviewed psychosocial barriers and cervical cancer screening among sub Saharan African women who were at least 50 years of age.

**Results:** Studies included sample populations from the following sub-Saharan countries: Nigeria, Ghana, Botswana, and Kenya. Due to the variations in the location of studies and sample sizes, only a few studies (N=5) specifically included aging Ghanaian women. Psychosocial barriers for cervical cancer screening identified in these studies included fear of cancer, feelings of embarrassment, and fear of pain as strains to cervical cancer screening among minority women. Some studies suggest low levels of cervical cancer awareness while others addressed the lack of basic infrastructure for basic cervical cancer screenings in most sub-Saharan African countries. Results of the literature review also demonstrate that when compared to developed countries in Europe and the U.S, sub-Saharan countries have lower rates of cervical cancer screening.

**Implications:** Given that cervical cancer is highly treatable if caught at an early stage, these findings accentuate the need for cervical cancer screenings that can be tailored to the psychosocial needs of this population. The common misconception of severe pain during cervical cancer screening and embarrassment of screening, are psychosocial barriers to the high incidence of late cervical cancer diagnosis among this population. To reach a larger number of sub-Saharan women and specifically, Ghanaian women, healthcare providers should conduct further studies on sensitive outreach strategies for cervical cancer screening for this an underserved and overlooked population.

---

**Funding:** Provided by UCLA/CDU Partnership for Enhancing Diversity of Nurses with Research Careers/ NIH Grant Number: 5R25GM102777-02.

# CHRONIC ILLNESS

## HEART FAILURE PATIENTS’ LEARNING STYLE, SELF-CARE, AND HEALTHCARE UTILIZATION

*Cheryl Westlake, Kris Sethares*

## FACTORS RELATED TO HOSPITALIZATION AND MORTALITY OF COPD PATIENTS IN ACUTE CARE

*Patricia Conley, Zachary R. Conley, Lynne S. Nemeth*

## LATINA MOTHERS’ STORIES: CHILDREN WITH CYSTIC FIBROSIS AND HEALTH CARE EXPERIENCES

*Linda Tirabassi-Mathis*

## ASSOCIATION BETWEEN ADIPOSITY AND FUNCTIONAL STATUS IN OBESE HEART FAILURE PATIENTS

*Marjan Motie, Lorraine Evangelista*

## IDENTIFICATION OF SYMPTOM CLUSTERS IN BREAST CANCER PATIENTS UNDERGOING CHEMOTHERAPY

*Carmen M. Ward-Sullivan*

## IMPROVING BLOOD PRESSURE CONTROL IN UNDERSERVED POPULATIONS

*Kathleen M. Wilson, Jose R. Velez*

## IMPLEMENTING THE 5AS FRAMEWORK FOR OBESITY MANAGEMENT

*Jennifer Sassman, Joseph Burkard, Roger Oen, Natasha Hicks*

## SAFE PRACTICES FOR DIALYSIS PATIENT AFTER IODINE 131 THYROID ABLATION

*Kathy Lopez-Bushnell*

# CHRONIC ILLNESS

## Heart Failure Patients' Learning Style, Self-Care, & Healthcare Utilization

*Cheryl Westlake, PhD, RN*
*Professor, Doctoral Program*
*Azusa Pacific University*
*Azusa, CA*
*ccanary@apu.edu*

*Kristen Sethares, PhD, RN*
*Professor, PhD Program*
*University of Massachusetts*
*Dartmouth, MA*

**Introduction:** 30-day healthcare utilization [emergency room (ER), outpatient-clinic (OP) visits, rehospitalizations] is an important indicator of patient's capacity to self-manage and may be related to patients' learning style and self-care behaviors. However, few studies have described learning style and none have linked learning style to self-care, and/or 30-day healthcare utilization. Therefore, we described the learning style, self-care, and 30-day healthcare utilization of heart failure patients and the potential relationships between them.

**Methods:** Demographics, learning style [VARK (Visual, Auditory, Read/write, Kinesthetic) questionnaire], and self-care (Self-Care HF index-Maintenance subscale) were collected in a convenience sample (n=95) HF patients admitted to a community hospital. Patients were followed/data extracted from the medical record for 30-day healthcare utilization.

**Results:** Subjects were 75.9+12.0 years old, Caucasian (93.7%), male/married (58.9%), and retired (69.5%) with <high-school education (11.85+4.2 years). 43.2% had inadequate health-literacy. Learning style preferences were uni-modal (57.9%) and kinesthetic (26.3%). Patients never/rarely weighed themselves (29.5%), did some physical activity (40%) or exercised for 30 minutes (66.3%), forgot to take one medication (53.7%), or asked for low salt items when eating out/visiting others (55.8%). Patients always/daily checked ankle swelling (47.4%), had flu shot (61.1%), kept provider appointments (84.2%), ate a low-salt diet (45.3%), and used medication-reminder systems (78.9%). Employed patients (r=.22, p =.03) with more comorbidities (r=.21, p=.05) had more 30-day rehospitalizations. Married patients (r=.21, p=.04) rehospitalized within 30-days (r=.46, p=.001) were more likely to visit the ER. Older adults (r=.24, p=.02) with lower health-literacy (r=-.27, p=.009), who forgot one medication (r=.38, p<.001) and reported kinesthetic learning style (r =.25, p=.014) were more likely to visit an outpatient-clinic. Patients who forgot one medication and reported kinesthetic (r=.25, p=.014) and not an auditory learning style (r=-.28, p=.007) had more 30-day healthcare utilization.

**Conclusions:** In this primarily elderly, Caucasian sample of heart failure patients with low health-literacy, attention to and teaching about medication self-care using the kinesthetic learning style may reduce healthcare utilization in patients with heart failure.

## Factors Related to Hospitalization and Mortality of COPD Patients in Acute Care

*Patricia Conley, RN, MSN, PCCN*
*Progressive Care Unit*
*Staff Nurse/PhD Student*
*Research Medical Center/Medical University of South Carolina*
*Kansas City, MO*

*Zachary R. Conley, MS*
*College of Dentistry*
*New York University*
*New York City, NY*

*Lynne Nemeth, PhD, RN, FAAN*
*Professor*
*Medical University of South Carolina*
*Charleston, SC*

**Aims:** This study was designed to identify risk factors related to the incidence of mortality in COPD patients admitted to an urban quaternary hospital.
**Background:** COPD is a burden to patients and medical centers due to frequent occurrences for medical care. The impact by the regulation for Hospital Readmission Reduction Program by the Centers for Medicare and Medicaid (section 3025 of the Affordable Care Act, section 1886q) highlights the need to create an intervention to identify educational or resource support needs of COPD patients that places them at risk for hospitalization.
**Methods:** A retrospective chart review of adult patients (18 years and older) was conducted using International Classification of Disease codes (ICD-9) (496, 491.21, 491.22, and 493.22) admitted to a Midwest urban quaternary hospital January 2013 through February 2013 (n = 331). Using a list of admissions provided from hospital medical records, data were collected manually and entered into an Excel spreadsheet to include: demographics, length of stay, admitting diagnosis, body mass index (BMI), use of BiPAP or mechanical ventilation during hospitalization, and steroid use at home. Descriptive statistics were used in Excel to analyze the data.
**Results:** There were 331 patients admitted within this 2 month timeframe. Of those that died (4%, 14 patients) the most prevalent admitting diagnosis was respiratory failure (36%), median age 73.5 years, 86% lived at home with spouse or family, race 64% white, on steroids at home 7%, and BMI 25.2. Survivors' prevalent admitting diagnosis: respiratory failure 16%, median age 68 years, race 61% white, on steroids at home 89%, 52% lived with spouse or family.
**Implications:** This study suggests that the admitting diagnosis of respiratory failure, delay in seeking medical care, as well as age may be predictors for mortality in COPD patients. Interventions may be needed to reduce avoidable respiratory failure, increase education in these patients, and closer monitoring of COPD patients age >70 years.

# CHRONIC ILLNESS

## Latina Mothers' Stories: Children with Cystic Fibrosis and Health Care Experiences

*Linda Tirabassi-Mathis, PhD, RN, CPNP*
*Miller Children's and Women's Hospital*
*Long Beach, CA*

The Hispanic population is the fastest growing minority in the United States and is also a minority in the cystic fibrosis (CF) community. The genetic carrier frequency of CF is reported to be less in the Hispanic population than that of the Euro-American population. Concomitant with an increasing Hispanic population in the U.S., combined with CF newborn screening programs, more Hispanic individuals with a diagnosis of CF might be anticipated. This study explored stories of Latina mothers' perspectives of parenting their child with CF, health beliefs, and health care experiences. The study interviewed 10 mothers of which half were English speaking and an interpreter was used for the Spanish speaking mothers. Narratology or story telling was the qualitative method employed. Narrative structural and thematic analyses were applied through a critical and feminist lens. The major themes that emerged were mothering, growing and growth, mother talk, and connected, informed by Ruddick's (1995) framework on maternal thinking. Additional major themes were life disrupted and being here. Findings were consistent with existing literature of the dominant Euro-American culture of being a mother of a child with CF. Health beliefs specific to CF care were aligned with prescribed medical treatments, however areas of extended family influence of health beliefs surfaced. Language emerged as a primary barrier for Spanish-speaking mothers. Mothers acknowledged an existing lack of awareness of CF in the Hispanic community and also as underrepresented within the larger CF community. They expressed a desire to see a shift of the stereotyped Caucasian images of CF to represent Hispanic people to promote greater awareness in the Hispanic communities and with health care providers. Nurses have opportunities to gain culturally sensitive insight to deliver patient and family centered care. Applying research findings that illuminate reported care differences in the health care setting may increase nurses' ability to individualize care of non-dominant Euro-American children and families.

# CHRONIC ILLNESS

## Association between Adiposity and Functional Status in Obese Heart Failure Patients

*Marjan Motie, PhD*
*Assistant Professional Researcher*
*Program in Nursing Science*
*University of California, Irvine*
*Irvine, CA*

*Lorraine S. Evangelista, PhD, RN, FAAN*
*Professor and Associate Director of PHD*
*Program in Nursing Science*
*University of California, Irvine*
*Irvine, CA*

**Purpose:** To describe the relationship between weight, adiposity (i.e., fat mass, lean mass, percent body fat), functional status (i.e. peak oxygen consumption [VO$_2$max]), and LV structural characteristics (i.e. left ventricular [LV] ejection fraction [LVEF], LV end diastolic dimension [LVEDD], LV posterior wall thickness [LVPWT]) in a cohort of overweight and obese patients with heart failure [HF], diabetes mellitus [DM], metabolic syndrome [MS].

**Background:** There is ample research to describe the relationship between body weight, adiposity, functional status, and LV characteristics in patients with HF; however, these relationships are less defined in patients with HF and multiple co-morbidities (e.g., obesity, DM and MS).

**Methods:** We assessed weight, adiposity, functional status, and LV structural characteristics of 94 overweight and obese patients with HF, DM, and MS (mean age 59 ± 10; male [70%], Asians [5.6%], Hispanics [15.7%], Blacks [13.5%], and Whites [65.2%]) participating in a clinical trial designed to compare the effects of a high protein vs. standard protein diet on adiposity and clinical outcomes. Relationships between variables of interest were analyzed at baseline using Pearson Moment correlations.

**Results:** Weight was correlated with fat and lean mass and LVEF (all p's < .050). Novel findings from our data showed that weight, fat mass, and percent fat were inversely related to VO$_2$max; weight, fat mass, and lean mass were positively related with LVPWT (see Table). In a model controlling for age, gender, New York Heart Association class and weight, fat mass and LVEF accounted for 13.7% of the variance in VO$_2$max.

**Implications:** Our findings elucidate the potential impact of body fat on functional status in overweight and obese patients with HF, DM, and MS and challenges existing research that supports that higher weight and increased fat is good in the setting of chronic HF (i.e. obesity paradox). Strategies to optimize weight and reduce adiposity will be further investigated in this subgroup of patients.

---

**Funding:** Received from the Heart, Lung, and Blood Institute (1R01HL093466-01).

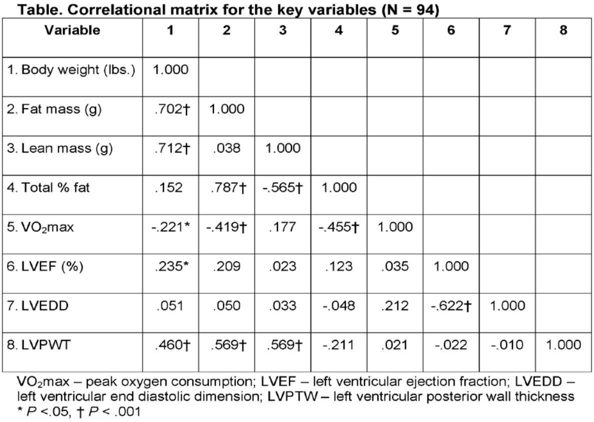


**Table. Correlational matrix for the key variables (N = 94)**

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. Body weight (lbs.) | 1.000 | | | | | | | |
| 2. Fat mass (g) | .702† | 1.000 | | | | | | |
| 3. Lean mass (g) | .712† | .038 | 1.000 | | | | | |
| 4. Total % fat | .152 | .787† | -.565† | 1.000 | | | | |
| 5. VO$_2$max | -.221* | -.419† | .177 | -.455† | 1.000 | | | |
| 6. LVEF (%) | .235* | .209 | .023 | .123 | .035 | 1.000 | | |
| 7. LVEDD | .051 | .050 | .033 | -.048 | .212 | -.622† | 1.000 | |
| 8. LVPWT | .460† | .569† | .569† | -.211 | .021 | -.022 | -.010 | 1.000 |

VO$_2$max – peak oxygen consumption; LVEF – left ventricular ejection fraction; LVEDD – left ventricular end diastolic dimension; LVPTW – left ventricular posterior wall thickness
* $P$ <.05, † $P$ < .001

# CHRONIC ILLNESS

## Identification of Symptom Clusters in Patients Undergoing Chemotherapy for Breast Cancer

*Carmen Ward-Sullivan, RN, PhD(c)*
*Department of Physiological Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Heather Leutwyler, RN, PhD*
*Department of Physiological Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Bruce Cooper, PhD*
*Department of Physiological Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Laura Dunn, MD*
*Department of Psychiatry*
*Stanford University*
*Palo Alto, CA*

*Christine Miaskowski, RN, PhD*
*Department of Physiological Nursing*
*University of California, San Francisco*
*San Francisco, CA*

**Purpose:** The purposes of this study, in a sample of patients with breast cancer receiving chemotherapy (CTX) (n=540), were to: identify the number and types of symptom clusters in these patients in the week following the administration of CTX.
**Background:** A comprehensive symptom assessment warrants an evaluation of multiple symptoms in patients undergoing cancer treatment. In addition, an evaluation of symptom clusters may provide novel information on how patients experience multiple co-occurring symptoms. However, few studies have evaluated symptom clusters using the Memorial Symptom Assessment Scale (MSAS) in patients with breast cancer who underwent CTX. Furthermore, no studies have used exploratory factor analysis (EFA) to identify the symptom clusters using symptom occurrence ratings from the MSAS. The purposes of this study, in a sample of patients with breast cancer receiving CTX (n=540), were to: identify the number and types of symptom clusters in these patients in the week following the administration of CTX.
**Methods:** Patients completed a demographic questionnaire and the MSAS that contained 38 symptoms following the administration of CTX. Unweighted least squares with a mean and variance adjusted chi-square test statistic (ulsmv) was used to identify the best factor structure.
**Results:** The majority of the patients were married/partnered (61.0%) and White (71.1%) with a mean age of 53.3 years. The mean number of symptoms the patients reported was 14.7 (SD=6.85). Preliminary findings suggest that 5 symptom clusters were identified in this sample of patients with breast cancer.
**Implications:** The identification of symptom clusters may provide clinicians with insights into how patients with breast cancer experience multiple co-occurring symptoms following the administration of CTX. In addition, the identification of symptom clusters may provide insights into the mechanisms that underlie multiple co-occurring symptoms. Clinicians need to assess oncology patients for multiple co-occurring symptoms using a comprehensive symptom assessment tool like the MSAS.

---

**Funding:** This study was funded by the National Cancer Institute (CA 134900). Carmen Ward-Sullivan is funded by a NRSA grant (T-32 NR 7088).

# CHRONIC ILLNESS

## Improving Blood Pressure Control in Underserved Populations

*Kathleen M. Wilson, MPH, BSN*
*DNP Student*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Jose Velez, RN, BSN, MBA, LSSBB*
*Quality, Compliance and Risk Management*
*Marillac Clinic*
*Grand Junction, CO*

**Purpose:** The purpose of this practice-based project is to improve rates of blood pressure control in Marillac Clinic, a Federally Qualified Health Center (FQHC) in Grand Junction, CO.

**Background:** Hypertension is a public health concern, with 1 in 3 adult Americans affected. Of those, only 54% have achieved blood pressure control (Mozaffarian, D. et al., 2015). Hypertension, an insidious disease, was a primary contributor to more than 360,000 cardiovascular-related deaths in the United States (Centers for Disease Control and Prevention [CDC], 2015a). High blood pressure costs the United States $46 billion dollars annually, including medications, health care services, and lost productivity (CDC, 2015a).

The burden of hypertension and difficulty in controlling it has been noted in underserved populations as particularly troublesome (Olomu et al., 2013). In 2014, 63.7 % of the FQHC population (22,873,243 patients) had blood pressures under control (≤140/90 mm Hg) (Department of Human Services [DHS], 2014). However, variance exists in degree of compliance; a Michigan FQHC found that 38.1% of patients with hypertension were uncontrolled (Olomu et al., 2013).

Lack of staff training and monitoring of blood pressure measurement can lead to potential errors. In addition, faulty equipment can lead to inaccurate measurement. Thus, blood pressure determination is a vital measure in clinical medicine, but is can performed inaccurately many times and presents with numerous challenges (Pickering et al., 2005).

Benefits of hypertension management in the underserved populations have been demonstrated, including population specific interventions (Olomu et al., 2013) (Willard-Grace et al., 2013). Evidence-based guidelines (James et al., 2014) are available to assist health care workers managing patients with hypertension. Incorporating these guidelines into practice, along with annual competency training and evaluation of Medical Assistant's blood measurement techniques can decrease morbidity and mortality, human suffering, and health care expenditures.

**Methods:** Marillac's baseline clinic blood pressure control was measured and reported at 64%, below clinic goal of 75% established by the Marillac Quality Committee. An action plan was developed with the clinic adoption of JNC8 hypertensive guidelines (James, et al., 2014). A team-based approach with multifaceted interventions included creating an effective workflow for non-provider staff to facilitate implementation of established guidelines; this will include nurse-led medication titration and visit management within a protocol. This intervention is currently in progress. The Medical Assistant training program was developed, piloted, and executed. As part of accurate blood pressure measurement intervention, all equipment was inspected and malfunctioning equipment was replaced. Lastly, providers were instructed on JNC8 guideline adoption that will be included in their ongoing provider peer evaluation for compliance.

**Results:** The development of non-provider guideline support through nurse-initiatives (as described above) and peer review on blood pressure management are currently being developed. Results on medical assistant training indicated that the training was successful in increasing the knowledge and understanding of proper measurement techniques.

**Conclusions/Implications:** Medical Assistant training is, at minimum, successful in increasing accurate blood pressure measurement and in increasing medical assistant support and knowledge of blood pressure management. These findings combined with the findings of the other two arms of the project will demonstrate what constitutes effective strategies in this population. The increase in blood pressure compliance could reflect influence of interventions, or be confounded by new providers and patients at the clinic. Further study is ongoing.

# CHRONIC ILLNESS

## Implementing the 5As Framework for Obesity Management

*Jennifer Sassman, BSN*
*DNP Student*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

*Joseph Burkard, DNSc, CRNA*
*Faculty Chair*
*University of San Diego*
*San Diego, CA*

*Roger Oen, MD, MPH*
*Clinical Mentor*
*Coronado Medical Group*
*Coronado, CA*

*Natasha Hicks, MSN, FNP-C*
*Clinician*
*Coronado Medical Group*
*Coronado, CA*

**Project Aim:** The purpose of the project is to increase screening and identification of obesity, as well as increase provider knowledge and utilization of the 5As Framework in management of obesity.

**Background:** Over one-third of Americans are obese. Obesity not only affects quality of life but also raises the risk of mortality from type 2 diabetes mellitus, hypertension, dyslipidemia, and many other chronic diseases. The 2012 U.S. Preventative Services Task Force Recommendation Statement (USPSTF) clearly stated how obesity should be screened for and managed. Obese patients with a body mass index (BMI) equal to or greater than 30 should be offered an intensive, multicomponent behavioral intervention. A second tool for identifying people at risk of the previously stated chronic diseases is waist circumference (WC). In patients with a BMI $< 35$, women with a WC $>35$ inches and men with a WC $>40$ inches are identified to be at high risk. A simple yet effective framework for managing obesity is the 5As. The 5As (ask, assess, advise, agree, and assist/arrange) Framework is rooted in the behavioral change theory, and educating providers on use of this framework has been shown to be effective in the management of obese patients in a primary care setting.

**Project Plan:** This Evidence Based Project was piloted with one provider and one medical assistant. Pre data collection included demographic data, as well as BMI, waist circumference, obesity listed on the active problem list if BMI equal to or greater than 30, and any intervention used in obesity management, if any. An in-service on obtaining and documenting waist circumference with medical assistant was held. A pretest was administered to provider on knowledge of the 5As. One-on-one education on the 5As framework, to include documentation of said intervention was completed with provider. A posttest was administered to provider on knowledge of the 5As. Follow-up data collection (demographics, BMI, waist circumference, obesity on active problem list, and obesity management intervention) will be collected and evaluated at one, three, and six months.

**Outcomes:** Data collection is currently in progress, however it is expected there will be an increase in provider knowledge of 5As framework, as well as an increase in utilization of the 5As framework for obesity management. It is also expected screening for and identification of obesity will also be increased.

**Conclusions:** To be determined following review and analysis of results. It is expected that with an increase in the utilization of the 5As framework in obesity management, this pilot project can be continued and expanded. More data can be collected to see if long-term outcomes can be achieved, such as decrease in BMI, with continued use of the 5As framework.

# CHRONIC ILLNESS

## Safe Practices When Dialysis Is Required for a Patient after Iodine 131 Thyroid Ablation

*Jennifer Pacheco, BSN, RN, OCN*
*Nurse Supervisor*
*University of New Mexico Hospital*

*Jonathan Duggan, MSN, RN, CDN*
*Nurse Supervisor*
*University of New Mexico Hospital*

**Purpose/Aims:** The purpose of this research study to was to measure the effect of a multidisciplinary education intervention on the safety of delivering dialysis to a patient receiving thyroid ablation with radioactive iodine 131 isotopes. There is a very small body of research available to provide safe care for this patient care. The aim was to measure the intervention, the steps of the procedure and the patient outcomes and develop a PDSA to ensure patient and staff safety.

**Background:** The methods employed in the safe dialysis of a radioactive patient include logistical multidisciplinary coordination, dialysis staff education regarding radiation safety, and presentation of available research for use in planning this patient's care.

**Methods:** Safe administration of I131 on a dialysis patient takes a collaborative team effort and coordination in planning. The collaborative team consisted of an endocrinologist, nuclear physicist, nephrologist, unit directors from 5E and Dialysis, the unit staff, nuclear medicine, and admitting internal medicine service, and radiation safety team. The team met and discussed logistics to include dates of preadmission activities, dosing of Iodine 131 and the date of admission. The dialysis staff was trained on radiation safety and precautions in the patient's room along with information on types of exposure to radiation and how much risk is associated with dialyzing a radioactive patient. The radiation safety officer trained all staff who would potentially need to perform dialysis on this patient. Dialyzing a patient receiving Iodine 131 therapy represents a very low risk of exposure when precautions are followed. Each staff member wore a radiation safety badge to monitor each staff member's radiation exposure level. It was determined that the patient would get the first dialysis treatment within 24-48 hours of receiving the Iodine 131 and would need up to 5 hours on the dialysis machine. The patient would need dialysis the following day for 4-5 hours, depending on the radioactivity readings of the dialysate effluent.

**Results:** The results were determined through the use of a Geiger counter and blood draws/dialysate samples. The Geiger counter was used during and at the end of the delivered dialysis treatments to measure the amount of absorbed radiation if any. No employees registered excessive radiation during or after the two dialysis treatments. Blood samples from the patient and dialysate samples from the dialysis machine effluent were measured and compared at the beginning and end of each dialysis treatment.

**Implications:** Safe dialysis of a radioactive patient undergoing Iodine 131 thyroid ablation can be achieved with careful planning, education, and research. It takes an entire multidisciplinary team to be involved including an endocrinologist, nephrologist, nuclear physicist, management, staff, admitting, internal medicine service, and radiation safety team. This outcome has led to the creation of a valuable resource guideline to be kept in the 5E and Dialysis resource books for future thyroid ablation patients. The conclusion is increased patient and staff safety.

# Abstracts of Poster Presentations

# COMMUNITY HEALTH

## STRESS MANAGEMENT IN A CORPORATE SETTING

*Erinn Veronica Gelakoska, Susan Instone, Juliana Gabbard*

## METABOLIC SYNDROME MONITORING: EFFICACY OF AN EDUCATIONAL INTERVENTION

*Myrto Mia McNeil*

## INCREASING VACCINATION RATES IN PERINATAL PATIENTS AT CHILDBIRTH EDUCATION CLASS

*Nicole A. Ringo*

## ENACTING SOCIAL JUSTICE, ADVOCACY, AND PRIMARY HEALTH CARE TO ACHIEVE HEALTH EQUITY

*Selina Mohammed, Christine Stevens, Mabel Ezeonwu, Cheryl L. Cooke*

## HEALTH-PROMOTING BEHAVIORS OF RN-BSN STUDENTS

*Kathleen Gilchrist, Cherie Rector*

## USE OF LOGIC MODEL AND COMMUNITY ENGAGEMENT IN COMMUNITY HEALTH NURSING

*Ivy C. Tuason, Ruth Trudgeon, Sasha Jensen, Rohan Bassi, Josephine Vu, Paulina Dinh, Yasmin Renteria, Michelle Ewing*

## EXAMINING CHANGES IN REFUGEES' MENTAL HEALTH STATUS DURING THE RESETTLEMENT

*Niva Dhakhwa*

## CAM HEALTH LITERACY AND OLDER RURAL ADULTS

*Jean Shreffler-Grant, Elizabeth Nichols, Clarann Weinert*

## PERSPECTIVES OF TITLE V STAKEHOLDERS' AND NURSING PRACTICE

*Mark Siemon, Tedd McDonald, Janet Reis, Stephanie Pustejovsky, Kamilla Gazieva*

## ARSENIC AND HEAVY METALS: EFFECTS ON WOMEN AND CHILDREN IN UGANDA

*Anita J. Hunter*

## THE DECISION-MAKING PROCESS FOR ACCEPTING LATENT TB TREATMENT: A QUALITATIVE STUDY

*Fayette K. Nguyen Truax*

## SELF-RATED HEALTH IN MEXICAN IMMIGRANTS: EXPLORING INEQUALITY IDENTITIES

*Lisa L. Lommel, Lisa Thompson, Catherine M. Waters, Adam Carrico, Jyu-Lin Chen*

## THE IMPACT OF ACCULTURATION ON CARDIOVASCULAR HEALTH AMONG FILIPINOS IN CALIFORNIA

*Maria Lourdes Bayog, Catherine M. Waters*

## SOCIAL-ECOLOGICAL FACTORS INFLUENCING PARENTAL CHILDHOOD VACCINATION DECISIONS

*Catherine A. Ferris, Lois C. Howland*

## NURTURING COMMUNITY RELATIONSHIPS: A CBPR PROJECT

*Socorro Escandon, Martha L. Martinez*

## EVALUATION OF A SMOKE AND TOBACCO-FREE INITIATIVE IN A STUDENT WELLNESS CENTER

*Angelito dela Cruz, Karen A. Macauley, Jacqueline Gamboa*

# AN OLDER ADULT PCV13 VACCINATION PROTOCOL IN THE RETAIL HEALTHCARE SETTING

*Christine Duong, Shelley Y. Hawkins, Ann Lowe*

---

# A MOBILE HEALTH BUDDY PHYSICAL ACTIVITY PROGRAM FOR WOMEN WITH YOUNG CHILDREN

*JiWon Choi*

---

# IMPROVED PATIENT CARE ON COCCIDIOIDOMYCOSIS AMONG CORRECTIONAL INMATES

*Kwaifa Kary Mack*

---

# PREDICTORS OF MULTIDRUG-RESISTANT ORGANISM INFECTION IN US NURSING HOMES

*Catherine Crawford Cohen, Andrew Dick, Patricia W. Stone*

# COMMUNITY HEALTH

## Stress Management in a Corporate Setting

*Erinn Gelakoska, BSN, RN*
*DNP Student*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

*Susan Instone, DNSc, CPNP*
*Professor*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

*Juliana Gabbard, MSN, FNP*
*Clinical Mentor*
*LPL Onsite Clinic*
*San Diego, CA*

**Purpose:** Reduce the stress of corporate employees by providing stress education and awareness of available stress management resources.

**Background:** Stress is a significant problem in America, with work being the second highest cause. Stress is implicated as a contributor to several chronic diseases such as cancer, depression, anxiety, obesity, and cardiovascular disease. Almost half of adults say they are not doing enough or are not sure whether they are doing enough to manage their stress, and 20% say they are not engaging in an activity to help relieve or manage it. In fact, most Americans engage in ineffective stress management, which leads to unhealthy choices and behaviors, ranging from alcohol and drug abuse, smoking, and sedentary lifestyles, which further contribute to chronic diseases. Employers are trying to address this by offering wellness programs, to include stress management. Employee education and the use of motivational interviewing techniques have been shown to improve stress at the workplace.

**Process:** For almost one year, multiple stakeholders in a large, national corporation were engaged to plan and launch the project. Educational presentations about stress and stress management were conducted at the project headquarters. Interested employees participated in a separate, nurse led one-on-one session, where they completed a Perceived Stress Scale and through the use of motivational interviewing, created an individualized stress management plan. Data were gathered at a one-month follow up session, reevaluating their perceived stress levels, determining the percentage of employees that completed the program, and the percentage of onsite stress management resources that were used along with any barriers. The Iowa Model of Evidence Based Practice, supported by motivational interviewing, was used as the framework for the project.

**Outcomes Achieved:** Data analysis is in progress. Changes in Perceived Stress Scale scores, along with the extent to which stress management resources were utilized by the project participants will be reported. Stakeholder considerations will also be discussed.

**Conclusions:** Implementing a stress reduction program in a large corporate setting involves significant lead-time to plan and implement, but it is an ideal way for Nurse Practitioners (NP) to bring health care directly to employees with the potential for positive outcomes. Cost containment and sustainability can be achieved through utilizing available resources and integrating patients into the NP’s current schedule.

# COMMUNITY HEALTH

## Metabolic Syndrome Monitoring: Efficacy of an Educational Intervention

*Myrto McNeil, RN, BSN, DNP Candidate*
*Nurse Educator*
*Rutgers Biomedical and Health Sciences*
*Rutgers University*
*Newark, NJ*

Individuals treated with second-generation antipsychotic agents, including olanzapine, clozapine, quetiapine and risperidone, for the management of schizophrenia and other psychotic symptoms, are at higher risk of developing metabolic syndrome. A provider-focused intervention developed to promote a guideline-based metabolic monitoring protocol was implemented in an outpatient psychiatric clinic. The principal investigator expects improvement in psychiatric providers' knowledge of metabolic syndrome criteria, attitude towards metabolic monitoring and frequency of metabolic monitoring, following the educational intervention. The specific aims of this project are to promote best practice, reduce poor health outcomes, and decrease healthcare costs in the delivery of care for patients chronically medicated with atypical antipsychotic agents.

Empirical evidence established atypical antipsychotic-induced metabolic disturbances as a disturbing trend in clinical settings leading to various medical complications and premature death with a prevalence at least five times higher in patients diagnosed with schizophrenia compared to healthy subjects. Despite recommendations by the American Psychiatric Association (APA), the Federal Drug Administration (FDA), pharmaceutical agencies, and experts in the study of obesity and diabetes, the monitoring of metabolic events is not standardized practice among providers.

A pre and post-test quality improvement design using *The Iowa Model of Evidence-Based Practice to Promote Quality Care* framework guided the implementation of a provider-focused educational intervention on metabolic syndrome monitoring. First, a baseline assessment was obtained through providers' self-report of knowledge, attitude and monitoring practice by means of an 18-item questionnaire. The investigator concurrently conducted a baseline chart review to evaluate monitoring practices. Collected data included subjects' family/patient history, blood pressure, weight, waist circumference, fasting lipid panel and fasting blood glucose. Secondly, an educational intervention was implemented in a single one-hour format session. Participants were educated on the recommended *American Diabetes Association (ADA) and American Psychiatric Association (APA) Consensus Guidelines for Baseline Assessment and Monitoring Frequency of Persons on Atypical Antipsychotic Agents* as the recommended process for screening and monitoring metabolic syndrome. Eight weeks following the provider-focused intervention, the investigator will perform a post-education 18-item questionnaire and a retrospective chart review. The author will compare data collected as part of the pre-intervention baseline survey and chart review to the post-survey and post-chart review data to evaluate the effectiveness of the educational intervention on attitude, knowledge and monitoring trends of providers.

Outcomes for this project are unavailable since the project is currently in the implementation phase.

Dissemination of results will be available in March 2016. Potential benefits of routine antipsychotic-induced metabolic screening and monitoring may decrease metabolic health complications and premature death in mental health patients. The results of this project may be useful in guiding future psychiatric advanced practice nursing educational interventions to enhance mental health providers' attitude, knowledge and monitoring behaviors of metabolic abnormalities. Future research should focus on the development and implementation of cost effective screening and monitoring strategies in clinical settings as part of routine care, to guide future educational interventions.

# COMMUNITY HEALTH

## Increasing Vaccination Rates in Perinatal Patients at Childbirth Education Class

*Nicole Ringo, PhD(c), MSN/ED, RN*
*Nursing Instructor*
*School of Nursing Entry Level Master's Program*
*Azusa Pacific University*
*Azusa, CA*

**Purposes/Aims:** To increase perinatal influenza and pertussis vaccination (Tdap) rates by 50% at a Southern California Community Hospital.

**Rationale/Background:** Pregnant women and their babies are at an increased risk for influenza-related complications, including premature labor and preterm birth. Additionally, pertussis outbreaks continue to occur in the United States with infants at highest risk of severe illness, including hospitalization and death. Low vaccination rates leave many pregnant women and their infants unprotected against these serious vaccine-preventable diseases. The influenza vaccination is recommended in any trimester for all women who are pregnant or who plan to become pregnant during the influenza season, and the pertussis vaccination (Tdap) is recommended between 27 and 36 weeks of each pregnancy. Mothers who receive Tdap between 27 to 36 weeks develop antibodies and provide passive immunity to the baby. Infants less than 30 days of life represent the highest mortality rates from pertussis. Immunization rates for these vaccines were low at Southern California Community Hospital (influenza 22% and Tdap 23%). Literature reports that education and ease of obtaining vaccinations helps to improve perinatal vaccinations rates. However, rates continue to remain low despite provider and educational campaigns. Childbirth class could provide timely accessibility for perinatal patients as they typically attend between 27 to 36 weeks gestation.

**Undertaking/Best Practice/Approach/Methods/Process:** Two methods were used to obtain data. The number of influenza and Tdap vaccinations provided from the Southern California Community Hospital during 2014-2015 and 2015-2016 influenza seasons were obtained from pharmacy distribution logs. Perinatal patients were asked to complete a five-item pre-questionnaire at the time of childbirth education class sign-up. Influenza and Tdap injections were provided and administered by the hospital clinicians during childbirth education classes. Perinatal patients were given a vaccination card indicating that they received the influenza and Tdap injections. Perinatal patients were asked to complete a post-questionnaire. Data from pre and post-questionnaires were compared as well as perinatal vaccination rates from 2014-2015 and the 2015-2016 influenza season.

**Outcomes Achieved/Documented:** Data collection is in progress.

**Conclusions:** Preventable diseases such as influenza and pertussis represent high mortality rates for both the mothers and their babies. Improvements in perinatal vaccination rates can be made by providing education and increasing timely accessibility at childbirth education classes. Future projects should identify education and timely accessibility opportunities for household members living amongst perinatal patients and for perinatal patients who cannot attend childbirth class.

## Enacting Social Justice, Advocacy, and Primary Health Care to Achieve Health Equity

*Selina A. Mohammed, PhD, MPH, RN*
*Associate Professor*
*School of Nursing and Health Studies*
*University of Washington Bothell*
*Bothell, WA*

*Christine Stevens, PhD, MPH, RN*
*Associate Professor*
*Nursing and Healthcare Leadership*
*University of Washington Tacoma*
*Tacoma, WA*

*Mabel Ezeonwu, PhD, RN*
*Assistant Professor*
*School of Nursing and Health Studies*
*University of Washington Bothell*
*Bothell, WA*

*Cheryl L. Cooke, PhD, RN*
*Associate Professor*
*School of Nursing and Health Studies*
*University of Washington Bothell*
*Bothell, WA*

**Purpose:** The purpose of this presentation is to: 1) examine the function of social justice, advocacy, and primary health care in addressing health inequities, and 2) explore multilevel upstream approaches for promoting health equity.

**Background:** In 2008, the World Health Organization called for the renewal of primary health care, and charged nurses to serve as advocates for social justice to achieve health equity goals. Supporting this charge, the American Nurses Association and the American Association of Colleges of Nursing created position statements and competency expectations regarding the continuum of advocacy and engagement in social justice required by nurses at varying educational levels. Despite these efforts, the need for social justice and advocacy has been professed more than their engagement has been operationalized. Several barriers to nurses' involvement have been noted, including the privileging of downstream behavioral health strategies as opposed to upstream health policies that target social determinants of health; ambiguous conceptualizations of social justice and advocacy; and a dearth of best practice examples regarding how nurses can implement social justice and advocacy.

**Approach:** Social justice and advocacy will be explicated in terms of their core functions in nursing and how they are vital to addressing social determinants of health. Given the climate of health care with the Patient Protection and Affordable Care Act, nurses are in prime position to engage in social justice advocacy and lead initiatives that address health inequities. However, directing efforts into macro-level actions and policies that target social structures responsible for creating and sustaining population health inequities is an area where nurses needs to gain proficiency. There are several ways that nurses can be involved in this transformative process, including focusing on emancipatory knowledge development in nursing curricula, making links between health inequities and social injustices through research, and highlighting interventions that illustrate multilevel approaches to social justice advocacy within different practice contexts. The latter is particularly important for nurses who may feel limited by their practice specializations or who are struggling to conceptualize how they can address health inequities.

**Outcomes:** To gain a deeper understanding of how to develop a meaningful social justice and advocacy practice, case examples are provided to underscore the work of nurse interventionists and how programs were created to improve health outcomes, while also building community capacities to sustain policy, systems, and environmental changes that address social determinants of health. These examples demonstrate ways in which nurses can be more involved in social justice advocacy and work toward goals of health equity.

**Conclusions:** Addressing root causes of health inequities can stem the increasing health divide between population groups. At this historic moment, nurses can no longer see themselves on the outskirts of the social justice movement. It is imperative that nurse educators, researchers, and clinicians embrace social justice and advocacy and invoke upstream approaches to address health inequities. As the call for nurses' involvement intensifies, scholarship that highlights and exemplifies this type of work can give nurses the tools and vision they need to act.

# COMMUNITY HEALTH

## Health-Promoting Behaviors of RN-BSN Students

*Kathleen Gilchrist, PhD, FNP, PHN, RN*
*Professor*

*Cherie Rector, PhD, RN, PHN*
*Professor Emeritus*

*California State University, Bakersfield*

**Purpose:** The purpose of this study was to investigate the health-promoting behaviors of RN-BSN students.

**Background:** Healthcare reform has refocused attention on population health promotion. The preponderance of health promotion (HP) research has centered on patients and clients. It includes those with Fibromyalgia, Multiple Sclerosis, Post-Partum Depression, along with Turkish workers, Hong Kong secondary school teachers, and female academics. There is increasing pressure for RNs to complete their BSN, and more students are entering RN-BSN programs. In 2014, 55% of RNs had their BSN, however, the goal is 80% by 2020. The majority of these RN-BSN students are nontraditional. They tend to be older, working, and married with families. Health promotion is important to nursing since it is associated with maintaining enrollment in nursing school. Multiple roles and financial stressors can affect student performance and completion rates.

**Methodology:** An exploratory, quantitative, cross-sectional design was utilized. The Health-Promoting Lifestyle Profile II (HPLP II) based on Nola Pender's mid-range theory of health promotion, measures health-promoting behaviors. Cronbach's alpha for the 52-item HPLP II is .943, and responses are formatted on a 4-point Likert scale (never, sometimes, often, and routinely). Demographic information collected included age, ethnicity, educational level, years in nursing, height, and weight. It takes approximately 15-20 minutes to complete the questionnaires. RN-BSN students were invited to participate through email invitation. In order to access the questionnaires, a link to SurveyMonkey© was provided. Students could choose to participate or not, and reminder emails were sent after several weeks. The researchers had IRB approval before beginning the research.

**Results:** Fifty-eight RN-BSNs participated in the survey. Participants ranged in age from 24-49 with a mean of 33 years; 44.8% were Hispanic; 91.4% female; 53.4% married, and average years worked as a nurse was 3.05 years (range = 0 to 16). The average height was 64.4 inches, and weight ranged from 90-280 lbs. (x = 158 lbs.). The majority of respondents worked 12-hour shifts (56.9%). Total HPLPII mean score was 2.57; means for the six subscales were: Health Responsibility (2.3), Physical Activity (2.16), Nutrition (2.58), Spiritual Growth (3.1), Interpersonal Relations (2.92) and Stress Management (2.27).

**Implications:** With the current focus on health promotion, RN-BSNs should have substantial knowledge of these subjects. However, Physical Activity had the lowest mean score. Questions in this section refer to following a planned exercise program, doing stretching exercises at least 3x/week, and checking pulse rate when exercising. Stress Management was the next lowest mean. Questions for this section included getting enough sleep, balancing time between work/play, and taking some time for relaxation each day. Both of these results indicate that RN-BSNs are not very physically active or very effective at managing stress. When comparing the total mean score to research with working nurses, this result is lower. It is only slightly higher than the 2.47 mean among nontraditional ADN students. Perhaps, RN-BSN education should include content on health promotion. Some research has shown promise in improving HPLP II scores after planned interventions among working nurses and nursing students.

# COMMUNITY HEALTH

## Use of Logic Model and Community Engagement in Community Health Nursing

*Ivy C. Tuason, RN, MSN, FNP-BC*
*Assistant Professor*

*Ruth Trudgeon, RN, MSN, Asst. Professor*
*Rohan Bassi, BS, Student*
*Paulina Dinh, BS, Student*
*Michelle Ewing, BS, Student*
*Sasha Jensen, BS, Student*
*Josephine Vu, BS, Student*
*Yasmin Renteria, BS, Student*

*College of Graduate Nursing*
*Western University of Health Sciences*
*Pomona, CA*

**Purpose/Aim:** To describe and demonstrate use of Logic Model and community engagement in building collaborative relationships between academia and community-based organizations.
**Rationale/Background:** The Logic Model is proven to be an effective tool in implementing new programs and in building collaborative relationships between academia and service. Community engagement is a process of working collaboratively with groups to address issues affecting the well-being of its members and brings about positive changes that improve health of the community. The College of Graduate Nursing (CGN) in Western University of Health Sciences established a relationship with UrbanMission, a local church-based organization to assess, implement, and evaluate nutrition education and wellness projects targeting the local neighborhoods consist mostly of low-income Latino families.

Key professors, community leaders, and volunteer students attended UrbanMission's Open Kitchen one Sunday a month for six months engaging with the community during community dinners. The engagement allowed for establishment of trusts and connections, information sharing, creation of partnership for project development, and problem solving. The Logic Model serves as framework for analyzing the community engagement process. The goals were clarified and agreed upon by key stakeholders. Inputs, outputs, activities, and outcomes were identified.
**Outcomes:** The process of community engagement showed common themes including food insecurity, lack of access, and lack of financial resources. Poor diet results to preventable chronic conditions including obesity, hypertension, and diabetes. The CGN has formalized the partnership with UrbanMission in Fall 2015 to become a community practice site to meet some of the requirements for the Community Health Nursing Clinical Practicum. Nursing students lead nutrition and cooking classes, behavioral changes and empowerment through smart shopping and resources to access affordable and healthy meals. Grocery points of purchase and list of affordable, delicious, and healthy recipes are developed.

Nursing students work alongside with a local family to prepare and cook community dinners once a month. These dinners are themed to introduce role of nutrition to prevent chronic diseases. Examples of themes included "Cancer Prevention through Diet" and "Obesity, Hypertension, and Diabetes Prevention Dinner". Students provide a balance of education and community building while sharing dinner with the community. The students' community engagement continues during these shared community dinners. The results are continuous identification of community needs and evaluation of the program.

The final evaluation to measure students' satisfaction and course outcomes are forthcoming once the semester is over.
**Conclusion/Implications:** The use of Logic Model allowed for organizing the community engagement data, identification of goals, activities, outcomes, and measure. Community engagement provides a meaningful approach to develop a working understanding and trust with community leaders and members so that project stewardship and support from within and across community organizations remain strong and operational. These types of partnerships result to project development that meet both the objectives of Community Health Nursing curriculum and needs of the community. In addition, this is an opportunity for innovative clinical placements for nursing schools to help relieve the impacted traditional community sites.

# COMMUNITY HEALTH

## Examining Changes in Refugees' Mental Health Status during the Resettlement

*Niva Dhakhwa, RN, BSN*
*Doctor of Nursing Practice (DNP) Student*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

**Purpose:** The purpose of this project is to evaluate effectiveness of screening mental health in refugees at multiple intervals using Refugee Health Screener -15 (RHS-15) during their first year of resettlement period.

**Background:** In Utah, about one-fourth of the newly arrived refugees (1,048) were considered to suffer from mental health conditions. To comply with the CDC recommendations RHS-15 screener is offered to refugees within 30 days of arrival during the Domestic Refugee Medical Examination. RHS-15 tool was developed to detect the range of emotional distress common across refugee groups in culturally sensitive way. RHS-15 is not a diagnostic tool, but is a predictive tool to detect refugees who might need mental health services in future. Currently, Utah Department of Health (UDOH) is conducting RHS-15 screening at multiple intervals (one months, three months and six months) to identify refugees in need of mental health services during the resettlement process. The effectiveness of offering additional RHS-15 at multiple intervals has not been determined. In addition, no evidences exist to support the need for screening refugees at multiple intervals. UDOH inputs huge efforts and spends large funds to offer RHS-15 screening at multiple intervals. Therefore, determination of effectiveness of offering RHS-15 screening in newly arrived refugees at multiple intervals is vital to establish evidence based care model in the State of Utah.

**Methods:** The UDOH along with two local resettlement agencies in Utah: Catholic Community Services and the International Rescue Committee screened approximately 1,100 refugees (14 years and older) using RHS-15 tool between October 1, 2014 and September 30, 2015. The project will conduct retrospective analysis of the collected data. The data will be obtained in an encrypted flash drive which will be organized in excel to assess for accuracy and completeness. One way repeated measures analysis of variables (ANOVA) will be conducted to compare RHS-15 scores and mental health referrals for the refugees at three different periods. The descriptive statistics will determine mean and standard deviation of RHS-15 scores and mental health referrals at three different periods. Factors such as age group, gender, country of origin and RHS-15 scores at three different intervals will be used as factors during ANOVA analysis. The project plans on using Statistical Package for the Social Sciences (SPSS) software.

**Outcomes:** The statistical analysis will provide better understanding on whether the proportion of refugees have gradual onset of distress during their first year of resettlement period. It is important to see if the frequency of referral made at various intervals are similar, increased or decreased. In addition, comparison of referrals made by age group, gender, and country of origin will help pinpoint need for RHS-15 tool at multiple intervals for a particular refugees population. The results will be analyzed and completed by March 1$^{st}$, 2016.

**Conclusion:** The project results and findings will enhance UDOH and the community to be informative as to the usefulness and necessity of offering refugee mental health screening using RHS-15 tool at multiple intervals.

# COMMUNITY HEALTH

## CAM Health Literacy and Older Rural Adults

*Jean Shreffler-Grant, PhD, RN*
*Professor*
*Montana State University*
*College of Nursing*
*Bozeman, MT*

*Elizabeth Nichols, PhD, RN, FAAN*
*Professor Emerita*
*Montana State University*
*College of Nursing*
*Bozeman, MT*

*Clarann Weinert, SC, PhD, RN, FAAN*
*Professor Emerita*
*Montana State University*
*College of Nursing*
*Bozeman, MT*

**Purpose:** The purpose of this paper is to describe a pilot study of a skill building intervention to improve health literacy about complementary and alternative therapies (CAM) among older rural adults. The challenges encountered and potential solutions will also be discussed.

**Background:** In a series of studies, the research team demonstrated that older rural adults, particularly those with chronic health conditions, used as much or more CAM as urban adults. The CAM they used was often self-prescribed and they learned about it through word of mouth, consumer marketing, or popular literature. Some used CAM inconsistently and did not have a clear understanding of what the CAM was intended to do, underscoring the need for this project.

**Methods:** The theme of the intervention was "Bee SAFE" for **B**e a wise user of CAM, **S**afety, **A**mount, **F**rom where, and **E**ffect. Skill building modules on CAM health literacy and electronic health information seeking were developed and presented face to face and by webinar to a group of older adults at a Senior Center in one Montana rural community. Participants were recruited and pre-program data collected during an initial Town Hall meeting. Evaluation data were gathered during a final Town Hall meeting. Feedback was also obtained from local leaders.

**Results:** Participants' CAM health literacy improved and they found information on decision making about CAM and health information seeking on the Internet to be helpful. They were satisfied with the format and content of the face to face session but less so with the webinar. Challenges encountered including gaining entre to a willing rural community, recruitment and retention of participants, cost of an on-site project, limitations of local resources, and sustainability. Ideas for overcoming these challenges include having a community-based project champion, obtaining a detailed calendar of community and church events, and clearly identifying physical resources (such as appropriate space) needed for a successful project.

**Implications:** There is an urgent need to promote health literacy about CAM among older rural adults. Their independent nature, scarcity of local health care resources, prevalence of chronic health conditions, and general lack of knowledge about CAM make it critical that older rural consumers have sufficient health literacy about CAM. Adequate CAM health literacy is essential to understand associated risks and benefits so that informed health care choices can be made.

---

**Funding:** National Network of Libraries of Medicine Pacific Northwest Region Express Outreach Award.

## Perspectives of Title V Stakeholders' and Nursing Practice

*Mark Siemon, PhD, RN, APHN-BC, CPH*
*Assistant Professor*
*School of Nursing*
*Boise State University*
*Boise, ID*

*Tedd McDonald, PhD*
*Professor & Associate Director*
*Center for Health Policy*
*Boise State University*
*Boise, ID*

*Janet Reis, PhD*
*Senior Researcher*
*College of Health Sciences*
*Boise State University*
*Boise, ID*

*Stephanie Pustejovsky, MHS*
*Senior Research Analyst*
*Idaho Office of Drug Policy*
*Boise, ID*

*Kamilla Gazieva, MBA, MHS*
*Center for Health Policy*
*Boise State University*
*Boise, ID*

**Purpose/Aims:** This research describes the differences in perceptions of health care needs between parents of children with special health care needs (CSHCN) and other Title V MCH consumers in Idaho. Data from the Idaho Department of Health and Welfares' Title V needs assessment provides important information for nurses and policy makers to consider when developing programs and services to serve the diverse Title V target populations.

**Background:** Developing programs and services for the diverse population groups served under Title V can be challenging for states and Title V stakeholder organizations. States are required to complete a needs assessment as part of their Title V application every five years. The needs assessment is designed to provide Title V stakeholders and others with an opportunity to comment on current services and to help state programs to improve services and programs.

**Methods:** Secondary analysis of results from an online survey of Title V consumers and stakeholders (n = 263) was completed to determine if there were differences in the perceived needs of Title V target populations. Significant differences were found between respondents who identified themselves as parents of CSHCN and participants who were not parents of CSHCN.

**Results:** Significant differences were found in the perceived importance of the needs for women aged 18 to 44, including: adequate health insurance, access to mental health services, access to medical home and stopping smoking; for pregnant women and infants, including: regular doctor visits for routine checkups, screening for disorders, and access to medical home; for children under five, including: immunizations, adequate health insurance; for older children and teens, including: teen sexual health, bullying, access to mental health services, and access to health insurance.

**Implications:** Results from state Title V needs assessments can help nurses understand and prioritize health issues for different Title V population groups. Nurses must work with all Title V stakeholders to develop policies and program that support evidence-based and outcome oriented practices within states.

**Conclusions:** The differences in perceptions of Title V health care services between different user populations provide nurses and others working with Title V populations with an opportunity to develop and implement evidence-based care and value-based outcomes, for mothers, infants, children, including CSHCN, and their families in Idaho.

# COMMUNITY HEALTH

## Arsenic and Heavy Metals: Effects on Women and Children in Uganda

*Anita J. Hunter, PhD, MSN, RN*
*Clinical Professor*
*Washington State University*
*College of Nursing*
*Vancouver, WA*
*anita.hunter@wsu.edu*

**Purpose:** The purpose of this research study, completed in January 2016, is to assess the relationship between the presence of heavy metals (arsenic, lead, fluoride, selenium, mercury, and cadmium) in the Ugandan water sources, malnutrition, and severe malaria **on the incidence** of maternal health, perinatal problems, fetal deaths, newborn problems, congenital defects, developmental delays and overall health in children.

**Background:** Between 2010 and 2012, 300 children in Mbarara (birth - age 12) were assessed for their physical and developmental achievements, nutrition status, and the incidence of severe malaria they had encountered. The results were that 50% of the children were cognitively and developmentally delayed, 99% had at least one bout of severe malaria, and 80% were malnourished. However, only 22.7% of the variance for developmental delays could be explained by malnutrition and malaria. In 2012, arsenic was discovered to be present in the water sources in the Mbarara District of Uganda. It is important to note that the greatest health consequences of heavy metal/arsenic poisoning is to the fetus as these toxins cross the placenta barrier and the blood-brain barrier to cause fetal anomalies, spontaneous abortions, prematurity, neurological disorders, developmental and cognitive delays.

In 2013, a small sample of 200 adults in one community had their urine assessed for arsenic excretion: 33% of the sample exhibited arsenic at detectable levels of 50 $\mu$g/L - the maximum acceptable limit for a healthy adult. These adults were symptomatic with neurological and sensory symptoms not explained by chronic disease or other health problems.

**Methods:** The January 2016 study will be a triangulated study, using quantitative descriptive/multivariate/regression analysis of physiological measures and urine for heavy metals/blood/ sugar/ protein/ nitrites); observational analysis of developmental achievements (Malawi Developmental tool); and qualitative data from the child and maternal health history. Sampling will be by recruitment strategies; sample size anticipated to be 150 women of child-bearing age and about 150-300 children from birth to age 12. Four teams of professionals, one Ugandan RN, one Ugandan MD, and one US RN will perform the assessments over a 5-6 day period in five different villages in the Mbarara district of Uganda.

**Results:** Given the past research findings mentioned above, it is anticipated these findings will be similar. Depending on the village being assessed and where the drinking and cooking water source is derived, it is anticipated that there will be heavy metal presence in the urine of the mothers and their children. It is also anticipated that a regression analysis will find that heavy metal excretion will increase in the variance to explain the incidence of developmental delays in children and perinatal birth problems in mothers.

**Implications:** Maternal and child health is one of the Millennium goals and the number one health priority in Uganda. This research will help to demonstrate the harmful effects of contaminated water and support the proposal to filter the heavy metals in the potable water sources; the education will provide public information on how to protect them from the effects of this contamination.

# COMMUNITY HEALTH

## The Decision-Making Process for Accepting Latent TB Treatment: A Qualitative Study

*Fayette Nguyen Truax, MS, CPNP, PhD(c)*
*Pre-Doctoral Research Fellow*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Purpose:** A high rate of Vietnamese immigrants refusing treatment for latent tuberculosis infection (TLTBI) in Orange County (OC) California is contributing to the current burden of TB disease among this population. The purpose of this qualitative study is to explore and describe factors that influenced Vietnamese immigrants' decision to accept TLTBI.

**Background:** Approximately 36.1 % of Vietnamese immigrants whom were offered free TLTBI by OC public health TB department from 2011-2012 refused treatment. In 2012, the annual TB case rate for Vietnamese people living in OC was significantly high at 38.1 cases per 100,000 populations compared to the general County population rate of 6.2 cases per 100,000 populations. To improve current acceptance rate, it is necessary to explore the motivation and beliefs of those who accepted TLTBI in order to gain a better understanding of those who refused.

**Methods:** All interviews were transcribed from Vietnamese to English and analyzed using the systematic inductive techniques of grounded theory to identify key themes related to the decision-making process. Theoretical saturation was achieved after fifteen interviews were conducted. The data was analyzed through open, axial and selective coding in addition to the constant comparative method. Data from this study was derived from responses of a very diverse group of fifteen Vietnamese immigrants from various backgrounds and birth regions in Vietnam.

**Results:** Four major categories emerged from the findings of this study that supported the immigrants' decision to accept TLTBI: 1) trust in the American healthcare system; 2) fear and uncertainty of an untreated infection; 3) experience with TB disease; and 4) personal beliefs about medication. The decision-making processes of the Vietnamese immigrants in this study were heavily influenced by social, cultural and personal factors. Current work is in place to identify the relationships of the categories so that a grounded theory will be developed to explain the phenomenon.

**Implications:** This research lays a foundation for the design of a culturally sensitive intervention aimed at improving communication between health care providers and Vietnamese immigrants to improve the overall rate of TLTBI acceptance. An increase in acceptance rate will have long-term impacts on reducing both TB and latent TB reactivation cases in the future.

---

**Funding:** This work was supported by the National Institute of Health (NIH)/Nursing Research (NINR) T32 NR007077.

# COMMUNITY HEALTH

## Self-Rated Health in Mexican Immigrants: Exploring Inequality Identities

*Lisa L. Lommel, RN, FNP, MPH, Clinical Professor*
*Lisa Thompson, RN, PhD, FNP-C, Associate Professor*
*Catherine Waters, RN, PhD, FAAN, Professor*
*Adam Carrico, PhD, Assistant Professor*
*Jyu-Lin Chen, PhD, RN, CNS, FAAN, Associate Professor*
*University of California, San Francisco*
*San Francisco, CA*

**Purpose:** The purpose of this study is to investigate the degree to which self-rated health (SRH) varies by the intersection between gender, age, class, acculturation, stress and discrimination, and social position among Mexican American immigrants.
**Background:** Health disparities are increasing in the U.S. and the rate of increase is greater among ethnic minorities. The variation in health outcomes among Latino communities indicate that different risk factors may be at work and therefore, different priorities are needed to eliminate disparities among these immigrant communities. Self-rated health is a robust predictor of future disability and mortality among diverse populations and is sensitive to health and social factors. Although SRH has been extensively used to assess Latino immigrant health, more recently, studies have shown that disparities in SRH vary across Latino subgroups, with Mexican subgroups reporting worse SRH compared to non-Hispanic whites. Therefore, it is imperative to examine potential sources of racial/ethnic disparity in SRH among this subgroup. An intersectionality framework will guide this study because of its potential to reveal and explain previously unknown health inequalities. Defined by the central concepts of oppression, inequality, and social justice, intersectionality has several core assumptions, one of which states that individuals cannot be understood by prioritizing any one or set of characteristics, rather, social categories are socially constructed, fluid and influenced by time and place. Rather than examining health disparities within one category of stratification in isolation, this perspective posits that multiple social categories are experienced simultaneously. Given the complicity of gender, age, class, acculturation, discrimination, and social position in immigrant health, the lack of attention to health inequalities that accrue as a result of multiple combinations of inequality identities represent an important gap in Mexican immigrant literature.
**Methods:** We will analyze data from the 2002-2003 National Latino and Asian American Study, a weighted sample of the U.S. population. Participants were 18 years or older and foreign-born Mexicans (n=487). Inequality predictor variables include: 1) gender, 2) age, 3) class (education), 4) acculturation (language preference and co-ethnic ties), 5) acculturative stress and discrimination experiences, and 6) social position. The outcome variable is SRH. Six regression models on SRH will be analyzed for the additive models. The multiplicative models will implement two- and three-way interactions between the six inequality variables and will then be compared to the additive model. Analysis will determine if statistical interactions between inequality variables manifest significant effects above and beyond their main effects in the additive models and whether aggravating effects (multiplicative advantage or disadvantage) or non-aggravating effects (mitigating effects) pertain to the multiplicative scenarios.
**Results:** None.
**Implications:** These findings should serve as a cornerstone to document the intersection of potential sources of disparity in SRH among Mexican Americans. Furthermore, these findings will inform nurse clinicians and researchers about what factors operate to determine SRH in Mexican American immigrants, which has been shown to predict future morbidity and mortality. It is not until an understanding of the multiple intersecting inequality identities are identified that health disparities among Mexican Americans can be reduced.

# COMMUNITY HEALTH

## The Impact of Acculturation on Cardiovascular Health among Filipinos in California

*Maria Lourdes Bayog, RN, CNS*
*Doctoral Candidate*
*Department of Community Health Systems*
*University of California, San Francisco School of Nursing*
*San Francisco, CA*

*Catherine M. Waters, RN, PhD, FAAN*
*Professor*
*Department of Community Health Systems*
*University of California, San Francisco School of Nursing*
*San Francisco, CA*

**Purpose:** The purpose of this descriptive, cross-sectional study was twofold: describe the cardiovascular risks of Filipino Americans in California and determine the influence of acculturation on their cardiovascular health.

**Background:** Cardiovascular disease is the leading cause of death in the United States (US) and worldwide. Filipinos are the second largest immigrant Asian group in the US and bear a disproportionate burden for specific cardiovascular disease and associated risks among Asian Americans. The majority of Filipinos live in Hawaii, New York, and California. Acculturation has been shown to influence health.

**Methods:** The American Heart Association (AHA) identifies seven cardiovascular risks: blood pressure, blood glucose, blood cholesterol, body weight, exercise, smoking, and diet. With the exception of cholesterol, the other cardiovascular risks were available in the 2011-2012 California Health Interview Survey (CHIS), which is a landline and mobile telephone random digit dialing telephone survey of Californians. CHIS acculturation variables include born in the US, number of years living in the US, percent of life lived in the US, English proficiency, language spoken at home, language spoken with friends, and language preferred in the media. The number of Filipinos who participated in the 2011-2012 CHIS was 555, the sample size of this secondary analysis. Descriptive and logistic regression statistics were computed to describe and determine cardiovascular risks and acculturation factors that influenced Filipinos' cardiovascular health.

**Results:** The study sample of Filipinos were mostly immigrants, healthy, educated, married, insured and lived in a metropolitan area of California. A majority of the sample had normal blood glucose and did not smoke cigarettes. However, there were more participants who were overweight or obese, physically inactive, and did not eat fruits and vegetables. Seven percent of participants reported having heart disease which was associated with being older, having hypertension and diabetes, not being born in the US, and having a higher percentage of life lived in the US. Participants who were hypertensive, were 3.8 times more likely to report having heart disease than those who were not hypertensive, controlling for age, gender, being born in the US, English proficiency and having diabetes. The other models were not statistically significant.

**Implications:** Being born in the US and not having hypertension appear to be protective factors for not developing cardiovascular disease among Filipinos living in California. In addition to focusing on lifestyle health behaviors, in particular blood pressure control, as risk reduction mechanisms for cardiovascular disease, nurses should also focus interventions on strategies that target older, non-US born Filipinos who have lived in the US for a long time, but who may not have acculturated in order to improve cardiovascular health and wellbeing. Further research that focuses on the social determinants of health is needed in order to understand why being born in the US is better for Filipino Americans' cardiovascular health.

# COMMUNITY HEALTH

## Social-Ecological Factors Influencing Parental Childhood Vaccination Decisions

*Catherine A. Ferris, MSN, RN*
*Jonas Nurse Leaders Scholar Cohort 2014-2016*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

**Rationale/Background/Purpose:** Childhood vaccination is one of the most successful primary preventive services. Over the last two decades the Vaccines for Children (VFC) program has prevented an estimated 21 million hospitalizations, 732,000 deaths, and a net savings of $295 billion in direct costs, and $1.38 trillion in societal costs. The Affordable Care Act (2010) contains a provisional mandate for no-cost sharing of all Centers for Disease Control (CDC) recommended childhood vaccines. Childhood immunization coverage is at all time highs; however, there is a growing trend of geographic clustering of parental refusal of vaccines through nonmedical exemptions, i.e., personal beliefs exemptions (PBEs) having been linked to multiple vaccine-preventable disease outbreaks. In 2015, California lawmakers passed a bill to eliminate nonmedical exemptions to vaccines for children attending public or private child care centers and schools. Moreover, research contributing to examination of social-ecological influential factors to childhood immunization uptake is paramount. When health care providers and health policy experts develop childhood vaccine education materials and immunization laws they need to obtain sound knowledge of the populations they serve. The purpose of this descriptive, cross-sectional correlational survey design study is to investigate multiple social-ecological factors that influence parents' childhood vaccination decisions.

**Conceptual Basis/Aims:** The social-ecological model (SEM) will guide the study. The SEM describes multiple levels of factors, i.e., intrapersonal, interpersonal, institutional, community and policy, influencing parental barriers and uptake of childhood immunizations. The study has two specific aims: 1) to describe parental barriers to childhood immunizations, and 2) to describe the relationships among parental barriers to childhood immunizations, demographic, and social-ecological factors, child's immunization status, and parent's intent to immunize.

**Methods:** The study will use a descriptive, cross-sectional correlational survey design using an anonymous online survey delivered via an iPad app in the clinic, or via a direct link to the online survey on another electronic device in the clinic or elsewhere. Study participants will be parents with children younger than 12 months of age with the ability to speak and read English, presenting to one of two San Diego County pediatric clinics for a well child care visit or vaccinations. Participants will be recruited using flyers and posters. Based on a power analysis, the sample size was set at 220 study participants.

**Pending Results:** Descriptive and inferential statistics will be used to analyze the results. Bivariate and multiple regression analysis will be used to determine relationships between the Searching for Hardships and Obstacles To Shots (SHOTS) instrument's three subscale scores and total SHOTS score, demographic and social-ecological factors.

**Implications:** The results are pending. The results of this study will enhance existing knowledge regarding influential social-ecological factors and barriers to childhood immunization allowing health care professionals and health policy makers to develop and tailor educational information and to inform the development of childhood immunization policies and practices.

# COMMUNITY HEALTH

## Nurturing Community Relationships: A CBPR Project

*Socorro Escandón, PhD, RN*
*Assistant Professor*

*Martha Martinez, MSN, RNC, WHNP*
*Clinical Assistant Professor*

*University of Texas Health Science Center in San Antonio*
*School of Nursing*

**Background:** Research shows that certain character strengths among youth are positively related to school success, prosocial behavior and competence. Participating in character building activities is a strategy that supports and enhances educational attainment and health outcomes for youth/children. Student nurses, in community clinical rotation, had an opportunity to develop mutually beneficial relationships with a community service organization through shared development and implementation of character building activities for children attending a youth program in community.

**Purpose:** Aimed at supporting planning and delivery of three puppet shows in community summer program. Goals were to: 1) Support existing Jireh Youth Group (JYG) in their participation in summer youth/children activities program at Jireh House(JH); 2) provide student nurses in community clinical rotation with opportunities to become more adept in observing the environment and in their interactions with community members in a non-institutionalized setting (community assessment); 3) provide opportunities for student nurses to create mutually beneficial relationships (community engagement); 4) Facilitate and support the development and delivery of three puppet shows on three distinct days utilizing three vignettes addressing key character strengths for youth/children living within the Cassiano neighborhood and surrounding area in San Antonio, Texas.

**Community Partner:** JH, a community service organization located in an area with social, economic, health and educational disparities, works to increase individual and family life skills. Past summer programs have consisted of activities such as: physical activity, school enrichment, nutrition, and social moral character building.

**Methods/Design:** Project employed principles of Community Based Participatory Research (CBPR). The CBPR approach stresses equal partnership with true power sharing of resources and decision-making authority in all phases of the work *.Assessment of VIA Character Strengths:* Jireh youth and student nurses completed the VIA character survey. The VIA survey focuses on what is right about people and specifically on strengths of character that make the good life possible. Interpretation of results for both students and JH youth were facilitated by nursing faculty. *Puppet Stories:* JYG and student nurses were asked to apply character strength concepts to stories that addressed three key concepts from character strengths categories. *Training:* Once the stories were finalized. JH youth and student nurses were provided with an educational session on effective ways to present a puppet show. *Puppet Shows:* Presentation dates were coordinated with the Jireh House Schedule. Methods of recruiting youth/children for summer program consisted of notifying both youth/children and parents of the upcoming shows as they came to Jireh House for routine services. On presentation days, JH youth and students canvased the neighborhood recruiting participants and their parents to attend.

**Reflections: Youth/Children Attendees:** Participants were asked to draw and/or write their reflection of the story after each performance. Community Partner Youth Group and Student Nurses were asked to reflect on experience of working with each other during the process of preparing and executing the puppet shows.

# COMMUNITY HEALTH

## Evaluation of a Smoke and Tobacco-Free Initiative in a Student Wellness Center

*Angelito dela Cruz, BSN*
*Doctor of Nursing Practice Student*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

*Karen Macauley, PhD, DNP, FNP-BC, GNP-BC*
*Associate Professor*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

*Jacqueline Gamboa, PsyD*
*Clinical Mentor*
*Center for Health and Wellness Promotion*
*University of San Diego*
*San Diego, CA*

**Purpose:** The purpose of this project was to evaluate a university-wide smoke and tobacco-free initiative in a student wellness center. This project will evaluate students' use of tobacco cessation counseling services and their quit attempt after roll out of a smoke and tobacco-free campus initiative.

**Background:** Tobacco use remains a leading cause of preventable death and disease in the United States. Approximately 480,000 Americans die from tobacco-related illnesses each year. Additionally, more than 16 million Americans live with a tobacco-related disease. In California, 13.3% of adults aged 18 to 24 years smoke cigarettes when compared to 18.7% of adult smokers aged 18 to 24 years in the US. In a Southern California university, 9% of students smoke cigarettes. Nearly all tobacco users begin using tobacco by age 26, making college and university campuses a critical target for tobacco use prevention and cessation efforts. Smoke and tobacco-free campus initiatives promote the adoption and implementation of tobacco-free policies on colleges and universities. Literature shows university-wide smoke and tobacco-free initiatives decrease the prevalence of smoking and tobacco use and exposure to secondhand smoke on campus. The implementation of a smoke and tobacco-free campus initiative is effective in reducing smoking and tobacco use among university students.

**Framework/EBP Model:** The Iowa Model was applied to the design, implementation, and evaluation of this project.

**Project Plan Process:** In August 2015, a smoke and tobacco-free campus initiative was implemented university-wide. Student events were held on campus and email communications were sent to students to increase their awareness of the initiative. Additionally, a website with smoking and tobacco cessation information and campus resources was created. The Student Wellness Center on campus provided the smoking and tobacco cessation services and information to all students. Students scheduled appointments in person, by phone, or online for individualized smoking and tobacco cessation counseling. There was no limitation to the number of student counseling sessions. Student demographics and tobacco use status were collected. The number of students who received smoking and tobacco cessation counseling, including the number of counseling sessions each student received, from February 2015 to December 2015 was tracked. A survey with the Readiness to Quit Ladder assessing motivation to quit and quit attempt was administered to students by email 1 month after counseling.

**Outcomes:** In progress.

**Conclusions:** This smoke and tobacco-free campus initiative is expected to promote student health and wellness by reducing tobacco use and secondhand smoke exposure on campus.

## An Older Adult PCV13 Vaccination Protocol in the Retail Healthcare Setting

*Christine Duong, RN, DNP-S*
*Hahn School of Nursing*
*University of San Diego*
*San Diego, CA*

*Ann Lowe, PhD, FNP*
*Staff Nurse Practitioner*
*Expresscare Clinic*
*Palomar Health*
*Temecula, CA*

*Shelley Hawkins, PhD, FNP-BC, GNP, FAANP, Director of Advanced Nurse Practice and DNP Programs*
*Hahn School of Nursing*
*University of San Diego*
*San Diego, CA*

**Purpose:** The purpose of this evidence-based practice project is to evaluate the effectiveness of establishing an adult pneumococcal (PCV13) vaccination protocol within a chain of southern California retail healthcare settings.

**Background:** Invasive pneumococcal disease (pneumonia, bacteremia and meningitis) results in significant morbidity and mortality, especially in patients ≥65 years old and those with an immunocompromised status. In 2012, the CDC revised the existing PCV13 vaccination recommendations to include adults ≥19 with certain immunocompromised conditions and further expanded these guidelines in 2014 to include all adults ≥65 years old. Despite these recommendations, national PCV13 vaccination rates remain low with only 20% of high-risk adults 19 to 64 years of age, and 59.7% of adults ≥65 years of age having received the PCV13 vaccination. Today, no adult PCV13 vaccination protocol exists in the project retail healthcare settings.

**Project Plan Process:** An evidence-based PCV13 vaccination protocol based on CDC guidelines using the Provus Discrepancy Evaluation Model as a framework will be incorporated into a chain of southern California retail healthcare settings in order to increase PCV13 vaccination rates of older adult patients. Following IRB approval, nurse practitioners employed in the retail healthcare settings will participate in a continuing-education PCV13 vaccination session. Electronic medical record charting will be integrated into the existing EMR system for tracking patient administration of the PCV13 vaccination. Data collection will focus on the number of patients ≥65 years old who receive the PCV13 vaccination during a 4 month time frame.

**Results:** In progress. It is anticipated that PCV13 vaccination rates will increase among older adults who seek healthcare in the project retail healthcare settings.

**Conclusions/Implications:** Evidence-based healthcare must be made accessible to all patients, especially older adults, for health promotion and disease prevention. Retail health care clinics have become increasingly common affording older adult community residents easy access to primary care including essential vaccinations. For these clinics to function, they need to be practical and financially feasible. This project may achieve long term sustainability if the nurse practitioners effectively assume leadership roles in designing, implementing, and evaluating evidence-based patient care. Incorporating electronic medical record charting into the existing EMR system will also help to ensure long term sustainability.

Vaccinations are almost universally covered by public and private insurances and generate revenue for clinics. However, the cost of not getting vaccinated goes beyond the cost to the clinics. There are >400,000 hospitalizations and >20,000 deaths yearly from invasive pneumococcal disease with the majority from older adult patients ≥65. 59.7% vaccination rates is unacceptable and innovative ideas such as vaccinations in retail health care clinics are necessary to improve vaccination rates.

# COMMUNITY HEALTH

## A Mobile Health Buddy Physical Activity Program for Women with Young Children

*JiWon Choi, PhD, RN*
*Assistant Adjunct Professor*
*Institute for Health & Aging*
*University of California, San Francisco*
*San Francisco, CA*

*Ji hyeon Lee, MS*
*Doctoral Student*
*Biobehavioral Department*
*Movement Science and Education*
*Teachers College, Columbia University*
*New York, NY*

*Kara Bellucci, BA*
*Clinical Research Coordinator*
*Institute for Health & Aging*
*University of California, San Francisco*
*San Francisco, CA*

*Julie Heger, BA*
*Visiting Scholar*
*Institute for Health & Aging*
*University of California, San Francisco*
*San Francisco, CA*

*Yoshimi Fukuoka, PhD, RN*
*Associate Professor*
*Institute for Health & Aging*
*University of California, San Francisco*
*San Francisco, CA*

**Purpose:** To examine the feasibility and acceptability of an mHealth buddy physical activity program in women with young children.

**Background:** Women with young children are consistently reported as a vulnerable population group at increased risk for physical inactivity. To date, many interventions designed to promote physical activity have achieved little or moderate success among this population. Family/friend support is consistently reported as an enabler to regular physical activity, but our understanding of its role is still limited in this population.

**Methods:** We are currently conducting a pilot randomized controlled trial with physically inactive women with young children aged less than 5 years old. Potential participants responded to our recruitment methods including 1) study flyers placed in university campuses, outpatient clinics, public libraries, preschools, and university transportation shuttles, 2) announcements through parents' online community networks, and 3) advertisements in local newspapers. Potential participants either sent an email or called the research team and research staff telephone screened them. Those who met the inclusion criteria were invited to screening/ baseline visit. During the visit, informed consent for all phases of the study was obtained and participants completed questionnaires. Physical exams (height, weight, waist and hip circumferences, and blood pressure) were also done. A wearable activity monitor (Fitbit zip) was given and a commercially available Fitbit application was downed on a participant's iPhone/Android phones/Tablet computers during the visit. For those who successfully completed run-ins (8-9 days) were randomized to either the intervention or control group. Only those who were assigned to the intervention group were asked to bring their buddies and had a face-to-face session with research staff. After 12 weeks, all participants and buddies of the intervention group completed exit questionnaires and physical exams.

**Results:** As of October 14, 2015, 47 were randomized and we plan to complete recruitment in November 2015. Feasibility of recruitment and acceptability of the intervention will be analyzed.

**Implications:** Use of a mobile application may assist existing physical activity programs by providing tools for self-monitoring, positive feedback on the progress, and interactive communication among users regarding their progress. mHealth interventions could be potentially administered to a large number of women at relatively low cost if their feasibility and acceptability are established.

---

Funding: American Heart Association National Mentored Clinical & Population Research Award (A123858).

# COMMUNITY HEALTH

## Improved Patient Care on Coccidioidomycosis among Correctional Inmates

*Kwaifa Kary Mack, DNP, FNP-C, PHN, RNC*
*Marybelle and S. Paul Musco School of Nursing and Health Professions*
*Brandman University*
*Irvine, CA*

**Purposes:** This quality improvement project was to implement a Coccidioidomycosis clinical practice guideline (CPG) to facilitate evidence based practice and to improve patient care at a correctional institution in Taft, California.

**Background:** Coccidioidomycosis is a fungal infection caused by breathing in dust containing spores of *Coccidioides immitis* or *Coccidioides posadasii.* Every year in the endemic regions, a conservative estimate of 50,000 people seek medical care for coccidioidomycosis. Most cases of coccidioidomycosis in the United States are reported within the endemic regions including Taft, California. According to the California Department of Public Health, the recent, sudden increase in coccidioidomycosis in California was linked to the increase cases in the inmate population. Over nine hundred prisoners in one state prison have contracted the infection, and more than twelve of them have died. Effective clinical management of coccidioidomycosis is crucial to all patients and is of particular concern for incarcerated patients who reside in the endemic regions.

**Method:** Using a four-step approach, the researcher compared the enhanced practice with the use of evidence-based CPG in coccidioidomycosis management with the traditional practice with no evidence-based CPG. Step 1 Assessment involved identifying the need to change current practice in coccidioidomycosis management. Step 2 Planning comprised of evidence synthesis and stakeholder engagement. Step 3 Implementation focused on staff training. Step 4 Evaluation determined the effects of the CPG on patient outcomes. To evaluate the success of this project based on early diagnosis and treatment, early symptom resolution, and rapid rate drop in cocci titer level, the researcher collected data through retrospective chart review over two, similar three-month time periods before and after the CPG implementation. Data were analyzed using one sample *t*-test and independent samples *t*-test.

**Outcomes Documented:** Of the eleven patients in the pre-CPG group, only two patients (18.2%) met the goal with their symptom scores reduced by 80% in the first follow-up visit, while five of the six patients (83.3%) in the post-CPG group reached the goal. There were statistically significant differences between the two groups with regard to 'Days to take for patient's symptoms to improve', $t(15) = 4.10$, $p = .00$. No statistically significant differences were shown between the two groups in cocci drop rate ($p = .06$).

**Conclusions:** The results of this project indicated that an evidence-based coccidioidomycosis CPG can be used to improve patient care in correctional institutions. It is crucial for correctional health care providers to establish a good knowledge in recognition, diagnosis, and treatment of coccidioidomycosis by adopting the IDSA coccidioidomycosis CPG at their practice. A similar project with an extended time frame at multiple correctional facilities in the endemic regions is needed to compare and confirm the results.

# COMMUNITY HEALTH

## Predictors of Multidrug-Resistant Organism Infection in U.S. Nursing Homes

*Catherine Crawford Cohen, RN, BS, PhD(c)*
*Center for Health Policy*
*Columbia University School of Nursing*
*New York, NY*
*chc2144@columbia.edu*

*Andrew Dick, PhD*
*RAND Corporation*
*Boston, MA*

*Patricia W. Stone, PhD, MPH, FAAN*
*Center for Health Policy*
*Columbia University School of Nursing*
*New York, NY*

**Aim:** The objective of this study was to determine predictors of multidrug-resistant organism (MDRO) infection in U.S. nursing homes (NHs).

**Background:** Reduction of MDRO infections in NHs is a national priority. It is recommended that NH staff implement infection prevention and control interventions on a case-by-case basis considering residents' quality of life, transmission risk and NH resources. However, previous studies of MDRO risk factors among NH residents included one or a few facilities, limiting the external validity of their findings. New evidence, guided by the Quality Health Outcomes model and previous research, is needed to inform MDRO infection prevention in NHs. The Minimum Data Set (MDS), which stores NH resident clinical assessments required by Centers for Medicare and Medicaid Services (CMS), provides the opportunity to generate this evidence.

**Methods:** Deidentified MDS 3.0, Certification and Survey Provider Enhanced Reporting and Area Health Resource File data were obtained. A random 10% sample of NHs certified to accept CMS reimbursement for 2010-2013 was generated. Admissions, quarterly and annual assessments of all elderly, long-stay residents within these NHs were included. Predictors of having a MDRO infection on the next assessment were identified using a multivariable linear regression model with facility fixed effects. Potential predictors were clinical (i.e., activities of daily living, antibiotic exposure, cognitive ability, diabetes, dialysis, indwelling devices, MDRO history and wounds) and systems-based (i.e., chain membership, facility size, market demand , NH bed market supply, county median income, occupancy rate, ownership, nurse staffing and citations on the previous year's inspection). Regressions were adjusted for assessment type and date and residents' number of MDS assessments and demographics.

**Results:** The sample contained 1,084,347 assessments, representing 142,200 residents in 1,407 NHs. Of these, 0.73% recorded active MDRO infection. The sample was 73% female, with a mean age of 83.6 years. Clinical predictors of MDRO included activities of daily living locomotion support ($\beta=0.0006$, $p=0.02$), antibiotics exposure ($\beta=0.0048$, $p<0.0001$), diabetes ($\beta=0.003$, $p<0.0001$), dialysis ($\beta=0.0052$, $p<0.0001$), indwelling device(s) (e.g., indwelling catheter $\beta=0.0105$, $p<0.0001$, intermittent catheter, $\beta=0.0101$, $p< 0.0001$), MDRO history ($\beta=0.3094$, $p<0.0001$), and wounds (e.g., diabetic foot ulcer $\beta=0.015$, $p<0.0001$). Alzheimer's and non-Alzheimer's dementia were negatively associated with MDRO infection ($\beta=-0.0008$, $p<0.0001$and $\beta=-0.0005$, $p=0.01$; respectively). Systems-based predictors included certified nurse aide staffing, which was inversely associated with MDRO infection and had maximum benefits with at least 4.55 full time equivalents per resident per day. Staffing of licensed practical nurses was directly associated with MDRO infection.

**Implications:** This comprehensive analysis not only confirms predictors of MDRO infection found in previous studies, but also adds new knowledge through inclusion of numerous, specific clinical and systems-based characteristics. These data suggest that tailoring practice to the needs of residents with dementia and/or need support with hygiene activities is effective at preventing MDRO infection. Additionally, increasing certified nurse aide staffing may reduce MDRO infection. These findings may assist NH providers to improve infection prevention and control in individual facilities. Future research regarding registered nurse and licensed practical nurse staffing in preventing infection are needed to determine optimal staffing levels to reduce MDRO rates.

---

Funding: This study was funded by the National Institute of Nursing Research (R01NR013687 and F31 NR015176), the Eastern Nursing Research Society and the Council for the Advancement of Nursing Science.

## Abstracts of Poster Presentations

# CONCEPT ANALYSIS

### SYSTEMATIC REVIEW OF THE LITERATURE: ATTENDANCE AT HIGH-RISK INFANT FOLLOW-UP

*Martha Grant Fuller, Mary Barger*

---

### ELEMENTS OF FAMILY-CENTERED COMMUNICATION: A META-SYNTHESIS

*Claire A. Richards, Ardith Z. Doorenbos, M. Rebecca O'Connor, Helene Starks*

---

### HIGH RISK INFANT: A CONCEPT ANALYSIS

*Valerie Willis*

---

### SPIRITUAL WELL-BEING: A CONCEPT ANALYSIS

*Michael Baumgardner*

---

### CONCEPT ANALYSIS OF APOLOGY IN HEALTHCARE

*Marie Prothero*

---

### A CONCEPT ANALYSIS OF SELF-AWARENESS AND ITS ROLE IN SYMPTOM PERCEPTION

*Lisa Jean Taylor-Swanson*

# CONCEPT ANALYSIS

## Systematic Review of the Literature: Attendance at High-Risk Infant Follow-Up

*Martha Grant Fuller, MSN*
*PhD in Nursing Candidate*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

*Mary Barger, PhD, FACNM*
*Associate Professor*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

**Purpose:** The purpose of this systematic review of the literature is to determine attendance rates at High Risk Infant Follow-up programs in the United States and to identify factors associated with attendance.

**Background:** Preterm infants face risks of adverse neurodevelopmental outcomes including developmental delays and cerebral palsy and it is recommended that they receive systematic follow-up in a program specializing in high-risk infant follow-up (HRIF) after discharge from the neonatal intensive care unit (NICU). These follow-up programs serve to identify infants and families who would benefit from early intervention services, shown to improve outcomes. Rates of follow-up attendance have been found to be low. Much research was performed over twenty years ago, describes follow-up rates for clinical trials, or was performed outside the U.S., limiting utility for current research or clinical practice.

**Methods:** In accordance with recommendations found in the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) statement, a systematic review of the literature was performed. The search strategy involved use of two health sciences databases: PubMed and CINAHL Plus. Search of CINAHL Plus excluded Medline. Searches were performed December 7th and 11th, 2014. Search terms utilized were:

- Attendance AND NICU AND Follow-up
- Compliance AND NICU Follow-up
- Follow-up rates AND premature infants
- Follow-up rates AND NICU
- High Risk Infants
- Preterm Infants AND Follow-up
- NICU Follow-up

Articles for the time period 1/1/1994-12/31/2014 were included, and limited to English language and geographic location in the United States. Studies describing interventions to increase follow-up rates, or describing follow-up rates as part of funded research trials were excluded.

**Results:** There were 1,104 articles identified and reviewed from PubMed and 524 articles from CINAHL Plus. Only four articles met the predetermined inclusion and exclusion criteria. The studies reviewed were heterogeneous and it was not possible to perform a meta-analysis of results. Follow-up rates for two single site studies were 52% and 68%. Non-attendance was associated with maternal substance use, public health insurance, higher birth weight, and residence at a greater distance from the clinic. One survey study of 194 NICUs reported follow-up rates ranging from <20% to 80%, with varying duration of follow-up. A survey of follow-up clinic directors or division directors found a no-show rate of 20% for scheduled appointments without specifying attendance rates.

**Implications:** There is very limited data available regarding HRIF clinic attendance, however available evidence shows that follow-up rates are quite low. Many infants who would benefit from the services offered are not receiving them. Infants at highest risk due to the combination of prematurity and socio-demographic risks (maternal substance use, poverty, etc.) are least likely to attend. The high no-show rate described has a significant adverse affect on the economic viability of HRIF programs. Additional research on HRIF attendance and best practices to improve attendance is needed. In the future use of mixed methods approaches would be essential to elicit parent/guardian perceptions and understand barriers to participation.

# CONCEPT ANALYSIS

## Elements of Family-Centered Communication: A Meta-Synthesis

*Claire Richards, PhD(c), BSN, RN*
*Doctoral Student*
*University of Washington*
*Seattle, WA*

*Ardith Z. Doorenbos, PhD, RN, FAAN*
*Professor*
*University of Washington*
*Seattle, WA*

*M. Rebecca O'Connor, PhD, RN*
*Assistant Professor*
*University of Washington*
*Seattle, WA*

*Helene Starks, PhD, MPH*
*Associate Professor*
*University of Washington*
*Seattle, WA*

**Purpose/Aims:** To explore how family-centered communication occurs in practice in pediatric ICUs (PICU) and how power is shared between clinicians and family members, given the complexity of that setting.

**Background:** Parents of critically ill children often experience uncertainty and fear of a poor outcome or death for their children. Both parental role disturbance and poor communication on the part of the health care team are important additional causes of psychological distress in parents. Family-centered care is considered the gold standard of care in pediatrics and intends to support the parental role and their involvement in their child's care. Power sharing involves mutual exchange of information, negotiation of roles, flexibility of rules, and developing shared goals. All of these elements are key to family-centered care, yet there are many challenges to implementing these behaviors in practice.

**Methods:** A meta-synthesis of qualitative empirical research on nurse and physician communication with parents of critically ill children was performed using a systematic approach. The search strategy focused on the mutual exchange of information between clinicians and family members, including parental advocacy, involvement in decision-making, and the negotiation of parental roles in the PICU setting. Thirty-two articles published between 1990 and 2015 met the criteria and were included.

**Results:** Four main themes (with 8 subthemes) were identified related to: 1) how and why information is shared with families; 2) compassionate verbal and non-verbal communication; 3) decision-making; and 4) tailoring care. Subthemes included transparency, empathy, parental expertise, vigilance, incorrect assumptions, limiting parental involvement, differing parental needs, and barriers to sharing power. The literature suggests that parents want honest, complete, and clear information even if it is potentially distressing, although there are a range of parental preferences for receiving uncertain, complex, and conflicting information. Parents also have different preferences for involvement in decision-making and want to determine their own level of participation and access to information. However, the literature also suggests there is limited power sharing, with clinicians controlling the agenda and deciding what information to share and how to involve parents in decision-making. Clinicians generally do not inquire about parental preferences for information or their preferred role in decision-making. Clinicians may make assumptions about parental communication needs and may attempt to individualize and tailor care for parents, but often do so without parental input. Despite clinicians' best intentions to reduce parental distress, withholding information or limiting parental involvement to protect parents may cause more distress when parents are unable to fulfill their parental role to protect and advocate for their child. Power differentials and parental dependency on their relationship with clinicians for medical care for their children impedes some parents from expressing their preferences for involvement and voicing their concerns.

**Implications:** The results imply that clinicians should inquire about parental communication needs and preferences to avoid inadvertently increasing parents' emotional distress, and to expect that these needs may change over time. Future research should examine what practices are effective in helping clinicians tailor their communication and support the involvement of parents in their child's care.

---

**Funding:** This work was supported by grants from NCATS TL1 TR000422 (CR), R01NR011179 (AZD, HS) and K24NR015340 (AZD).

# CONCEPT ANALYSIS

## High Risk Infant: A Concept Analysis

*Valerie Willis, MSN, RN, PPCNP-BC, PCNS-BC*
*PhD Student*
*Hahn School of Nursing and Health Science, Beyster Institute for Nursing Research*
*University of San Diego*
*San Diego, CA*
*vwillis@sandiego.edu*

**Purposes/Aims:** The purpose of this concept analysis is to explore the etymology and defining attributes of *high risk infant*. Theoretical and operational definitions of the concept are proposed to promote a multidisciplinary, population based approach to high risk infant care, research, and health policy.

**Description/Definition of Concept:** Theoretical definition: a child within the first three years of life who, as a result of perinatal, neonatal, and family biopsychosocial or environmental exposures, has an increased likelihood of morbidity and mortality throughout the life span including, but not limited to epigenetic changes, physical illness, neurodevelopmental delay, behavioral problems, abuse and neglect, and premature death. Operational definition: a child within the first three years of life with an elevated score in one or more of the following reliable measures: a) Nursery Neurobiologic Risk Score-Revised; b) Parental Stress Score-Neonatal Intensive Care Unit or Parenting Stress Index; and c) Brigid Collins Score.

**Internal Consistency of the Concept:** Walker and Avant's comprehensive eight-step strategy for concept analysis in conjunction with the Public Health Exposome Framework guided the analysis. The prevailing defining attributes of *high risk infant* include a viable human baby or young child and pre or postnatal exposure to adverse quantitative or qualitative conditions that increase vulnerability to morbidity and mortality. Antecedents include conception and subsequent perinatal and postnatal risk exposures, ascertained through multiple ways of knowing, that accentuate infant susceptibility to harm and impairment. Overarching consequences of the concept are largely determined by the response of family, professionals, policy makers, and society as a whole to the associated uncertainties. Each stakeholder may demonstrate varying degrees of commitment, capability, and resources to influence high risk infant status through proactive identification, preparation, and intervention as mitigation strategies or conversely, through inaction and evasion that intensify risk for adverse outcomes.

**Logic Linking Concept to Practice/Research Problem:** *High risk infant* is commonly used by diverse disciplines and the lay public to indicate variable infant predisposition to morbidity and mortality. Although professionals delineate exhaustive lists of infant risk factors based on affiliated paradigms, a comprehensive definition is elusive in the literature. This important gap in knowledge may potentiate inconsistent identification of high risk infants across disciplines and throughout the continuum of care. Inconsistencies may precipitate fragmentation of care and follow-up, further exacerbating the threat of negative sequelae in an already susceptible population. The reliability and generalizability of research is dependent on thorough exploration of the concept. Establishment of a shared mental link between extant hazards and potential loss or harm is essential for vulnerable populations. This analysis explores the concept from a multidisciplinary perspective with emphasis on the unique perspectives and contributions of the metaparadigm of nursing.

**Conclusions Including Utility of Concept:** This comprehensive concept analysis of *high risk infant* diminishes ambiguity across disciplines. Findings will facilitate important scholarly activities including parent/provider dialog and coordination, interprofessional communication, development of theory and research methods, and formulation of evidence-based practice improvements and effective health policy to better serve high risk infants and their families.

# CONCEPT ANALYSIS

## Spiritual Well-Being: A Concept Analysis

*Michael Baumgardner, MSN, RN*
*Hahn School of Nursing*
*University of San Diego*
*San Diego, CA*

**Purpose:** A concept analysis was conducted to examine the defining characteristics of Spiritual well-being (SWB).

**Definition of Concept:** The eight-step method of concept analysis developed by Walker and Avant was the approach used to arrive at a systematic definition of SWB. The complexity of this concept required that it be examined through both of the terms, spiritual and well-being. These terms were searched using the databases of CINAHL, PsychInfo, and PubMed for the time period of 1995-2014. The discovered articles contributed to the definition of SWB as a life energy within an individual that when fully actualized results in meaning, purpose and inner peace in the human person.

**Internal Consistency:** Walker and Avant propose that the attributes of a concept are those characteristics that when reflected on should lead the reader to immediately think of the concept. As such, the defining attributes of SWB include: a sense of meaning, a sense of peace, and a sense of connectedness to a higher power. The defining attributes of a concept, according to Walker and Avant, are clarified through the process of identifying specific events that must occur for a concept to be realized, known as antecedents, as well as the specific events that occur as a result of a concepts presentation, known as consequences. In the analysis of SWB the antecedents are identified as a sense of being spiritual, healed memories of spiritual crisis and communication; whereas, consequences are a sense of fulfillment, spiritual resilience and personal satisfaction.

**Logic Linking Concept to Practice:** Traditionally, nursing assessments of patients have focused on the effect physical, emotional and social well-being have on health outcomes. Recently, there has been a growing interest in how SWB might influence overall patient health. Despite the use of SWB assessments in clinical practice, and attempts to demonstrate a link between SWB and overall health, there have only been limited attempts to systematically analyze the meaning of SWB. This concept analysis brings clarity to the concept of SWB in order to advance nursing knowledge about SWB and improve comprehensive patient assessments in clinical settings.

**Conclusion:** This concept analysis illustrates the highly complex and multidimensional nature of SWB. In presenting an operational definition of SWB the nurse in the clinical setting is better informed to address spiritual needs of patients and nursing researchers can explore further how SWB effects health outcomes.

# CONCEPT ANALYSIS

## Concept Analysis of Apology in Healthcare

*Marie Prothero, RN, MSN*
*PhD Student, College of Nursing*
*University of Utah*
*Salt Lake City, UT*

**Purposes/Aim:** What is an apology? When is it used in nursing? And what are the outcomes? In this article, we analyze the concept of apology as it is related to medical errors in healthcare and nurses role in the apology.

**Description/Definition of Theory/Concept:** Apology as a concept considered a lay concept that has not been fully developed, yet transparency in health care; medical error and disclosure have become an expectations for all providers. The interest in "apology" in the medical, psychology, business and sociology literature is wide-ranging both in the number of articles and divergent use of the term.

**Internal Consistency of the Theory/Concept:** Key words and medical subject heading phrases used were: apology, apologize, error disclosure and apology, "I'm sorry", forgiveness, medical error and disclosure, and nurse error and disclosure. The search was limited to accessible full-text articles, review articles, and books in English. Disciplines outside of nursing were sought due to the low volume of nursing literature.

**Logic Linking Theory/Concept to Practice/Research Problem:** Using pragmatic utility, analytic questions related to the antecedents, attributes and outcomes revealed the essential nature of apologizing. The antecedents of apologizing the attributes and outcomes were identified. Clinical implications of developing formal policies for correcting medical errors through apologies are recommended.

The attributes of an apology are summarized as:

- Expression of regret and sorrow.
- Empathy
- Admit fault with a statement that an error occurred
- Honesty
- Listening with dignity and respect
- Correct the mistake
- Restitution

A model showing the emotional impact of various types of apologies was developed. The emotional investment and abatement of guilt on the part of the apologizer, and the nature of forgiveness by the victim varies with the nature of the apology.

**Conclusions, Including Utility of Theory/Concept:** This conceptual analysis of apology clarifies its antecedent, attributes and outcomes and its role and potential effectiveness in care. Nursing literature is very limited regarding the role apology has in nursing practice, and nurses are reportedly uncertain about their role in disclosure and apologizing. This research serves as a starting point for additional research further exploring the nature and types of apologies, and the nurse and the patient's expectations of apology, disclosure and forgiveness following medical errors and harm occurring within the care-giving relationship.

---

Special acknowledgement: Janice Morse, RN, PhD, FAAN, College of Nursing, University of Utah, Salt Lake City, UT

# CONCEPT ANALYSIS

## A Concept Analysis of Self-Awareness and Its Role in Symptom Perception

*Lisa Taylor-Swanson, PhD, MAcOM, EAMP*
*Part-Time Lecturer*
*School of Nursing & Health Studies*
*University of Washington Bothell*
*Bothell, WA*

**Aim:** The aim of this paper is to analyze the concept of self-awareness as it applies to symptom perception.

**Background:** Self-awareness has been a subject of contemplation since antiquity and is defined here based on literatures in neuroscience, psychology, nursing and somatics. The role of self-awareness in symptom experience is described, possibilities for interventions targeting self-awareness and relevance to nursing science are explored in this paper.

**Methods:** Multiple databases were searched, including CINAHL, PubMed, and PsychInfo, using the terms "self-awareness" and "symptom" with a date range of 2000 – 2014. The concept of self-awareness was examined using Walker & Avant's (2011) eight-step method of concept analysis.

**Results:** The defining attributes of self-awareness are self-directed perception, interoception, emotion, and physicality.

**Conclusion:** Self-awareness is a mutable and testable that could be useful for future intervention studies in nursing and health sciences. It is specifically relevant to nursing science's priorities in symptom science and symptom management.

# DIABETES

### THE PRACTICES AND LEVELS OF KNOWLEDGE REGARDING SELF FOOT CARE AMONG DIABETES PATIENTS

*David Abiodun Oni*

---

### RISK PERCEPTION OF DEVELOPING DIABETES COMPLICATIONS AMONG AA WOMEN WITH T2DM

*Judith M. Ochieng*

---

### IMPLEMENTING DIABETES GROUP MEDICAL APPOINTMENT AMONG THE AMERICAN INDIAN POPULATION

*Jayce Liang*

---

### SYMPTOM EXPERIENCE OF MEXICAN AMERICAN WOMEN WITH DIABETES & HEART DISEASE

*Anne G. Rosenfeld, Marylyn McEwen, Chiu-Hsieh (Paul) Hsu*

---

### TRADING OFF: THE MID-RANGE THEORY OF DEVELOPING OF DIABETES AFTER CANCER TREATMENTS

*Jill M. Olausson*

---

### HOW TO DEVELOP A THEORY BASED INTERVENTION

*Nancy A. Allen, Sofija E. Zagarins, Rebecca G. Feinberg, Kelly D. Stamp, Garry Welch*

---

### DIABETIC MOTHERS AND BREASTFEEDING BEHAVIORS

*Treeah Majors, Ashley Darcy-Mahoney*

---

### NP LED PROJECT TO ACHIEVE EUGLYCEMIA IN CARDIAC SURGERY PATIENTS: EFFECT OF A1C AND BMI

*Linda Kerr, Peggy Kalowes, Kim West, Barbara Easterbrook, Darice Hawkins*

---

### PRE DIABETES SCREENING IN PRIMARY CARE

*Christine Rieger, Jonathan Mack*

# DIABETES

## The Practices and Levels of Knowledge Regarding Self Foot Care among Diabetes Patients

*David Abiodun Oni, BSN, MSN*
*College of Nursing*
*Washington State University*
*Spokane, WA*

**Purpose:** This study assesses the current practices and knowledge of foot care among patients with type 2 diabetes mellitus, so that steps can be taken to develop educational and clinical interventions to prevent diabetic foot ulcer (DFU).

**Problem:** DFU is a major complication of diabetes mellitus and the primary factor in non- traumatic lower extremity amputations (LEAs). A more recent study revealed that nearly 80,000 amputations are performed yearly in United States on patients with DFUs and the healing can be difficult with the high risks of reoccurrence, prolonged hospital stays, permanent disability and reduced quality of life. Interestingly, foot care has been associated with decreasing the incidence of DFU by 15-25%. However, a critical gap exists in assessing what patients with diabetes know and practice regarding foot care; despite the increase in foot care education. Moreover, little data exist on whether patients with diabetes are knowledgeable about foot care.

**Methods:** A quantitative descriptive cross-sectional methods of inquiry will be used and data will be collected via a survey questionnaire.

**Design:** Patients will be randomly selected from the recruitment sites and a pre-tested structured questionnaire containing knowledge and foot care practices questions will be administered.

**Analysis:** Data collected will be statistically analyzed using SPSS and logistic retrogression analysis will be used to find association between the individual characteristics of patients with diabetes and their levels of knowledge and practices on self-foot care which will be classified as good, satisfactory, and poor depending upon their scores.

**Implications:** The findings from this study can provide evidence based recommendations for practice and teaching improvements on foot care.

**Keywords:** diabetes, knowledge, practice, foot care

# DIABETES

## Risk Perception of Developing Diabetes Complications among African American Women with Type 2 Diabetes

*Judith Muhonja Ochieng, PhD, DNP, MSN-ED, RN, FNP-BC*
*Assistant Associate Professor*
*College of Nursing*
*The Univerity of Arizona*
*Tucson, AZ*

**Purpose:** The purpose of this study was to describe the perceptions that African American **(**AA) women diagnosed with Type 2 Diabetes Mellitus (T2DM) have of their risks of developing DM complications, how their perceived risk of diabetes complications influences their DM self-management, and how the socio-cultural and economic contexts in which DM management occurs influences AA women's DM self-management behaviors.

**Background:** AA women have a disproportionately higher prevalence of T2DM and its related complications than Hispanics and non-Hispanic white women. Cultural practices, stigmatization, discrimination, socio-economic status, historical experiences and geographical locations have all been proposed as factors that influence the prevalence of T2DM in AA women. However, no study has explored how AA women with T2DM perceive their risk of developing diabetes complications, and how their risk perceptions impact their diabetes self -management.

**Method:** A qualitative descriptive study was used to provide a comprehensive description of the perception of risk for developing diabetes complications among AA women with T2DM. A purposive sample of 10 AA women with T2DM was selected for the study. Individual interviews were conducted in the participants homes and audio recorded. The audio-recorded interviews were transcribed, into transcripts and analyzed using Atlas.ti version7.1.8.

**Findings:** Findings revealed that the level risk perception for developing DM complications influences DM self-management among AA women with T2DM. Sociocultural and economic factors were also found to influence DM self-management among AA women with T2DM.

**Implication for Practice:** This study revealed numerous factors that were associated with development of diabetes complications among AA with T2DM. However, risk perception stood out to be associated with all the factors. Since risk perception is an important factor in a behavioral change model, understanding risk perception of AA women with T2DM is a key to changing their health behavior and reducing their health risks related to T2DM (Siaki, 2009). Understanding the attitudes and beliefs of AA women with T2DM regarding their risks for developing diabetes complications will be a powerful tool for the practitioners to use in increasing and improving health outcomes and reducing health disparities among this population. The results of this study emphasizes the need to develop: (1) a population-specific DM education approach that addresses the needs of AA women with T2DM, (2) community-based programs that address the sociocultural and economic factors that influences DM self-management among AA with T2DM, and (3) culturally sensitive programs that helps to bridge the provider-patient relationship gap, and help reconcile and address health disparities related to perceived discrimination among AA women with T2DM.

# DIABETES

## Implementing Diabetes Group Medical Appointment among American Indian Population

*Jayce Liang, MSN, FNP-C*
*Doctor of Nursing Practice Student*
*School of Nursing*
*Azusa Pacific University*
*Azusa, CA*

*Diana Lynn Woods, PhD, APRN-BC, FAAN*
*Associate Professor, School of Nursing*
*Azusa Pacific University*
*Azusa, CA*

*Aurelia Macabasco-O'Connell, PhD, ACNP-BC*
*Associate Professor, School of Nursing*
*Azusa Pacific University*
*Azusa, CA*

*Felicia Hodge, MPH, DrPH*
*Professor, School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Purpose:** To assess the effectiveness of a group medical appointment on diabetes knowledge, degree of self-efficacy and HgA1c levels for American Indian/Alaska Native (AI/AN).

**Background:** Type 2 Diabetes Mellitus (T2DM) is a major health problem worldwide, occurring in a higher frequency in AI/AN compared to the general population. Frequently, the time allocated during an office visit is insufficient to address all of the person's needs and provide critical education. It is essential to address knowledge needs and provide self-management support that is effective and productive. One option to address these challenges is a group medical appointment that includes education provided by a healthcare team and a visit with the physician or the nurse practitioner.

**Theoretical Framework:** The social cognitive framework was used to implement the diabetes group medical appointment. This theory describes the effect of the interaction between the social and physical environment on changing an individual's health behavior.

**Methods:** A pre-post single group quasi-experimental design was used. Participants who are identified as AI/AN with T2DM and an HgA1c > 8% were invited to participate. The intervention consisted of a group medical appointment lasting 120 minutes with education provided by a dietician, diabetic nurse educator, fitness educator, pharmacist, and podiatrist including a one-on-one visit with a provider, either a physician or a nurse practitioner, every two weeks for six visits. Participant's knowledge about diabetes, using the Michigan Diabetes Research and Training Center (MDRTC) Knowledge Test, their degree of self-efficacy, using the Self -Efficacy for Diabetes Questionnaire, and HgA1c levels were measured pre- and post-intervention.

**Results:** Seven individuals were recruited to participate in the study. Results were collected on six participants. The average age of participants was 48 years of age (SD = 13.7), including 4 females, and 2 males. Length of time that the individuals had been diagnosed with T2DM varied between 8 months and 35 years. The average attendance at the group medical appointment was 3.83 (SD = 1.32) out of 6. A paired t-test found no significance differences between diabetes knowledge and degree of self-efficacy when pre- intervention was compared to post- intervention. However, there was a statistically significant difference in HgA1c levels when pre-intervention levels were compared to post-intervention levels.

**Conclusion:** Implementing a group medical appointment may improve HgA1c and which may lead to a decrease diabetes complication for the AI/AN population. Since participants did not attend all education sessions, they may not have acquired enough education to alter their knowledge and self efficacy. Continuing group medical appointment sessions for a longer period of time may also affect their diabetes knowledge and self-efficacy. A small sample is a limitation in the study. Recruitment for participation was challenged due to not being able reach potential participants, transportation barriers, and potential participants having work, prior engagement or not able to make time commitment to participate in the group medical appointment. While this is a small sample, the HgA1c did change significantly even with a small sample, suggesting a large effect size that could be verified with a larger study.

## Symptom Experience of Mexican American Women with Diabetes & Heart Disease

*Anne G. Rosenfeld, PhD, RN, FAAN, FAHA*
*Professor*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Marylyn McEwen, PhD,*
*PHCNS-BC, FAAN*
*Professor*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Chiu-Hsieh (Paul) Hsu, PhD*
*Associate Professor*
*University of Arizona*
*College of Public Health*
*Tucson, AZ*

**Purposes/Aims:** To test the feasibility of the Diabetes & Cardiac Symptom Survey for Women (D&CSS-W) for measuring Mexican American (MA) women's symptoms daily for 7 days.

**Rationale/Conceptual Basis/Background:** Despite the prevalence, morbidity and mortality, and unique symptom characteristics of Type 2 diabetes mellitus (T2DM) and ischemic heart disease (IHD) in MA women, there is limited evidence on MA women's experience and management of symptoms of these two co-occurring illnesses.

**Methods:** MA women with both T2DM and IHD were recruited from the community. After obtaining consent, women were called by phone for 7 consecutive days during a 2-hour time block in the late afternoon/early evening and asked whether they had experienced each of the 20 symptoms on the D&CSS-W. The data were collected in Spanish or English based on participant preference.

**Results:** Six MA women (mean age 61.26±10.73) were enrolled and completed the study. Adherence rate to the calls was 95%, and all 6 participants rated the daily phone call as easy to complete. Women experienced an average of 61.41 symptoms (range 14-110) across the week and an average of 8.77 per day. All 20 symptoms were reported and the most frequently reported symptoms were tiredness (average 4.2/per woman), weakness (average 4/per woman) and fatigue (average 3.5/per woman). The recurrence rate for some of the symptoms decreased with time. Changes in shortness of breath significantly decreased with time with a p-value of 0.02. The recurrence rate for symptoms of sweating, chest pain or discomfort, heart racing, sadness, and weakness also decreased with time but not significantly.

**Implications:** The D&CSS-W captured a heavy symptom burden experienced by the participants. Future studies with larger samples are needed to further describe the symptom experience, including symptom clusters. Interventions to help community-dwelling MA women with both T2DM and IHD to differentiate and manage multiple and overlapping symptoms could then be developed.

---

Funding: By a University of Arizona College of Nursing Laurence B. Emmons Award.

# DIABETES

## Trading Off: The Mid-Range Theory of Developing Diabetes after Cancer Treatments

*Jill M. Olausson, MSN, RN, CDE*
*Assistant Professor*
*School of Nursing*
*Azusa Pacific University*
*Azusa, CA*
*jillmarieo@gmail.com*

*Lauren Clark, RN, PhD, FAAN*
*Professor*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Janice M. Morse, RN, PhD, FAAN*
*Professor*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

**Purpose:** The primary objective of this qualitative study was to explore the experience of older adults who developed new-onset diabetes after allo HCT for the treatment of hematological cancer.

**Rationale/Conceptual Basis/Background:** Hematological cancer affects older adults at disparately higher rates. Fortunately, treatments for hematological cancer using allogeneic hematopoietic cell transplantation (allo HCT) have undergone advances that have decreased treatment-associated morbidity and mortality. This has resulted in an increase application of allo HCT to previously excluded older adults. Recent statistics indicate that there are over 41,000 survivors of allo HCT for hematological cancer, with 16%, or 6,704 of these being above 60 years of age. This older adult survivor population is expected to increase 2.5-fold by 2020 and 5-fold by 2030. Unfortunately, allo HCT is not without long-term effects. New-onset diabetes is experienced in up to 30% of HCT recipients with rates highest in the older adult allo HCT recipient population. There has been little attention given to the experiences of this burgeoning older adult survivorship population. Knowing this information can facilitate chronic illness care that is patient-centered.

**Specific Aims:** To develop a theory of the experience of patients who developed new-onset diabetes as a result of their allo HCT cancer treatment.

**Methods:** Nineteen participants from a 200-bed cancer hospital in Southern California were interviewed and asked to describe their experience of developing diabetes after allo HCT. Eligible participants included adults above 50 years of age who developed new-onset diabetes after receiving an allo HCT for treatment of a hematological malignancy between 2008-2013. Qualitative data generated through interviews was analyzed using grounded theory methods. In addition, demographic, disease and clinical data was collected to strengthen the description.

**Results:** This study resulted in the development of the mid-range theory of Trading Off: Developing Diabetes after Cancer Treatments. It explained how after experiencing life threatening cancer and cancer treatments, individuals developed a new appreciation of life. This positive growth colored the experience of developing a second chronic illness. Individuals in this study identified diabetes as a side effect of life-saving cancer treatments that was an acceptable tradeoff for survival. Diabetes self-management behaviors were at times conflicting with the need of participants to live life to the fullest and were therefore not consistently performed.

**Implications:** It is important to consider temporality of illness when managing chronic conditions. Having a life-threatening illness such as cancer changes the way a person looks at the world and the way they behave. Assessing where a person is at along their illness trajectory can guide patient-centered care.

# DIABETES

## How to Develop a Theory Based Intervention

*Nancy A. Allen, PhD, ANP-BC*
*Assistant Professor, College of Nursing*
*University of Utah*
*Salt Lake City UT*

*Sofija E. Zagarins, PhD*
*Assistant Professor*
*College of Public Health*
*Springfield College*
*Springfield, MA*

*Rebecca G. Feinberg, MPH*
*Research Assistant*
*Department of Geriatrics*
*Baystate Medical Center*
*Springfield, MA*

*Kelly D. Stamp, PhD, ANP-C, FAHA*
*Associate Professor, School of Nursing*
*Boston College*
*Boston, MA*

*Garry Welch, PhD*
*Professor, Chief Scientific Director*
*Silver Fern Healthcare LLC*
*Norwood, CT*

**Purpose:** To describe how Social Cognitive Theory (SCT) can be used to develop a systematic and practical behavioral intervention to treat the behavioral challenge of psychological insulin resistance.
**Background:** While many interventions are purported to be theory-based, intervention research reports do not adequately describe this theoretical framework, and the description of the intervention itself is often too vague to allow for replication or translation into practice. For new researchers, creating a theory-driven intervention may seem daunting due to lack of detail in the literature. Behavioral science will be able to advance more quickly if theory matrices are well developed and clearly described.
**Methods:** We used empirical data obtained from a large-scale behavioral trial (N=234) focusing on diabetes self-management education skills training for certified diabetes educators (CDE). Participants not currently using insulin were asked about their willingness to begin insulin treatment if recommended by their provider and also perceived barriers to commencing insulin therapy. We presented these insulin barriers to four experienced CDEs and requested that they provide one to three treatment recommendations for each barrier. Next, we developed a theory-based intervention to demonstrate how SCT could be used to develop a behavioral intervention specifically to treat psychological insulin resistance that involves ambivalence to beginning necessary insulin therapy. The steps in this intervention include: becoming informed on the phenomena of interest, developing an intervention curriculum using four information sources theorized to strengthen self-efficacy (i.e., performance mastery, verbal persuasion, role modeling and physiological/psychological sensations arising from the new behavior), creating an implementation plan using a self-efficacy enhancing and problem solving skills approach, and evaluating theoretical outcomes.
**Results:** The majority of treatment recommendations made by the CDEs we surveyed were in the category of verbal persuasion (n=45, 75%), followed by role modeling (n=8, 13%), performance accomplishment (n=4, 7%) and physiological/psychological responses (n=3, 2%). Becoming Informed: Literature review of qualitative, descriptive, correlational studies or other intervention-based studies, observing clinical practice, conducting your own studies, interviewing patients, conducting chart reviews, and consulting with experts. Curriculum Development: We developed an assessment tool that can be used to obtain information about an individual's unique negative outcomes expectancies (i.e., barriers) regarding insulin therapy. Our assessment and intervention components for the insulin barriers intervention is modeled after a problem-solving approach. This unique patient profile generated for insulin barriers can be used by the clinician to select the appropriate modules and educational content during diabetes self-management education sessions to enhance self-efficacy. These modules use all four SCT information sources to strengthen self-efficacy and confidence in capabilities to carry out insulin therapy. Theoretical Scale Development: We developed self-efficacy and outcome expectancy scales as the original theorist Albert Bandura, recommended. The self-efficacy scale describes a series of increasingly demanding daily situations an individual with diabetes may face with insulin therapy that represent psychological insulin resistance. The outcome expectancies scale we developed includes (positive and negative) physical, social and self-evaluative outcome expectations regarding the use of insulin.
**Implication:** More information about the process of theoretical intervention development can benefit researchers and clinicians.

---

**Funding:** This research was supported by National Institutes of Health grant #1R01DK060076.

# DIABETES

## Diabetic Mothers and Breastfeeding Behaviors

*Treeah Majors, BSN Candidate*
*Emory University*
*Nell Hodgson Woodruff School of Nursing*
*Atlanta, GA*
*tmajors@emory.edu*

*Ashley Darcy-Mahoney, RN, NNP, PhD*
*Assistant Professor*
*Emory University*
*Nell Hodgson Woodruff School of Nursing*
*Atlanta, GA*

**Introduction:** The prevalence of diabetes in the last thirty years has exceeded 1.5 million. As the prevalence of diabetes continues to increase, the number of pregnant women who are diabetic will also increase. Diabetic mothers are at an increased risk of having a preterm birth. Complications that result from preterm birth can be prevented by breastfeeding. Breastfeeding reduces the risk of diabetes mellitus and obesity in infants of diabetic mothers. The purpose of this study is to explore influential factors in the context of the ecological model that predict breastfeeding among diabetic mothers such as age, socioeconomic status, healthcare delivery system, and exposure to domestic violence. The incidence of breastfeeding among diabetic mothers with term and preterm infants and barriers to breastfeeding will also be explored.

**Methods:** This project will use data collected by the Pregnancy Risk Assessment Monitoring System (PRAMS), a surveillance project for the Centers for Disease Control and Prevention (CDC). PRAMS collects data from mothers in forty states and New York City, representing seventy-eight percent of U.S. live births. Of the participating states, state-specific, population-based data is obtained from 1,300-3,400 mothers each year. We anticipate receiving data from the CDC shortly. Descriptive statistics will used to describe the sample and multivariable analysis will be used to answer the research questions. Data will be analyzed using SAS. Data analysis will be completed before the date of the conference.

**Results:** We hypothesize that among this heterogeneous sample of diabetic mothers, low socioeconomic status, being a recipient of Medicaid and exposure to domestic violence will be associated with decreased incidence and duration of breastfeeding.

**Discussion & Conclusions:** The data collected in this study can be used to evaluate progress towards Healthy People 2020 objectives, and provides opportunities to inform interventions specific to this high-risk population at the primary prevention level.

# DIABETES

## NP Led Project to Achieve Euglycemia in Cardiac Surgery Patients: Effect of A1c and BMI

*Linda Kerr, DNP, RN, FNP-BC, CDE*
*Diabetes Nurse Practitioner/Director, Diabetes Program*

*Peggy Kalowes, PhD, RN, CNS, FAHA*
*Director, Nursing Research and Innovation*

*Kim West, MSN, RN, ACNP-BC*
*Cardiac Nurse Practitioner*
*Cardiac Services*

*Barbara Easterbrook, MSN, RN, ANP*
*Cardiac Nurse Practitioner*
*Cardiac Services*

*Darice Hawkins, MN, CNS, CCRN*
*Cardiac Clinical Nurse Specialist*
*Cardiac Services*

*Long Beach Memorial*
*Long Beach, CA*

Single-center descriptive, comparative analysis of a nurse practitioner (NP) led quality improvement/best practice project: Hyperglycemia during the first 48 hours following cardiac surgery has been found to be independently associated in the incidence of Deep Sternal Wound Infection. For cardiac surgery patients, hyperglycemia is an independent predictor of mortality, with or without diabetes. Insulin therapy is indicated for the treatment of hyperglycemia. The complexity of insulin therapy, and strategies surrounding planned staff education opportunities, requires clinical providers that are knowledgeable in glycemic management. Implementation of clinical process changes by a NP led team was expected to reduce early postoperative hyperglycemia for cardiac surgery patients.

The primary aim of the project was to determine the effect of NP led insulin management and glycemic-related clinical process changes on hyperglycemia in post-operative cardiac surgery patients. Glycemic improvement was measured by achievement of the 2014 SCIP-inf-4 measure. Data affecting glycemic management included patient A1c and BMI results. Post-operative diabetes and insulin resistance, combined with glucose intolerance and obesity (BMI greater than 30 kg/m$^2$), contributed to challenges with achievement of the SCIP-inf-4 measure. Successful adjustments in clinical practice by the team NP included post-operative reduction of meal carbohydrates from 60 grams to 30 grams, and individualization of insulin therapies by the NP team.

In the pre-intervention group, NP individualization of insulin therapy occurred on post-operative day two and was focused on patients with an A1c of greater than 6.0 percent and/or a BMI of greater than or equal to 30 kg/m$^2$ . When achievement of the SCIP-inf-4 measure did not improve, the NP team expanded individualization of glycemic management to all patients undergoing a cardiac surgical procedure. Improvement in achievement of the SCIP-inf-4 measure from the pre-intervention group (80.9 percent) to the post-intervention group (97.6 percent) was statistically significant, $p < .001$. Patient A1c and BMI data were evaluated separately and in combination. Statistically significant improvement in glycemic control included patients with A1cs of 5.7 to 6.5 percent (p=.012), BMIs of 25 to 30 kg/m$^2$ (p=.006), and patients with a combination of A1c greater than 6.0 percent and BMI less than 30 kg/m$^2$ (p=.001). These outcome data informed the NP team of the effect of post-operative insulin resistance and glucose intolerance on glycemic control, even for patients with lower A1cs and BMIs.

Inpatient NP roles are richly diverse and have the ability to synthesize into value-added healthcare teams. Through engagement of scientific inquiry and integration of best practice guidelines to clinical problems, NPs model leadership in practice while advancing the nursing procession. This NP led, quality improvement project reflects these qualities.

# DIABETES

## Pre Diabetes Screening in Primary Care

*Christine Rieger, RN, MSN*
*DNP/FNP Student*
*University of San Diego*
*Hanh School of Nursing and Health Sciences*
*San Diego, CA*

*Jonathan Mack, PhD, RN, NP*
*Faculty Chair/Site Mentor*
*University of San Diego*
*Hanh School of Nursing and Health Sciences*
*San Diego, CA*

**Purpose:** The purpose of this evidence based practice (EBP) project was to evaluate an electronic medical record (EMR) based American Diabetes Association pre diabetes screening protocol in a primary care setting. The project will be evaluated based on pre and post protocol implementation pre diabetes screening rates for the practice.

**Background:** Pre diabetes is an under screened condition that can result in a diagnosis of diabetes mellitus. In fact, 15-30% of people diagnosed with pre diabetes will develop type 2 diabetes mellitus within five years. Nearly 90% of those with pre diabetes are unaware of their condition which places them at risk for developing type 2 diabetes mellitus and the complications associated with the disease. Identifying those with pre diabetes is an essential step towards preventing the development of diabetes mellitus and the multisystem complications that can develop due to diabetes. There was no program in place in the clinic previous to this EBP change. In the 12 months preceding implementation of 1313 eligible patients, 159 (12%) were correctly screened for pre diabetes.

**Framework/EBP Model:** The Discrepancy Evaluation Model by Provus will be used to analyze the outcomes of the pre diabetes EMR screening program. Number of patients screened for pre diabetes was collected and discrepancies between expected and actual outcomes was determined as described in the project plan process section below.

**Project Plan Process:** Patients with a body mass index (BMI) greater than 25 were flagged in the EMR at intake by the medical assistant who initiated a screening questionnaire in the provider note to assess for pre diabetes with reminders on what to screen and how often. Prior to initiation of the project, knowledge gaps were assessed and information sessions were given to medical assistants and providers as to the reasons behind the screening protocol. Cost will be minimal to the clinic since the screening protocol will be worked into the existing EMR without paying for upgrades to the existing system. There is a potential for increased revenue through reimbursement for point of care HbA1C testing in the clinic as well as the potential to bill insurance for counseling.

**Outcomes:** In progress. The expected outcome is to screen a minimum of 75% the number of pre diabetes patients within three months.**Conclusions:** Identifying pre diabetic patients can lead to early interventions to prevent the development of diabetes and possible increased revenue through diet and exercise education sessions reimbursed through insurance. This EBP project utilizes the EMR to remind providers on screening protocol which increases the sustainability of the project.

## Abstracts of Poster Presentations

# EDUCATION I

### DNP PERCEPTIONS OF LEADERSHIP ABILITIES IN POLICY AND GOVERNANCE

*Jacob Creviston*

---

### EASING THE FEAR FACTOR IN MENTAL HEALTH CLINICAL THROUGH SIMULATION

*Wendy Matthew, Jennifer Serratos, Carolyn T. Martin*

---

### ACADEMIC PROGRESSION FOR DIVERSE NURSING STUDENTS: A SYSTEMATIC REVIEW

*Kristin F. Lutz, Dena Hassouneh*

---

### CLINICAL PLACEMENT MODELS: WHAT IS HAPPENING AND WHY

*Pamela M. Mulcock*

---

### CRITICAL THINKING SKILL ENHANCEMENT IN NURSING SCHOOL STUDENTS

*Sue A. Habkirk, Arjetta Boles*

---

### NEW GRADUATE NURSE TRANSITION: NURSE ATHLETE AS A HEALTH PROMOTION INTERVENTION

*David P. Hrabe, Bernadette Melnyk,*
*Jacalyn Buck, Loraine Sinnott*

---

### NURSES PERCEPTIONS OF THEIR WRITING ABILITIES IN AN RN-BSN PROGRAM

*Carol J. Stevens, Barbara D'Angelo, Michael J. Belyea*

# EDUCATION I

## DNP Perceptions of Leadership Abilities in Policy and Governance

*Jacob E. Creviston, DNP, RN, PMHNP*
*Assistant Professor of Nursing*
*Nursing Department*
*Linfield Good Samaritan School of Nursing*
*Portland, OR*

**Purposes:** The DNP prepares nurses to lead policy development and implementation. A gap in the literature exists of whether DNPs feel adequately prepared for policy work and if, and at what levels, they are engaged.

**Background:** The involvement of nurses at every level of healthcare decision-making is imperative to achieve the *Triple Aim*. The American Academy of Colleges of Nursing (AACN) (2006) states, "Doctor of Nursing Practice (DNP) graduates must be proficient in…creating and sustaining changes at the organizational and policy levels" (p. 10). The Institute of Medicine (IOM) (2011) states, "nurses should have a voice in health policy making and be engaged in implementation efforts related to health care reform" (p. 8). Oregon is engaged in significant healthcare reforms but nurses are underrepresented at decision-making tables. Nursing's absence in policy development and implementation risks patient satisfaction, quality and cost.

**Approach:** A survey was designed to gather both quantitative (Likert scale) and qualitative data regarding DNP policy design and implementation practice areas, perceptions of their abilities to serve in these roles and ideas for better preparing DNPs to lead in policy work. The questions were informed by the AACN's The Essentials of Doctoral Education for Advanced Nursing Practice (2006) and the Institute of Medicine's *Future of Nursing: Leading Change, Advancing Health* (2011) report.

**Outcomes:** The survey was sent to 63 graduates of the Oregon Health & Science University (OHSU) DNP program. Thirty-four graduates completed the survey. Most felt prepared for, and were engaged in, policy work at the institutional level, but several barriers to engagement beyond the institution, namely time, incentive, guidance and support, were cited.

**Conclusions:** DNPs should seize leadership opportunities and negotiate for time and incentive to engage. Institutions should maximize DNP scopes and encourage policy development and implementation. Steps should be taken at the individual and institutional levels to maximize the role of the DNP as a leader in policy development and implementation.

# EDUCATION I

## Easing the Fear Factor in Mental Health Clinical through Simulation

*Wendy Matthew, RN, BSN, MSN, Simulation Coordinator*
*Jennifer Serratos, RN, BSN, MSN, Full Time Lecturer*
*Carolyn Martin, RN, FNP, PhD, Associate Professor*
*School of Nursing*
*California State University, Stanislaus*
*Turlock, CA*

**Purpose:** The aim is to describe simulation that prepares mental health nursing students for entry into a mental health clinical setting.
**Background:** Nursing students frequently admit to experiencing anxiety and reluctance to attend mental health clinical. Kolb's experiential learning, promotes retention of the necessary knowledge and skills through living the experience. Simulation is commonly used in most areas of nursing education. Utilizing standardized patients (a person trained to represent the characteristics of the disease) increases students' confidence, learning satisfaction, and self-reflection. Simulation, utilizing standardized patients, provides the experience, in which learners can gain the necessary skill, interventions, and general knowledge in a safe environment.
**Description:** Two experienced mental health faculty, two graduate students (focusing on nursing education), a simulation technician, and 28 pre-licensure students enrolled in a mental health theory and clinical course participated in the simulation. Students were divided into three groups of nine students each. After reading material assigned prior to the orientation and completing a two hour lecture on therapeutic communication, students were instructed to utilize these skills while interacting with the standardized patient. Two simulated psychiatric patient scenarios (a patient with schizophrenia and another with depression) were conducted during a mental health simulation. In addition students were exposed to a case study (a patient with bipolar disorder). The standardized patients volunteers utilized moulage and prepared by reviewing patient scenarios, which included a history of the patient and their presenting symptoms. Mental health faculty were present during the simulation and observed student interactions with the patient. The simulations lasted 45-50 minutes. Students, standardized patients, and faculty participated in a debriefing session at the completion of the simulation experience. The two graduate students participated in the development, evaluation, and debriefing of the simulation. During the simulation one participated as a standardized patient and the other was the simulation coordinator who ran the debriefing session.
**Outcomes:** At the conclusion of this activity the undergraduate nursing students reported gratitude for an opportunity to practice their communication skills and stated that the experience assisted with reducing their anxiety about attending their mental health clinical. Students felt that the simulation was helpful and requested to have more simulation opportunities. Faculty were able to observe students who demonstrated safety concerns, such as being too close to the patient or not setting boundaries, and were able to assist with guiding students prior to having them in the clinical setting. Graduate student nurse educators were exposed to innovative pedagogical strategies for teaching mental health nursing.
**Conclusion:** Research is needed to test the efficacy and effectiveness of pedagogical approaches, such as the use of case studies and standardized patient simulation, in the education of mental health nurses. Simulation prepares students for patient interaction and assists with decreasing anxiety related to entering an acute mental health inpatient facility.
**Implications:** Exposing nursing students to mental health simulation is an essential component needed to prepare our future nurses.

# EDUCATION I

## Academic Progression for Diverse Nursing Students: A Systematic Review

*Kristin F. Lutz, PhD, RN* *Dena Hassouneh, PhD, RN, FAAN*
*Associate Professor* *Professor*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

**Purpose:** The purposes of this systematic review are to: 1) identify common elements of programs to advance academic progression for racially and ethnically diverse nursing students and 2) determine which elements are most effective for increasing academic progression of diverse students.

**Rationale/Conceptual Basis/Background:** Lack of diversity in the health care workforces is a critical issue for the health of the nation and an ongoing problem in nursing: only 19-25% of registered nurses are racial or ethnic minorities. Less than one percent of the 2.8 million registered nurses have earned a doctoral degree, and far fewer of them are from underrepresented groups. Consequently, our nurse leaders, including faculty, researchers, and advanced practice clinicians, are the least diverse group in the profession. Yet despite significant resource development and repeated calls for change, increases in racial and ethnic diversity among nurses with advanced degrees have been incremental. Hence, increasing the diversity of nurse researchers, leaders, and educators requires creative and collaborative solutions. Numerous professional nursing organizations and nursing schools have developed and implemented programs to increase the diversity of nursing students, but it is unknown which programs and strategies have been effective for facilitating diverse students' educational advancement from pre-licensure nursing programs into baccalaureate degree completion and/or graduate programs.

**Methods:** English-language studies, case reports, theory publications, and white papers published or released between January 2000 and October 2015 will be identified through a search of electronic databases (Medline, CINAHL, Google Scholar). Unpublished and grey literature will be identified through searches of the Internet and reference lists of published articles. Experts in the field will also be consulted to help identify unpublished reports. The following MeSH search terms will be used: "Education, Nursing", "Education, Graduate" "Curriculum" "Faculty", "Faculty, Nursing", "Mentors", "Minority Groups", "Students, Nursing", "Ethnic Groups", "Schools, Nursing", "African Americans", "Hispanic", "Health Occupations", "Health Professions", "Diversity", "Educational Advancement", "Academic Progression".

**Results:** This is an in-process project. The final number of studies, participants, and characteristics of the studies will be presented. Common elements across programs and the elements most effective for increasing academic progression will be presented and recommendations discussed.

**Implications:** Identifying evidence-based strategies that support the educational advancement of racially and ethnically diverse nursing students is key to expanding the number of diverse nursing researchers, leaders, and educators. In turn, greater diversity among nursing leaders with graduate degrees will help improve educational excellence and reduce health disparities.

# EDUCATION I

## Clinical Placement Models: What Is Really Happening and Why

*Pamela M. Mulcock, MS, RN*
*Clinical Coordinator – Undergraduate Program*
*School of Nursing*
*Boise State University*
*Boise, ID*

**Purpose:** The purpose of this qualitative study is to ascertain what models nursing schools in the mountain west are using for student placement. The study also included questions to determine what factors influenced the model/models currently in use, including if an educational institution is using a model of its own design.

**Background/Rationale:** In 2010, the Institute of Medicine called for a change in nursing education, saying that changes in clinical environments' complexities required changes in the way nurses are educated in the 21st century. The preceding year the NLN challenged nursing to make sure the way clinical teaching was done was evidence based. Heretofore, most clinical placements appear to have been made based on facility availability, personal preference, or historical precedence.

However, changes in clinical placement can be difficult to achieve. The traditional "block" type of placement of clinical assignments, which interspersed with didactic instruction, appears to be the primary placement model still in use. Five models of placement into those clinical blocks may be used to assign students: 1) the Dedicated Education Unit (DEU), 2) the Cluster Model, 3) the Clinical Partnership Model, 4) the Clinical Liaison Model, and 5) the Home Base Clinical Placement Model. Clinical placement may also occur without a specific model in mind. The Hub and Spoke Model is a deviation from the block method, where students spend extended periods in a "hub" clinical setting and then participates in short "spoke" clinical experiences.

**Methods:** A convenience sample of fifteen schools of nursing was surveyed via in-person, email or telephone questionnaires.

**Results:** Surveys are in progress. Results will be included in the poster presentation.

**Implications:** Identification of placement methods currently in use and the factors that either helped or hindered the chosen model may help other institutions manage their clinical placements.

# EDUCATION I

## Critical Thinking Skill Enhancement in Nursing School Students

*Sue Habkirk, PhD*
*Coordinator, Instructional Support Services*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

*Arjetta E. Boles, MSN, MSE, RN*
*Clinical Instructor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

Providing academic support to beginning nursing students is essential to academic success since they often lack the appropriate skills and critical thinking base to perform well on nursing exams. Nursing educators are perpetually challenged to design curricula and teaching strategies that cultivate and promote these critical thinking skills in students. Based on informal observation and student inquiries for additional help on test-taking abilities, the researchers were motivated to create workshops to provide supplemental support to students to develop critical thinking skills. Instead a reactive response to inquiries by individual students for support, from experience, the researchers recognized many others would benefit from this same instructional support. An instructional assessment tool was developed to garner student's perceived value of supplemental workshop content and methodology. Tailored workshops increasing in complexity were provided over a span of three semesters as students' progress through their nursing program. From students' informal reports, tests scores improved in subsequent exams with many reporting an increase in overall test-taking abilities. In addition, NCLEX passage rates over time revealed increases since initiating the supportive workshops. This study will assess the value of relevant supplemental support, preferred instructional styles, pre-post perceptions of knowledge base increases and areas identified as beneficial. Fisher's Exact Test and Qualitative Analysis will be used to compare differences between each workshop. The workshops were conducted in combination with a content specific instructor and a test-taking methodology specialist. Results have implications for all nursing programs who seek to optimize student learning outcomes. Further research will be implemented to compare the effectiveness of dosage level of two or less compared to three or more workshops on student performance.

# EDUCATION I

## New Graduate Nurse Transition: Nurse Athlete$^{TM}$ as a Health Promotion Intervention

*David P. Hrabe, PhD, RN*
*Associate Professor of Clinical Nursing*
*College of Nursing*
*The Ohio State University*
*Columbus, OH*

*Bernadette Mazurek Melnyk, PhD, RN, CPNP/PMHNP, FAANP, FNAP, FAAN*
*Associate Vice President*
*for Health Promotion*
*University Chief Wellness Officer*
*Dean and Professor, College of Nursing*
*The Ohio State University*
*Columbus, OH*

*Jacalyn Buck, PhD, RN, NEA-BC*
*Administrator HS Nursing Quality,*
*Research, Education, EBP*
*Clinical Professor*
*The Ohio State University Health System*
*& College of Nursing*
*The Ohio State University*
*Columbus, OH*

*Loraine Sinnott, PhD*
*Senior Statistician*
*College of Nursing*
*The Ohio State University*
*Columbus, OH*

**Purposes/Aims:** The purpose of this pilot trial was to test the preliminary effects of a health-oriented workshop, the *Nurse Athlete,* on new graduate nurses' healthy lifestyle beliefs, healthy lifestyle behaviors, depressive and anxiety symptoms, health outcomes, retention in their first place of employment, their sick time, and restricted activity time. The research question that was explored was: What are the effects of the *Nurse Athlete* workshop on participants' 1) retention in their first unit of employment, their sick time and restricted activity time, 2) healthy lifestyle behaviors, 3) healthy lifestyle beliefs and psychosocial outcomes, and 4) physical health outcomes at one, six, twelve and twenty-four months following the workshop?

**Rationale/Conceptual Basis/Background:** With over 2.6 million practicing Registered Nurses in the U.S., nurses represent the largest sector of the health professions (American Nurses Association, 2011; Bureau of Labor Statistics, 2010). While nurses' education prepares them to promote the health of the patients and families they serve, too often they fail to adequately care for themselves and engage in unhealthy lifestyle behaviors. Some of the profession's most vulnerable populations, new graduate nurses, often struggle between the transition from school to work. This study was focused on determining if the integration of a two-day workshop about personal health and well-being conducted during the Nurse Intern residency improves health behaviors in new graduate nurses.

**Methods:** A descriptive correlational design was used with baseline data from new graduate nurses attending the two-day Nurse AthleteTM program, a workshop that focuses on nutrition, energy management and physical activity (some results reported previously). A variety of psychosocial and biometric markers were collected at baseline, 1 month, 6 months, 1 year and 2 years.

**Results:** At 6 months, participants showed significant ($p \leq 0.05$) weight loss (-2.81 pounds), decreased body fat (-1.61%) and less depression (-0.14 PHQ-9 score). Due to low study participation past one-year, study results were inconclusive beyond six months.

**Implications:** New graduate nurse transition is a challenging time not only for the new grad, but also for employers seeking to support them. Programs have typically focused on clinical skills and social support. The study shows promise in helping new grads engage in their own health. Educators and administrators should consider how personal wellness and self-care contribute to new grad transition and resilience.

# EDUCATION I

## Nurses Perceptions of Their Writing Abilities in an RN-BSN Program

*Carol J. Stevens, PhD, RN*
*Clinical Associate Professor*
*Barrett Faulty Honors Advisor, Nursing*
*College of Nursing and Health Innovation*
*Arizona State University*
*Phoenix, AZ*

*Barbara J. D'Angelo, MSLIS, PhD*
*Clinical Associate Professor*
*College of Letters & Science*
*Arizona State University*
*Phoenix, AZ*

*Michael Belyea, PhD*
*Research Professor*
*College of Nursing and Health Innovation*
*Arizona State University*
*Phoenix, AZ*

**Aims/Purpose:** The purpose of this study is to examine the student's perceptions and confidence of their writing abilities over time while enrolled in the RN-BSN Program. Furthermore, the study aims to identify the student's ability to locate and access relevant nursing journal articles for papers and other assignments as they progress through the RN-BSN program.

**Rationale/Conceptual Basis/Background:** Clear and effective communication is a baccalaureate nurse competency essential to practice high quality and safe patient care (AACN, 2008). Specifically, written communication is important to the nursing discipline as it allows nurses to participate more fully in academic discourse where evidence-based practice is the cornerstone of nursing practice. RN-BSN programs report that students have a limited knowledge of scholarly writing and such content is not always taught or emphasized. In the ASU fully online RN-BSN degree program, students are required to take a writing course that helps students to learn rhetorical strategies and genres for communicating within nursing practice; higher order writing skills in order to summarize information effectively and synthesize information from the literature; and APA citation format. Throughout the RN-BSN program, student's written communication skills are reinforced using various teaching methods (i.e. APA tutorials, written feedback on papers). To date, there has been no formal evaluation of the effects of the writing course and subsequent learning. In order to examine the student's perceptions of their own writing abilities, a prospective longitudinal study is in progress.

**Methods:** Aggregate data collected from three different cohorts using the same survey and collected at three time periods (the first three classes in the program) per cohort will be reported. Each course is 7.5 weeks long, sequential in the program and offers multiple learning activities for students to improve their writing skills as the student progresses.

**Results:** Demographic and descriptive statistics will be presented. The study used repeated measures ANOVA to determine the differences in nursing student's confidence, strengths, and weaknesses in their writing abilities. Additionally, predictors of the nursing student's ability to locate and access research evidence will be reported.

**Implications:** Findings from this study can inform faculty as to the efficacy and the effect of teaching strategies targeting written communication skills throughout the RN-BSN program.

# Abstracts of Poster Presentations

# EDUCATION II

## INTERCULTURAL COMPETENCE AMONG FIRST SEMESTER NURSING STUDENTS

*Nassrine M. Noureddine, Darla Hagge, Doreen Baldock, Helay Kashkouli*

---

## INCIVILITY IN THE ONLINE LEARNING ENVIRONMENT

*Jeanette A. McNeill, Katrina Einhellig, Kathleen N. Dunemn, Lory Clukey*

---

## ADVOCATING AMIDST CONFLICT: COMMUNICATION STRATEGIES DEMONSTRATED BY STUDENT NURSES

*Lorretta C. Krautscheid*

---

## EVALUATION OF PUBLIC HEALTH COMPETENCIES IN UNDERGRADUATE NURSING EDUCATION

*Mark Siemon*

---

## ASPIRATION VIDEO EDUCATION FOR CERTIFIED NURSING ASSISTANTS

*Stephanie A. Kim, Jacqueline Michelle Lee*

---

## INTERDISCIPLINARY STUDENTS INCREASE POVERTY UNDERSTANDING THROUGH SIMULATION

*Gaye L. Ray, Micahel McNeil, Stacie K. Hunsaker, Colleen Tingey*

---

## ANALYSIS OF STUDENT VIDEO REFLECTIONS FOR COURSE EVALUATION

*Angela A. Richard, Kathy Shaw, Pamela Prag*

# ENGAGING BSN STUDENTS THROUGH TEAM-BASED LEARNING AND PEER ASSESSMENT

*Samantha Blackburn, Martha Moon*

---

# IMPACT OF COACHING ON STUDENTS' CLINICAL JUDGEMENT AROUND MEDICATION ADMINISTRATION

*Sharon Wallace, Mary Lloyd-Penza*

# EDUCATION II

## Intercultural Competence among First Semester Nursing Students

*Nassrine Noureddine, RN, MSN, Ed.D*
*Assistant Professor*
*Department of Nursing*
*California State University, Sacramento*
*Sacramento, CA*
*Noureddinen@csus.edu*

*Darla K. Hagge PhD, CCC-SLP*
*Assistant Professor*
*Department of Speech-Language Pathology & Audiology*
*California State University, Sacramento*
*Sacramento, CA*

*Doreen Baldock*
*Adjunct Professor*
*Department of Nursing*
*California State University, Sacramento*
*Sacramento, CA*

*Helay Kashouli, MSN, RN*
*Adjunct Professor*
*Department of Nursing*
*California State University, Sacramento*
*Sacramento, CA*

**Background/Rationale/Conceptual Base:** The 2002 Institute of Medicine (IOM) report on Unequal treatment: Confronting racial and ethnic Disparities in Health Care documented inadequate and inferior care for minority groups and vulnerable or marginalized populations. According to the National Center for Minority Health (2003), a major challenge facing today's health care system is reducing health care disparities especially for racial and ethnic minority groups, socioeconomically disadvantaged groups and people living in rural areas. Factors that were found to be associated with increased health care disparities include limited resources and educational opportunities, limited access to quality health care, unhealthy lifestyle and living conditions (Anderson, Calvillo, & Fongwa, 2007). Cultural competence is viewed as a critical factor and essential component in providing relevant, effective, and culturally responsive healthcare services to the increasingly more diverse U.S. population (Campinha-Bacote, 2002; Health Resources and Services Administration [HRSA], 2001; Purnell, 2008). Hence, reducing racial and ethnic disparities in health and healthcare, and improving healthcare quality, patient satisfaction, and health outcomes (Goode, et al, 2006).

**Purpose/Aims:** The Essentials of Baccalaureate Education for Professional Nursing Practice (American Association of Colleges of Nursing, 2008) highlights cultural competence in several of the outcome competencies for graduates. Improved health professions education is one of the critical and potentially most effective interventions to eliminate health care disparities. It is vital that nurses be educated about how to provide culturally competent care to an increasingly diverse US population, particularly because nurses spend more time assessing and managing patients than other health care providers. This quantitative study sought to explore whether there are similarities and/or differences in intercultural knowledge and competence amongst first semester students from different social, economic, cultural and academic backgrounds at CSU Sacramento.

**Methods:** First semester nursing students attending California State University, Sacramento Fall 2015, were recruited to participate in this study. All 80 students consented to participate. Demographic data was collected via survey monkey collected while intercultural knowledge and competence was measured using the Association of American Colleges and Universities (AACU) Intercultural Knowledge And Competence Value Rubric when grading students cultural competence projects.

**Results:** We are still in the data collection phase. Results will be presented in the conference.

**Conclusion/Implications:** Given the growing diversity of the American society, a major responsibility of today's schools of nursing is to prepare nursing students to function more effectively in a global integrated system. This brings intercultural competence and diversity to the forefront of what needs to be addressed within student learning. It becomes imperative to more closely examine what this concept is and how best to assess it in our students. Findings from this pilot study will be used to improve intercultural competence curriculum content of the CSUS School of Nursing curriculum to better prepare students to care for an increasingly diverse patient population.

## Incivility in the Online Learning Environment

*Jeanette A McNeill, DrPH, MSN, CNE, ANEF*
*Katrina Einhellig, PhD, RN, CNE*
*Kathleen N. Dunemn, PhD, APRN, CNM*
*Lory Clukey, PhD, PsyD, RN, CNS*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

**Purpose/Aims:** To examine the student and faculty perspective of the online learning environment (OLE) in a western School of Nursing regarding incidence, characteristics of incivility and the challenges it presents to online learning.
**Rationale/Conceptual Basis/Background:** Online learning is an increasingly common experience for all students, involving about 1/3 of all college students. Academic leaders indicate that most (70%) foresee online learning as critical to their long term strategy (Allen & Seamen, 2013) and these trends are seen in nursing education as well. There has been little research regarding the characteristics of the online learning environment that contribute to, or inhibit, learning. Clark, et al., (2012) studied >200 nursing faculty and students regarding perceptions of incivility in the online learning environment, developing an instrument, the Incivility in Online Learning Environment (IOLE) survey. Content validity was demonstrated, and Alphas for the two scales > .96 was demonstrated Results included that both faculty and students found incivility to be a mild to moderate problem and that top uncivil behaviors were name calling, making belittling comments about a faculty member, using racial, ethnic, sexual or religious slurs, and criticizing non-traditional cultures. Additionally, students identified that personal attacks/threatening comments, and changing assignments or course requirements without warning were uncivil faculty behaviors. Other authors have documented occurrence of incivility in traditional learning environments (class/clinical) in nursing as well as in the health setting workplace (Schaeffer, 2013; Clark & Springer, 2007).
**Methods:** Participants for this research were graduate and undergraduate nursing students enrolled in online (or hybrid) nursing courses and nursing faculty, full time and adjunct, who teach in online courses. IRB review and approval were obtained prior to contacting participants via email and inviting participation through an online link. Participation was voluntary, did not impact or jeopardize the students' grade or faculty standing. The convenience sample had a pool of approximately 90 students and 40 faculty members eligible to participate. With permission, the IOLE Survey (Clark, et al., 2012) was used to collect the data, which includes quantitative and qualitative information. Descriptive or ranked data was analyzed using descriptive and parametric or nonparametric statistical methods. Anonymity of participants was maintained; survey data was entered into SPSS, aggregated and reported as cohorts without identifiers.
**Results/Findings:** The study is in progress. First and second invitations to participate have been emailed with the survey link. Data collection will be terminated 11/30/15 and data analysis will begin.
**Implications for Education and Research:** From the results of this project, students and faculty will be educated about incivility in the online learning environment and its deleterious effects on learning. It is hoped that increased awareness and approaches to reducing incivility in the learning environment will be translated to prevention of workplace violence for the new nurse, advanced practice nurse and nurse educator.

---

Funding: This study is being partially funded by a UNC Office of Assessment Project Mini-Grant.

# EDUCATION II

## Advocating amidst Conflict: Communication Strategies Demonstrated by Student Nurses

*Lorretta Krautscheid, PhD, RN, CNE*
*Assistant Professor*
*School of Nursing*
*University of Portland*
*Portland, OR*

**Purpose:** The purpose of this pilot study was to document conflict handling styles demonstrated by senior-level baccalaureate nursing students (BSN) who were confronted with substandard patient care dilemmas embedded within high fidelity simulation (HFS) scenarios.

**Background:** Nursing students at the authors academic institution frequently reported feeling ill-prepared to advocate for quality patient care when confronted with conflict during clinical experiences. Students reported knowing what *should* have been done for the patient; however, they also reported an inability to *act* on their knowledge due to low confidence, feeling subordinate and not knowing how to respectfully speak up during conflict. The inability to effectively communicate could hinder quality patient care outcomes, professional development and organizational effectiveness.

**Methods:** Literature-based dilemmas (confidentiality breaches, substandard infection control practices and unsafe medication administration) were embedded within existing senior-level HFS. An actor was hired to simulate an experienced registered nurse (RN) who enacted aforementioned dilemmas. Students were not notified they could potentially encounter a dilemma during HFS. Institutional Review Board approval was obtained. All students enrolled in the Fall 2014 senior medical surgical course (n=82) were videotaped during the HFS. Twenty-three students' video recordings were excluded because (a) no ethical dilemma was presented due to time constraints and (b) the camera did not capture nonverbal facial expressions. Thomas and Kilmann's (1978) conflict handling styles (competing, collaborating, compromising, avoiding, and accommodating) were utilized to categorize conflict negotiation skills demonstrated by students in the final sample (n=59). Analysis was conducted by three researchers who independently classified students' verbal and nonverbal conflict handling behaviors. Next, the researchers discussed findings and discrepancies were reconciled by re-reading conflict handling definitions, re-watching the video, and arriving at consensus.

**Results:** Among the participants, 55 were Caucasian, four were Asian, 47 were female and 12 were male. Thirty-three students (55.9%) demonstrated effective conflict handling during the dilemmas; i.e., collaborating (n=12) and compromising (n=21). Seventeen students (28.8%) demonstrated ineffective conflict handling; i.e., competing (n=1), accommodating (n=6), and avoiding (n=10). Nine students (15%) did not notice the questionable nursing practice dilemmas. Combining the findings from both the ineffective conflict styles with the students who did not notice what the RN was doing, the combined result was 26 (44%) of the participants who did not advocate for quality patient care during the substandard practice dilemmas.

**Implications:** While the sample size of this pilot study was small, the findings provide nurse educators with insights about the prevalence of conflict handling styles among students. The findings are both encouraging and disquieting. Participants were on the cusp of post-licensure practice. While 55.8% demonstrated effective advocacy, 44% appear ill-prepared to effectively communicate during conflict, hindering their ability to advocate for quality patient care and promote professional practice. Recommendations for nursing education primarily focus on assisting students to construct and rehearse effective conflict handling strategies. Integrating dilemmas within HFS extends learning beyond the cognitive domain through simulated educational strategies which incorporate affective and psychomotor learning, promoting congruence between *knowing* what a nurse should do and *acting* on one's convictions.

---

Reference:
Thomas, K. and Kilmann, R. (1978). Comparison of four instruments measuring conflict behavior. *Psychological Reports, 42*, 1139-1145.

# EDUCATION II

## Evaluation of Public Health Competencies in Undergraduate Nursing Education

*Mark Siemon, PhD, RN, APHN–BC, CPH*
*Assistant Professor*
*School of Nursing*
*Boise State University*
*Boise, ID*

**Purposes/Aims:** Baccalaureate nursing education is designed to prepare registered nurses for entry level positions in a variety of areas including public health nursing. The Competency Assessment for Tier 1 Public Health Professionals instrument (Public Health Foundation, 2014) is designed to measure perceived competency in the eight domains of public health practice. This study's aim was to assess the utility of the Teir 1 Competency Assessment instrument to measure pre-course and post-course perceptions of public health competency among undergraduate baccalaureate nursing and health science students.

**Rationale:** Public health nurses are the largest category of professionally trained public health workers in the U.S. (Beck, Boulton, & Coronado, 2014). The QUAD Council of public health nursing organizations has outlined competencies for public health nurses based on the Core Competencies for Public Health Professionals (Public Health Foundation, n.d.), but no instrument has been developed to measures perceptions of public health nursing competency. The NCLEX-RN national board examination is designed for baccalaureate and associate degree nurses, and therefore does not specifically test for public health nursing competencies.

**Methods:** This study was approved by the Boise State University Institutional Review Board. The main outcome of the study is to determine if levels of perceived public health competency, defined as "any knowledge or skill of an individual or organization that has been shown to cause or predict outstanding performance." (Public Health Foundation, 2014, p. 1), changed as a result of participation in the undergraduate public health nursing course, and if there were differences between different undergraduate cohorts (i.e., pre-licensure, RN-BSN students). Data from the online survey will be downloaded and analyzed using SPSS version 22 software. Parametric and non-parametric tests will be completed to determine if there are any statistical differences between pre-post course perceptions of public health competency for the eight domains of the assessment instrument including: (1) Analytical/Assessment Skills (2) Policy Development/Program Planning Skills (3) Communication Skills (4) Cultural Competency Skills (5) Community Dimensions of Practice Skills (6) Public Health Sciences Skills (7) Financial Planning and Management Skills (8) Leadership and Systems Thinking Skills (Public Health Foundation, n.d., Core competencies for public health professional: Domains) and the overall public health competency score.

**Results:** Preliminary analysis of pre-course public health competency assessment has found significant differences between student groups in mean scores for Policy Development, Public Health Science, and Communication. Final results for pre-post course assessments will be determined after end of semester post course testing, December 2015.

**Implications:** The Competency Assessment for Tier 1 Public Health Professionals instrument (Public Health Foundation, 2014) provides a way to measure perceived competency in the eight domains of public health. The instrument was used to assess pre-course and post-course perceptions of public health competency among undergraduate baccalaureate nursing students. Results from the pre-course assessment could be used to adapt the course content to meet needs identified by the assessment, and post-course competency assessment could be used to assess the effectiveness of undergraduate nursing education to prepare students for entry level positions in public health nursing.

## Aspiration Video Education for Certified Nursing Assistants

*Stephanie A. Kim, MSN, RN, CNL*
*Clinical Nurse II*
*Neuroscience and Stroke*
*UCLA Ronald Reagan Medical Center*
*Los Angeles, CA*

*Jacqueline Michelle Lee, BSN, RN*
*Clinical Nurse II*
*Neuroscience and Stroke*
*UCLA Ronald Reagan Medical Center*
*Los Angeles, CA*

**Purposes/Aims:** To improve knowledge of aspiration prevention in Certified Nursing Assistants.

**Rationale/Background:** Aspiration pneumonia is a pulmonary infectious process that occurs when patients inhale oropharyngeal or gastric contents into the larynx and lower respiratory tract. Major risk factors include older age, stroke, altered mental status, decreased alertness, or other neurologic conditions. Aspiration pneumonia is predictive of serious illness, significantly higher hospital costs, hospital readmissions, and death. Evidence-based practices for preventing aspiration during feeding are sitting a person upright in a chair, or if on bedrest, elevating the patient to a ninety degree angle. For patients with tube feeding, the head of bed should be at least thirty degrees. Poor oral hygiene increases the risk for aspiration pneumonia and thus it is recommended to brush a patient's teeth after each meal. Certified Nursing Assistants (CNAs) are integral in patient feeding, positioning, and oral hygiene. When delegating these tasks, the Registered Nurse (RN) needs to know that the CNA can safely care for the patient. Therefore, it is imperative that they have adequate education on aspiration prevention.

**Undertaking/Best Practice/Approach/Methods/Process:** A pre-test was administered to CNAs on a Neuroscience and Stroke unit to obtain baseline knowledge. The survey examined their knowledge of aspiration, their role in preventing it, best practices, and when to notify the nurse. Self-assessment data from the CNAs regarding their comfort level and confidence with high-risk patients was collected. An educational video was created based on aspiration prevention best practices. The video was then e-mailed to the CNAs for viewing. After viewing, the CNAs took a post-test to evaluate the effectiveness of the video. The same questions were asked to measure the impact of the video education on CNA knowledge.

**Outcomes Achieved/Documented:** 75% of CNAs surveyed felt very comfortable (10 on a scale of 0-10) with best practices (e.g. setting up the room for a patient with aspiration precautions, identifying signs of aspiration that need to be reported to the RN). The average score of the pre-test was 40%. After viewing the video, the average score of the post-test increased to 67%. However, two-thirds of those who took the test received an 80% or higher.

**Conclusions:** Our outcomes indicate a need for improving aspiration prevention education with video instruction. Although this pilot has a small number (n = 6), it provided an opportunity for the investigators to expand the project. On the Neuroscience unit, all employed CNAs (n = 25) will be expected to take the pre/post-test and view the video as part of 2015 unit competencies. The project will then be placed on the nursing website at this medical center for view by all CNAs during the onboarding process (n = 61/yr). In addition, this university medical center has a student nurse volunteer program. All student nurses who participate in this program will be included in the pre/post-test and video education.

## EDUCATION II

### Interdisciplinary Students Increase Poverty Understanding through Simulation

*Gaye Ray, MS, FNP-C*
*Assistant Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Mike McNeil, SN*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Stacie Hunsaker, MSN, RN*
*Nursing Learning Center Asst. Coordinator*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Colleen Tingey*
*Nursing Learning Center Supervisor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

**Purpose:** Our purposes were to examine nursing and medical sociology student's poverty simulation (PS) reflection papers to (1) determine the overall effect of participation on future medical professionals, (2) identify new understandings or thoughts experienced as a result of participation, and (3) determine if students feel this experience will influence future careers.

**Background:** 52 nursing students and 14 medical sociology students participated together in a Poverty Simulation as part of their respective course work; 62 wrote reflection papers following participation. During the 3.5-hour simulation, students assume identities and life situations similar to those in poverty, being assigned as members of diversely configured low-income families. Students develop strategies to meet their family's basic needs, including food, shelter, living expenses, school, employment, and healthcare. Activities occur in the face of realistic life challenges, including emergencies, illnesses, and job loss. Faculty volunteer to staff simulated community sites where students interact to attempt to meet their family's needs. Sites include grocery stores, banks, employment and social services, schools, police stations, childcare, and healthcare facilities. Facilitators debrief students after the simulation.

**Brief Description of Project:** Qualitative data from nursing student reflection papers as a group and medical sociology students as a second group were analyzed during regularly-held meetings. Within each group, the first-cycle coding processes identified and labeled segments with topical similarities. Using focused coding, a second-cycle coding process, was used to relate categories and to identify elements most salient in the initial coding process. Finally, we used our coding results to identify themes from recurrent ideas and similar experiences expressed in the reflections within each group, medical sociology students and nursing students. Results were compared and contrasted.

**Outcomes Achieved:** Both nursing and medical sociology students report simulation provokes (1) deep emotions fostering empathy towards the impoverished, (2) enhances understanding of poverty, (3) dispels previously held stereotypes, and (4) serves to influence their future careers.

**Conclusions:** Simulation has extraordinary influence on both nursing and medical sociology students in helping them understand health disparities, access barriers, and social determinants of health. Participation in Poverty simulations will influence future medical careers and motivate future medical professionals to become involved with poverty reduction efforts, eradication of health disparities, and reduce barriers to healthcare for this vulnerable population.

---

Funding: Brigham Young University's Myrtie Fulton Mentoring Grant.

# EDUCATION II

## Analysis of Student Video Reflections for Course Evaluation

*Angela A. Richard, PhD, RN*
*Assistant Professor*
*College of Nursing*
*University of Colorado Denver*
*Aurora, CO*

*Kathy Shaw, DNP, RN, CDE*
*Assistant Professor*
*College of Nursing*
*University of Colorado Denver*
*Aurora, CO*

*Pamela Prag, CNM, MS, MPH*
*Senior Instructor*
*College of Nursing*
*University of Colorado Denver*
*Aurora, CO*

**Purposes/Aims:** The purpose of this project is to analyze the content of video reflections submitted by baccalaureate students as part of a Community and Population Health Nursing (CPHN) course at the University of Colorado Denver for degree of reflection and content themes, to aid course evaluation.

**Rationale/Background:** Adult learning theory supports the use of reflection to assist students to transform perspectives. Using reflection, students can consciously acknowledge existing psycho-cultural assumptions and challenge them based on new experiences, gaining broader and more inclusive understandings, which can guide clinical practice. Reflective learning activities promote content assimilation and professional competence, as the activities are designed to promote deeper understanding of clinical performance and opportunities for growth. This is particularly important in a CPHN, where students are challenged to apply newly acquired nursing knowledge, skills and attitudes to populations and community health. Because the course requires a significant reconceptualization of the notion of "patient" and "intervention," reflection helps students integrate new experiences into new understandings of the role of nursing. While the literature describes the use of journaling for reflection, little is known about the effectiveness of video as a tool for reflective learning.

**Description:** As part of the requirements for the CPHN course, students are required to submit a 2-3 minute video at the end of the course, reflecting on their experiences. Student reflections are guided by four questions on what they found most meaningful in the course, what they would like to learn more about moving forward, how they will approach care differently as a result of their experiences and how a greater understanding and empathy for a specific community will influence their clinical practice. Investigators analyzed videos submitted by two cohorts of accelerated students (n = 70) and three cohorts of traditional students (n = 100), using Mezirow's model of seven levels of reflection, to identify the degree to which the video reflection activity encourages high-level reflection. Investigators will additionally conduct thematic analysis of the videos, to identify patterns of specific areas of growth for students.

**Outcomes:** Findings on the degree of reflection present in the videos will be used to evaluate the utility of video media to promote student self-reflection. In addition, themes identified through the video will be used along with other student evaluation data to assess the degree to which course objectives are being met.

**Conclusions:** Baccalaureate students are challenged by a course that requires them to apply nursing knowledge, skills and attitudes to populations and communities. Reflective practice can support professional and personal growth by helping students assimilate new knowledge and experience, which then can guide clinical practice. The use of video reflections in nursing curricula may be useful for promoting perspective transformation, and analysis of video reflection content may be useful in course evaluation.

# EDUCATION II

## Engaging BSN Students through Team-Based Learning and Peer Assessment

*Samantha Blackburn, RN, PhD Candidate, MSN*
*Assistant Professor*
*School of Nursing*
*California State University, Sacramento*
*Sacramento, CA*

*Martha Moon, RN, PhD, MPH*
*Lecturer*
*School of Nursing*
*California State University, Sacramento*
*Sacramento, CA*

**Purpose:** This project utilized a team-based learning (TBL) pedagogical approach for a large BSN course on community health nursing. The primary purpose was to implement TBL, including anonymous peer assessment of homework assignments, in order to increase students' knowledge and critical thinking skills in community health nursing (CHN). In addition, faculty wanted to know how students evaluated TBL teaching strategies.

**Background:** TBL is an approach employed to more actively engage students in learning. TBL is also intended to increase student responsibility for completing readings and learning modules before class, so that during most of class students are applying and analyzing course concepts through team-based activities. Faculty for an 80-student BSN CHN course started implementing TBL in spring of 2014, with periodic course adaptations in response to university-administered student course and faculty evaluations. The course format included weekly online readings and modules and bi-weekly homework assignments and quizzes based on readings. At the start of class, short multiple-choice quizzes were administered to individuals, and then to teams of 5-7 students. Then faculty delivered a mini-lecture of approximately 20 minutes, followed by team activities such as discussion of public health issues, formulation of CHN assessment and planning projects, and analysis of case studies. All activities required a written product by the end of class.

**Approach:** In fall 2015, course faculty expanded previous TBL methods to require students to provide peer feedback and scoring on homework. Through random assignment generated by the online course software platform, students assessed two peers' homework assignments per week. Using a simple rubric, student scored their peers' homework and wrote qualitative feedback highlighting strengths and improvements.

To measure efficacy of peer assessment and TBL strategies, faculty adapted a TBL survey developed by Michaelson, Knight, and Fink (2004). The survey included 8 questions with a Likert scale of 1-7 (strongly negative to strongly positive) and an open-ended question inviting student comments. The optional, anonymous survey asked students how valuable they found peer feedback on their homework, how favorably they rated TBL vs. a more traditional lecture format, how stressful they perceived the individual and group quizzes, how compatible TBL was with their learning style, and their overall experience in the course. The survey will be administered at the end of the semester in December 2015.

**Outcomes Achieved:** Course instructors have implemented TBL strategies including peer homework assessment. All students successfully scored and provided substantive feedback to their peers, requiring minimal faculty supervision of the online scoring process.

**Conclusions:** TBL teaching strategies require faculty to invest forethought and planning in developing course assignments to maximize student engagement. This investment yields the benefit of focusing the majority of class time to small group learning activities. Survey results will inform improved TBL and peer assessment strategies in nursing programs.

---

**References:** Michaelson, L.K., Knight, A.B., and Fink, L.D. (2004). *Team-based learning: A transformative use of small groups in college teaching.* Sterling, Va: Stylus.

# EDUCATION II

## Impact of Coaching on Students' Clinical Judgement around Medication Administration

*Sharon Wallace, PhD, RN, CCRN*
*Clinical Assistant Professor*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

*Mary Lloyd-Penza, MSN, RN*
*Clinical Instructor/VANAP Faculty*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

**Purpose/Aims:** To develop, implement, and assess an innovative educational coaching strategy to support clinical judgment around medication administration in Junior Baccalaureate nursing students.

**Rationale/Background:** Nursing students are expected to have developed the knowledge and skills to administer medications safely over the course of their training and education. Yet, according to the National Council of State Boards of Nursing, > 40% of new graduates report making medication administration errors. Likely contributing factors are lack of clinical experience recognizing high-risk situations, and active and latent system failures. Educating nurses to have a greater emphasis on individual patients and families rather than also focusing on complex care delivery systems may add to error incidences. Current educational practices often lack formal training about medication risk reduction principles. It is also important to note that nursing students can experience divergent requirements and expectations between clinical faculty and clinical teaching associates (Reid-Searl, Moxhan,Walker, Happell, 2009). The Quality and Safety Education for Nurses (QSEN) project recommends introducing a culture of safety early in the curriculum and emphasizing it at midpoint and throughout the final phases of the curriculum.

**Description of Undertaking:** Clinical faculty and clinical teaching associates on two medical-surgical units in a Pacific Northwest teaching hospital are collaborating to develop, implement, and assess a comprehensive strategy to teach medication administration by coaching. Coaching was selected as a strategy that could be used to minimize divergent expectations and craft a healthy learning environment to enhance student performance. Through coaching and reflection, nursing students are guided to explore their clinical reasoning and decision-making related to medication administration in context. A protocol outlining shared expectations, teaching tips for coaches, and learning activities, was developed. Learning activities were implemented to incorporate medication administration skills into a larger discussion about a culture of safety. Examples of learning activities include exploring human factors associated with the role of a novice, recognizing risk associated with deviation from learned patterns and workarounds, and developing habits of surveillance to inform clinical judgement and decision-making around medication administration. Coaches guide students to scrutinize strategies used to prevent medication errors and mindfully develop habits that contribute to safe medication administration.

**Outcomes:** Pre-test/post-test comparisons will be used to assess the impact of the coaching strategy by measuring differences in learning outcomes that occur between the beginning and end of the 10 week clinical rotation. The comparisons will assess perceived changes in behavioral outcome criteria associated with medication administration as a result of coaching. Steps for pre-test/post-test comparisons include defining learning outcomes, developing a questionnaire to measure the outcomes, administering the pre-test to coaches and students, implementing the coaching strategy, administering the post-test to coaches and students, and analyzing the results.

**Conclusions/Implications:** This project represents a first step toward understanding the impact of coaching on clinical judgement around medication administration. If effective, next steps would be to formalize a coaching protocol and develop best practices around coaching. Collaborative education strategies that enhance clinical judgment in nursing students will contribute to needed progress in medication safety.

---

References:
Reid-Searl, K., Moxham, L., Walker, S., & Happell, B. (2009). Internal conflict: undergraduate nursing students' response to inadequate supervision during the administration of medication. Collegian, 16(2), 71-7.

# EMPIRICALLY EXPLORING THE EFFICACY AND ETHICS OF NURSE-SUPPORTED PRAYER AND MEDITATION

## OVERVIEW: EMPIRICALLY EXPLORING THE EFFICACY AND ETHICS OF NURSE-SUPPORTED PRAYER AND MEDITATION

*Elizabeth Johnston Taylor*

---

## NURSES PRAYING WITH PATIENTS: OPINIONS, FREQUENCY, AND RELATED FACTORS

*Elizabeth Johnston Taylor, Kathy Schoonover-Shoffner,*
*Carla Gober Park, Iris Mamier*

---

## HOW NURSES PRAY WITH PATIENTS

*Iris Mamier, Kathy Schoonover-Shoffner, Carla Gober, Elizabeth Johnston Taylor*

---

## PATIENT RECEPTIVITY TO OFFERS OF PRAYER

*Kathy McMillan, Patti Radovich, Elizabeth Johnston Taylor*

---

## MINDFULNESS: A NURSING INTERVENTION FOR PERINATAL GRIEF IN INDIA

*Lisa R. Roberts, Susanne B. Montgomery*

# EMPIRICALLY EXPLORING THE EFFICACY AND ETHICS OF NURSE-SUPPORTED PRAYER AND MEDITATION

## Overview: Empirically Exploring the Efficacy and Ethics of Nurse-Supported Prayer and Meditation

*Elizabeth Johnston Taylor, PhD, RN*
*Professor*
*School of Nursing*
*Loma Linda University*
*Loma Linda, CA*

**Background:** Although large, randomized clinical trials and meta-analyses of intercessory prayer conclude it does not significantly contribute to positive health outcomes, a growing body of evidence indicates that personal colloquial and meditational prayer are associated with various indicators of adaptation and psychological well-being among persons with health challenges. Further evidence exists for the positive health effects of meditation and other variants of mindfulness. Consequently, many nurses provide or support prayer and/or meditation as a therapeutic. Yet prayer and meditation are essentially religious behaviors. Professional ethics codes admonish nurses to never proselytize their religion while caring for patients. Indeed, the power differential in the clinician-patient relationship and non-ecclesiastical role of the nurse support the argument that clinicians should not introduce their own religion at the bedside.

**Purpose:** Thus, to insure patient safety, there is need for nursing scholarship exploring not only the efficacy, but also the ethics of a nurse supporting prayer or meditation during patient care. This symposium will provide empirical evidence about how nurses introduce and use prayer or meditation during patient care. What do nurses believe about when it is appropriate to initiate an offer of prayer with a patient? How do nurses pray with patients? How do a nurse's personal beliefs effect the use of prayer as a nursing therapeutic? How to patients respond to offers of prayer? How can nurses be taught to employ mindfulness meditation to relieve patient distress? These questions are addressed by the research to be presented in this symposium.

**Methods:** Four symposium presentations will draw from findings from three studies. These include a mixed methods study investigating how nurse religiosity impacts spiritual care, an observational studying of how hospitalized patients respond to massage and offers of prayer, and a study testing the feasibility of a mindfulness intervention.

**Results:** The studies exploring patient perspectives provide indication that prayer and mindfulness can be beneficial and feasible; patients may also welcome them. The study of nurse perspectives indicated that religious nurses varied slightly in their opinions regarding when to initiate an offer of prayer; most agree it is appropriate after they assess or intuit it would be beneficial to the patient. These nurses indicated eagerness to respond to patient requests for prayer with spontaneous, colloquial, spoken prayers.

**Implications:** Knowing how nurses use prayer or meditation with patients is pivotal to understanding if and how best they are to use these therapeutics ethically and effectively. Although questions about if and how nurses ought best to support prayer or meditation remain, these findings can inform debate and further examination of how nurses' personal beliefs and practices are to affect professional practice.

# EMPIRICALLY EXPLORING THE EFFICACY AND ETHICS OF NURSE-SUPPORTED PRAYER AND MEDITATION

## Nurses Praying with Patients: Opinions, Frequency, and Related Factors

*Elizabeth Johnston Taylor, PhD, RN*
*Professor*
*School of Nursing*
*Loma Linda University*
*Loma Linda, CA*

*Kathy Schoonover-Shoffner, PhD, RN*
*Editor*
*Journal of Christian Nursing*
*Wichita, KS*

*Carla Gober Park, PhD, MPH, RN*
*Assistant Professor, School of Religion*
*& Director, Center for Spiritual Life & Wholeness*
*Loma Linda University*
*Loma Linda, CA*

*Iris Mamier, PhD, RN*
*Associate Professor*
*School of Nursing*
*Loma Linda University*
*Loma Linda, CA*

**Purpose:** This study, part of a larger project exploring how a nurse's personal spiritual and religious beliefs affect nursing care, will assess nurse opinions about when it is appropriate to initiate prayer with a patient, quantify nurse beliefs and practices with regard to prayer, and measure how prayer beliefs and practices predict opinions about when to pray with patients and frequency of prayer with and for patients.

**Background:** Prayer, whether conceptualized as an expression of desire to influence some supernatural power or as primary speech that allows the hearing of the Self or as awakening to divine presence, is a pervasive religious practice. About 90% of Americans pray; 55% pray at least once a day. Many nurses pray privately when they seek personal comfort from the distress of continually witnessing patients' suffer; many (as many as 66% in one study) pray privately for patients. A few studies document that some nurses and other clinicians pray *with* patients. Presumably, nurses do not completely leave personal beliefs and practices (like prayer) in a locker when at work.

**Methods:** Using an online survey mechanism accessed from the home page of the *Journal of Christian Nursing*, 297 nurses participated by completing standardized instruments (i.e., Krauss' Prayer Measures, Koenig et al.'s Duke Religiosity Index, Mamier & Taylor's Nurse Spiritual Care Therapeutics Scale) and investigator designed items assessing opinion about appropriateness of initiating an offer of prayer. Participants also completed demographic and work-related items. Uni- and bi-variate analyses were used to statistically analyze data.

**Results:** Respondents were primarily at least 45 years of age (70%), had at least a BSN (72%), and 46% had worked in nursing at least 25 years; 80% self-reported being "spiritual and religious." Only 36% worked in a religiously affiliated institution. When asked when it would be appropriate to initiate an offer of prayer, only 1.3% said *never* and 9.4% *regardless of circumstances*. Most indicated that it would be appropriate only if the patient asked for it or if the nurse assessed or intuited it would be appropriate. These respondents personally prayed on average once per day; frequency of personal prayer was associated with opinion regarding when it is appropriate to pray with patients ($p=0.05$) and correlated with frequency of offering to pray with patients ($r=.28$, $p<.01$).

**Implications:** These findings begin to provide evidence that a nurses' spiritual/religious beliefs and practices are associated with how that nurse provides nursing care. Although the American Nurses' Association *Code of Ethics* calls nurses to respect their personhood (which would include religious motivations), nurses must be educated to recognize how their personal religiosity--for better or for worse, can impact the care they give.

---

Funding: Loma Linda University School of Religion Seed Grant

# EMPIRICALLY EXPLORING THE EFFICACY AND ETHICS OF NURSE-SUPPORTED PRAYER AND MEDITATION

## How Nurses Pray with Patients

*Iris Mamier, PhD, RN*
*Associate Professor*
*Loma Linda University*
*School of Nursing*
*Loma Linda, CA*

*Kathy Schoonover-Shoffner, PhD, RN*
*Editor*
*Journal of Christian Nursing*
*Wichita, KS*

*Carla Gober Park, PhD, MPH, RN*
*Assistant Professor, School of Religion*
*& Director, Center for Spiritual Life & Wholeness*
*Loma Linda University*
*Loma Linda, CA*

*Elizabeth Johnston Taylor, PhD, RN*
*Professor*
*School of Nursing*
*Loma Linda University*
*Loma Linda, CA*

**Purpose:** To describe how nurses respond to a patient overtly requesting prayer. **Background:** Nurse-provided spiritual care is thought to include support of patient religious beliefs and practices. Prayer is a religious ritual that has been shared between patients and religious nurses during past centuries. More recently, evidence from small, descriptive studies indicates that some nurses pray with patients, although many more pray for their patients privately. Currently, there is no description of how nurses pray with patients, when they do. If they have not received guidance from their education, nurses may draw on their own spiritual heritage when responding to a patient request for prayer. If the patient expresses appreciation for the prayer experience, the nurse may be inclined to pray again in a similar situation. There is, however, the possibility of incongruence between nurse and patient values and belief systems. Therefore, the question of how nurses pray for patients when they do, merits further examination. **Methods:** Data from a geographically diverse convenience sample of nurses were collected using an online survey accessed through the home page of the *Journal of Christian Nursing*. Respondents were given a brief vignette describing a surgical patient requesting that the nurse pray with her; they were then prompted to answer, “What would you likely say or do?” and “If you agree to pray, how would you likely pray?” Space was given for typed responses. The self-reported verbatim words and actions taken by nurses were analyzed to evaluate the content of the responses. **Results:** The vast majority of these mostly Christian nurse respondents (N = 167) were willing to pray with the patient described in the vignette, and described a spoken colloquial prayer they would offer. Respondents who did not want to pray with the patient would instead call another person (e.g., chaplain) to pray, or provide an empathic statement. Most described how after initially telling a patient yes (e.g., “I’d be happy to” or “Absolutely!”), they would then assess for what to pray and/or how the patient would like prayer. Content of prayers generally included requests for the patient’s protection, healing, and comfort, as well as guidance for the health professionals. Some respondents described how they would also take the patient’s hand/s while speaking the prayer. Nurses rarely described responses that were authoritative in nature (e.g., “I’ll pray for you, but you have to have faith”). **Implications:** Despite the fact that nurses don’t typically learn how to pray for patients during their academic programs, there is evidence that some nurses are willing to provide prayer upon patient request to support patient spiritually. Although there is the possibility for unclear boundaries between a nurse’s personal religiosity and professional care, lessons can be learned from practicing nurses who have found ways to support their patients spiritually though prayer. Rather than leaving nurses alone in figuring out how to do this well, it is important that nursing education addresses the ethical pitfalls and provides guidance for an ethical way of providing spiritual support through prayer.

# EMPIRICALLY EXPLORING THE EFFICACY AND ETHICS OF NURSE-SUPPORTED PRAYER AND MEDITATION

## Patient Receptivity to Offers of Prayer

*Kathy McMillan, MA, RN*
*Director, Employee Spiritual Care*
*Loma Linda Medical Center*
*Loma Linda, CA*

*Patti Radovich, PhD, RN*
*Director, Nursing Research*
*Loma Linda Medical Center*
*Loma Linda, CA*

*Elizabeth Johnston Taylor, PhD, RN*
*Professor*
*School of Nursing*
*Loma Linda University*
*Loma Linda, CA*

**Purpose:** This presentation will address the following questions: From the patient perspective, what characteristics do health care providers need to have if they are to accept the offer of prayer? How frequently do patients accept offers of colloquial prayer from a massage therapist? How helpful is this prayer, from the patient perspective? How frequently do patients want to be prayed with by a hospital employee?

**Background:** Roughly half of Americans report they pray about their health. Whereas not all patients expect or desire their health care provider to provide spiritual care, many do. Those who are particularly eager to receive inquiries about their spiritual well-being or offers of prayer from a physician are those who are religious, elderly, or living with a life-threatening condition. Little is known about know how hospitalized patients perceive an offer of prayer from non-physician clinicians.

**Methods:** This project sought to evaluate the quality of nurse-supervised Swedish massage therapy after which the massage therapist offered to pray with the patient. Data presented for this presentation were collected via investigator-designed surveys completed by patients and therapists after a massage was provided. The sample was comprised of patients (N=124) admitted to a medical/surgical unit at a faith-affiliated university hospital. Data were statistically analyzed using frequencies and measures of central tendency.

**Results:** Participants, 58% who were female and 38% of whom lived with chronic pain, varied in age from 18-91. Of the 87 patients who were offered prayer, 90% accepted and 76% reported it as *helpful*; furthermore, 80% responded that they would have *felt comfortable* saying no to the offer of prayer. Indeed, 53% indicated they would “like to have someone at this hospital” pray with them *daily*. When asked about what were requisites of the health care provider who were to pray with them, 80% of patient respondents agreed *they must first show me genuine kindness and respect*; the majority disagreed with other requisites such as *be from the same religious background as me*.

**Implications:** If generalizable, these results provide evidence that most hospitalized patients may accept an offer of prayer from a clinician, and find it helpful; over half wanted to continue to receive a prayer every day from a clinician. These results address the concern of some that patients accept prayer from a clinician because they fear saying no. For those wanting prayer, it may be encouraging to clinicians to know that what a patient most wants from them is kindness and respect rather than shared spiritual perspective or training. Together, these findings provide strong support for non-chaplain clinicians’ offering prayer to hospitalized patients.

---

Funding: Loma Linda University Medical Center

# EMPIRICALLY EXPLORING THE EFFICACY AND ETHICS OF NURSE-SUPPORTED PRAYER AND MEDITATION

## Mindfulness: A Nursing Intervention for Perinatal Grief in India

*Lisa R. Roberts, Dr.PH, MSN, RN, FNP-BC, CHES*
*Associate Professor*
*Loma Linda University, Graduate Nursing*
*Loma Linda, CA*

*Susanne B. Montgomery, PhD, MPH, MS*
*Associate Dean of Research*
*School of Behavioral Health*
*Loma Linda University*
*Loma Linda, CA*

**Purpose:** To explore the efficacy of a nurse led, culturally adapted, mindfulness-based intervention for perinatal grief among poor women who experienced stillbirth in rural, central India.

**Background:** Mindfulness-based stress reduction (MBSR) is an empirically sound intervention that has been utilized for a broad range of physical and mental health problems, and is adaptable to specific populations. The main objective of this pilot study was to explore the feasibility and effectiveness of a shortened, culturally adapted mindfulness-based intervention to address complex grief after stillbirth. Stillbirth is a significant public health problem in low to middle income countries and results in perinatal grief, often with negative psychosocial impact. In low-resource settings, such as rural, central India, where needs are high, it is imperative to utilize low-cost, effective interventions that can be delivered by nurses, as they are more readily available than mental health professionals and are less stigmatizing to participants.

**Methods:** We used an observational, pre-post, 6-week post study design. Interview measures included descriptive demographics and validated scales (Five Facet Mindfulness Questionnaire Short Form, Hopkins Symptoms Checklist-10, Satisfaction with Life Scale, Short-form Brief RCOPE, Social Provisions Scale, and Perinatal Grief Scale). Structured interviews were conducted due to low literacy rates. We used a community-participatory-approach to culturally adapt a five-week mindfulness-based intervention and trained two local nurses to deliver the intervention. The adaptation included rigorous translation; including cultural concepts by using colloquial expressions, local metaphors and examples; and delivering the intervention in a blended format consisting of individual, dyad, and group sessions. Quantitative and qualitative data analyses explored study outcomes as well as acceptability and feasibility of the intervention. General linear modeling repeated measures analyses was used to explore changes from baseline, controlling for significantly correlated demographic variables.

**Results:** Twenty-nine women with a history of stillbirth participated and attrition was low (10.3%). Pretest results included elevated psychological symptoms and high levels of perinatal grief. The mindfulness-based intervention was associated with a significant reduction in perinatal grief. Concepts of mindfulness were difficult to translate. However, by engaging in the translation committee, the local nurses found that it enhanced their own understanding of the mindfulness training they had received. The nurses indicated that the participants were receptive and engaged but hesitant to express their inner thoughts and experiences.

**Discussion:** The shortened, culturally adapted, mindfulness-based intervention was effectively delivered by nurses, was well received. We found significant reductions of perinatal grief and mental health symptoms over time, as well as a high degree of practice of mindfulness skills by participants. This study supports the delivery of mental health care by nurses and points to a promising intervention with the potential to be taken to scale for wider delivery in this high need environment.

**Implications:** Capacity building among local nurses enhances the possibility of sustainability. Utilizing nurses who are culturally knowledgeable is essential to the delivery of this efficacious, low cost intervention.

---

**Funding:** Loma Linda University, School of Nursing seed grant

# END-OF-LIFE AND PALLIATIVE CARE

## HOSPITAL NURSE PALLIATIVE CARE PERCEPTIONS AND EDUCATIONAL NEEDS

*Diane Drake, Margie Whittaker*

---

## NICU NURSES' PERCEPTIONS OF EOL CARE OBSTACLES AND SUPPORTIVE BEHAVIORS

*Renea L. Beckstrand, Ann Rogerson, Karlen E. (Beth) Luthy, Janelle L. B. Macintosh, Lacey Eden*

---

## COPING STRATEGIES OF HOSPICE NURSES: A QUALITATIVE EVALUATION

*Karen de la Cruz, Emma Brague Robinson, Barbara Heise*

---

## THE EFFECTIVENESS OF A PALLIATIVE CARE CONSULT FOR PATIENTS WITH ACUTE HEART FAILURE

*Carole Nicole Muenzer, Muriel Schonbachler, Lorraine Evangelista*

---

## SUFFERING AND DYSPNEA SYMPTOM DISTRESS IN END STAGE LUNG CANCER

*Jane M. Georges, Roger Strong, Cynthia D. Connelly*

---

## CULTURAL VALUES INFLUENCING BEREAVEMENT IN MEXICAN AMERICAN FAMILIES

*Audrey Russell-Kibble*

## Hospital Nurse Palliative Care Perceptions and Educational Needs

*Diane Drake, PhD, RN*
*Nurse Research Scientist*
*Mission Hospital*
*Mission Viejo, CA*

*Margie Whittaker, RN, MSN*
*Palliative Care Coordinator*
*Mission Hospital*
*Mission Viejo, CA*

**Purpose:** The purpose of this study was to investigate hospital nurse palliative care perceptions and evaluate educational needs during the introduction of a palliative care program. The specific aims of this study were to investigate and report hospital staff perceptions and knowledge about palliative care practices.

**Background:** The Centers for Disease Control and Prevention reports that fifty percent of all adults living in the United States have at least one significant chronic illness and that seventy five percent of all healthcare costs are due to managing chronic conditions. Many patients requiring palliative care are admitted to community hospitals. Palliative care is an important component of holistic patient care in community hospital practice. Successful strategies to improve hospital palliative care may include a combination of two approaches including a generalist approach (hospital wide program) and specialists with palliative health care credentials and focused palliative care practices. Palliative care specialists have expertise and maintain continuing education in palliative care, while generalists have a wide variety of educational palliative care needs and clinical experiences. Assessment of palliative care educational needs of the general hospital staff can be useful to determine appropriate educational strategies, measure education outcomes, and evaluate the impact of the specialist palliative care program over time.

**Methods:** A descriptive survey design was used. Human subject approval was granted from the hospital institutional review board. The study was a convenience sample of hospital nurses. The study survey included descriptive information items, sacred encounters during palliative care items, and the Lazenby end-of life professional caregiver survey that includes: patient and family centered communication, effective care delivery, and cultural and ethical values. Statistical analysis was accomplished using the Statistical Package for Social Services for Mac version 21.0. Qualtrics was used for electronic survey generation and anonymous data retrieval.

**Results:** There were 84 completed surveys by hospital nurses. Seventy percent of nurses reported spending less than twenty five percent of their practice in palliative care. Forty percent of nurses reported the hospital adequately provided palliative care. Using a 5-point scale, average score ranges were: patient and family-centered communication (3.61 - 4.48), cultural and ethical values (3.33 - 4.48), effective care delivery (2.48 - 4.09), and sacred encounters (3.64 - 4.11).

**Implications:** The lowest scores were reported for effective care delivery indicating educational strategies may improve by focusing on clinical sessions. Formal and informal educational programs including lunch and learn, conference days, and lecture integrated with existing programs have been provided by the palliative care staff. Repeated evaluation of palliative care perceptions and educational needs will be conducted annually for the next two years.

# END-OF-LIFE AND PALLIATIVE CARE

## NICU Nurses' Perceptions of EOL Care Obstacles and Supportive Behaviors

*Renea L. Beckstrand, PhD, RN, CCRN, CNE*
*Ann Rogerson, FNP-C, RN*
*Karlen E. (Beth) Luthy, DNP, FNP-C, FAAN*
*Janelle L. B. Macintosh, PhD*
*Lacey Eden, FNP-c, RN*
*Brigham Young University*
*Provo, UT*

**Purposes:** To determine the largest obstacles and supportive behaviors in NICU EOL care.

**Background:** Losing an infant is difficult for parents to face. To improve EOL care for dying neonates and their families, NICU nurses need to overcome obstacles and implement supportive behaviors. Understanding the size of obstacles and supportive behaviors will better enable NICU nurses to provide quality EOL care.

**Methods:** A descriptive quantitative study of a random national sample of 1058 NICU nurses who were members of NANN (National Association of Neonatal Nurses). The *National Survey of NICU Nurses' Perceptions of End-of-Life Care* questionnaire was mailed twice yielding 234 usable questionnaires for a response rate of 26%.

**Results:** Three themes emerged in the top rated obstacles: (a) obstacles related to families, (b) obstacles regarding language and communication, and (c) obstacles concerning ethical dilemmas. The lowest rated obstacles were nurses believing life-saving measures/treatments were prematurely discontinued and unit visiting hours being too liberal. The top eight supportive behaviors included helping families cope with the infant's death and those involving helpful physician behaviors. Lowest rated supportive behaviors were those related to the nurses' own family death experiences and behaviors promoting nurse convenience.

**Implications:** Obstacles and supportive behaviors for NICU EOL care have been identified. Issues regarding families, communication, and ethical dilemmas need to be addressed. Efforts should be made to more quickly align the plan of care with the projected outcome to limit both infant suffering and nurse distress from inappropriate use of life-extending measures.

# END-OF-LIFE AND PALLIATIVE CARE

## Coping Strategies of Hospice Nurses: A Qualitative Evaluation

*Karen de la Cruz, MSN*
*Assistant Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Emma Robinson, SN*
*Student*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Barbara Heise, PhD*
*Associate Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

**Purposes/Aims:** The purpose of this pilot study was to explore coping strategies of hospice nurses.

**Rationale/Conceptual Basis/Background:** As baby boomers age, the need for hospice care is dramatically increasing. In addition to providing empathetic, compassionate end-of-life care, hospice nurses also deal with their own emotional needs associated with the death of patients. Hospice nurses experience compassion fatigue, a type of burnout described as losing the ability to nurture. Compassion fatigue is related to repeated exposure to trauma and tragedy when caring for patients. It is essential to identify coping strategies in order to prevent compassion fatigue and retain hospice nurses in the profession.

The literature regarding hospice nurses and compassion fatigue is relatively limited. Several studies indicate hospice nurses are at an increased risk for compassion fatigue, but little has been said about coping strategies. This qualitative pilot study took the next step of exploring the coping strategies of hospice nurses. Knowing how hospice nurses cope is key to helping future nurses in this field protect themselves against compassion fatigue.

**Methods:** A convenient sample of hospice nurses discussed coping strategies in a semi-structured focus group interview. The group met in a healthcare facility conference room. The interview was audio-recorded, transcribed and reviewed. Data was subsequently organized, categorized and coded by the three researchers independently. Research team meetings were then held to discuss findings and identify themes.

**Results:** Three themes were identified: Spirituality, Social Support, and Self-Care. Every topic was mentioned by every participant in the focus group. There is some overlap in categories. For example, one participant stated "I can't cope with this job without being close to God," which could be considered under both spirituality and self-care.

**Implications:** Compassion fatigue takes its toll on nurses' professional effectiveness and personal well-being and can ultimately lead to the nurse leaving hospice nursing. Thus, prevention and treatment are of the utmost importance. Identifying ways hospice nurses cope with job stressors has the potential to decrease compassion fatigue. By identifying coping strategies, hospice nurses and the companies they belong to will be better equipped to prevent compassion fatigue. A culture of openly discussing coping strategies along with in-service education and support groups for employees implemented by hospice companies may ensure employee well-being.

---

Funding: This study was funded by a grant from the Office of Research and Creative Activities Grant #15098, Brigham Young University.

## The Effectiveness of a Palliative Care Consult for Patients with Acute Heart Failure

*Carole Nicole Muenzer, RN*
*Chair of the Nursing Research Council and TRAIN Fellow*
*Providence Little Company of Mary - Torrance, CA*

*Muriel Schonbachler, RN, BSN, CHFN, CCM*
*CHF Coordinator and Educator*
*Providence Little Company of Mary*
*Torrance, CA*

*J. Nicholas Dionne-Odom, PhD, RN, ACHPN*
*Postdoctoral Fellow, School of Nursing*
*University of Alabama at Birmingham,*
*Birmingham, AL*

**Purpose/Aims:** To examine interventions aimed at improving psychological outcomes (e.g., caregiver burden, quality of life, anxiety, depression, perceived control, stress mastery, caregiver confidence and preparedness, and caregiver mastery) in family caregivers of patients with heart failure (HF).

**Background:** Caregivers of patients with HF have been found to often lack necessary resources to meet patients' complex needs and report feeling unprepared for the caregiving role and inadequately supported by the healthcare team. Given the substantial time allocated to performing caregiving tasks, caregivers often have less time for caring for themselves and their relationships which can ultimately have a marked impact on their psychosocial and physical health. Therefore, it is vital to support family caregivers with evidence-based, field tested programs, not only for their own mental and physical well-being, but also because of the critical role they play in delivering daily care to the patient with HF.

**Methods:** Using the methodology and criteria recommended by Ganong (1987) (e.g., purpose, inclusion criteria, literature search sampling decisions, systematic analysis and reporting), we conducted an integrative review of the literature to identify studies of original research focusing on interventions to support family caregivers of patients with HF published between January 2005 and September 2015. Publications were screened using the following criteria: (i) implementation of a randomized controlled trial of a non-pharmacological intervention to improve psychological outcomes in caregivers of persons with HF; (ii) caregivers received an intervention with or without the involvement of the patient with HF; (iii) written reports in the English language; and (iv) measurement of psychological outcomes in caregivers of patients with HF. Studies were excluded that focused on evaluation of interventions for caregivers of patients requiring surgical interventions or left ventricular assist devices to manage HF. Data extracted from identified studies included study design, sample and setting characteristics, outcomes assessed, and main findings.

**Results:** Eight studies meeting the inclusion criteria were included in the review. The most common intervention involved psychoeducation facilitated by a nurse (6/8) and supplemented with a combination of follow-up face-to-face sessions (2/6), home visits (2/6), telephone calls (3/6), and telemonitoring (3/6). Two studies used a support group intervention of 4-6 sessions. The duration of the intervention (including follow-up) for the 8 studies ranged from 1 to 12 months. Half of the interventions reported a significant effect on one or more primary outcomes, including caregiver burden (n=4), depressive symptoms (n=1), stress mastery (n=1), caregiver confidence and preparedness (n=1), and caregiver mastery (n=1).

**Implications:** Compared to dementia and cancer family caregiving, few interventions have been evaluated in caregivers of patients with HF. Of the existing interventions identified in this review, considerable variability was observed in aims, intervention content, delivery methods, duration, intensity, methodological rigor, outcomes, and effects. Given this current state of the science, direct comparison of HF caregiver interventions and recommendations for clinical practice are premature. Thus, research priority is strongly warranted for intervention development and testing to enhance HF caregiver support and education.

---

**Funding:** The authors would like to acknowledge funding from the National Heart, Lung, and Blood Institute (1R01HL093466-05) and from the Swedish Research Council for Medicine and Health and the Swedish Research Council for Health, Working Life and Welfare.

# Suffering and Dyspnea Symptom Distress in End Stage Lung Cancer

*Jane M. Georges, PhD, RN*
*Associate Professor*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

*Roger Strong, PhD, RN, ACHPN, FPCN*
*Advanced Practice Nurse*
*Veterans Administration Medical Center*
*San Diego, CA*

*Cynthia D. Connelly, PhD, RN, FAAN*
*Professor*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

**Purposes/Aims:** The overall purpose of this qualitative study was to explore the nature of the lived experience of suffering and dyspnea symptom distress at end of life in a group of adults with end stage lung cancer. The aims of the study were to 1) explore the perceived meaning of suffering; 2) explore the perceived meaning of dyspnea symptom distress.

**Rationale/Conceptual Basis/Background:** The nature of suffering with concurrent symptom distress at end of life remains relatively understudied. Although the term "suffering" is frequently used in the palliative care discourse as a key focus of nursing research, very little is known regarding its lived experience in end of life patients. Additionally, dyspnea remains a prominent distressing symptom in end stage lung cancer patients. Currently, no published reports exist regarding the nature of the lived experience of suffering and dyspnea symptom distress in the end-stage lung cancer population.

**Methods:** Design. As part of a larger study investigating a specific intervention to decrease dyspnea in end stage cancer patients, qualitative interviews were conducted. A descriptive phenomenological approach was used to achieve the study aims.

Sample. The sample consisted of 11 adult inpatients diagnosed with end-stage lung cancer. Inclusion criteria were: 1) persons age 18 and above admitted to an inpatient hospice unit: 2) diagnosis of end-stage lung cancer.

Data Collection Procedures. Following the obtaining of written, informed consent, a private, recorded, semi-structured interview was conducted using questions congruent with the specific aims. A sample question was, "Tell me about any suffering you might be experiencing." Follow-up probes were used, although most interviews were kept brief due to the nature of the study population.

Data Analysis. Following transcription of the interviews, analytic strategies proposed by Colaizzi (1978) were utilized to elicit a description of the phenomena of suffering and dyspnea symptom distress. Significant statements and theme clusters were used to identify overall themes describing the phenomena under study.

**Results:** Eleven adult inpatients completed the interview. A major concern and a source of psychological suffering was the effect of their illness upon others. A principal theme that emerged to describe suffering included "being a burden to others." The experience of dyspnea was described as "Horrible, sheer fright, that is it." The theme that emerged was that of closeness to mortality, with dyspnea characterized as "a reminder of how close the end is."

**Implications:** The main findings of suffering experienced as being a burden to others and dyspnea experienced as closeness to mortality provide a more enhanced, deeper description of the lived experience of persons with end stage lung cancer than is currently documented. Results from this study provide a basis for future research for investigations of more effective ways to decrease suffering and dyspnea symptom distress in this population.

# END-OF-LIFE AND PALLIATIVE CARE

## Cultural Values Influencing Bereavement in Mexican American Families

*Audrey Russell-Kibble, DNP, RN, FNP-C*
*Clinical Assistant Professor*
*The University of Arizona*
*College of Nursing*
*Tucson, AZ*

**Purpose:** To describe the influence of cultural values on Mexican American families as they relate to death, dying, grief, bereavement and spirituality thereby promoting culturally competent nursing care to this vulnerable population.

**Background:** The Mexican origin population is the largest minority in the United States (US) at this time, counted as 11% of the total US population. Nurses support families through the universal experiences of death and dying, bereavement and grieving. Providing culturally competent care to the Mexican American community during times of loss requires specific knowledge of Mexican cultural values that underpin their beliefs. The cultural values of *familismo* (familism), *fatalismo* (fatalism), *respeto* (respect), *confianza* (confidence), *personalismo* (personal relationship), and *spiritualidad* (spirituality) originate from traditional values rooted in Aztec, and Spanish/Roman Catholic influences. These cultural values contribute to Mexican American families identifying with a Continuing Bonds model of grieving wherein surviving family members celebrate the memories of their loved ones.

**Description of Approach to Best Practice:** A best practice approach for delivering culturally competent care to Mexican American families is presented with Mexican cultural values guiding the foundation of the model.

*Familismo, fatalismo:* A cultural value placing the needs of the family before the needs of the individual and the belief events happen the way they are supposed to happen underpin a pattern of values providing support to Mexican American families during times of bereavement.

*Respeto, confianza, personalismo:* A sense of personal relationship with those providing care is important in Mexican American culture. Learning about the influence of cultural values and the rules of engagement when caring for Mexican American families experiencing death and dying, or bereavement can promote confidence in nurses.

*Spiritualidad:* Maintaining the memory of their loved one is crucial for Mexican American families.

Specific strategies for recognizing normal vs. complicated grief, for improving cultural sensitivity of nurses to Mexican cultural values, and how cultural values may be used to offer culturally competent care are presented. Reference materials that support what nurses need to know are provided.

**Outcomes:** This poster outlines a best practice model to inspire nurses to demonstrate cultural sensitivity when caring for Mexican American families experiencing death and dying or facing bereavement. Specific examples of how to demonstrate respect and offer support to Mexican American families are provided. The poster is illustrated with photography taken by the researcher as data collected during an ethnographic study.

**Conclusions:** Mexican American people believe the feelings they have are greater; deeper than those of other cultures: the entire world feels the pain of loss, but Mexicans feel it more. Nurses' awareness, understanding and appreciation of the importance of cultural values to grieving Mexican American families, can lead to the provision of culturally competent care with demonstrated respect to increase confidence and a sense of personal relationship with nurses this community so desires. This best practice model is expected to improve the culture of caring nurses provide to Mexican American families during times of death and dying, grief and bereavement.

# ENGAGING HARD-TO-REACH POPULATIONS IN RESEARCH

## OVERVIEW: ENGAGING HARD-TO-REACH POPULATIONS IN RESEARCH: IMPLICATIONS FOR NURSING RESEARCH

*Christine Samuel-Nakamura, Casey MacGregor, Tykeysha Thomas, Patricia Leads, Sharon Fay Cobb, Felicia Schanche Hodge*

## UNIQUE RESEARCH ENGAGEMENT WITH AMERICAN INDIANS WITH CANCER PAIN

*Felicia Schanche Hodge*

## OBTAINING STAKEHOLDER'S GUIDANCE IN MENTAL HEALTH RESEARCH WITH MINORITY POPULATIONS

*Sharon Fay Cobb*

## RESEARCHING DISADVANTAGED GROUPS USING A STORYTELLING TRADITION

*Tykeysha Thomas*

## RECRUITING AND ENGAGING YOUNGER VETERANS IN QUALITATIVE RESEARCH

*Casey MacGregor*

## SYMPTOM BURDEN IN LATINOS WITH CHRONIC HEART FAILURE

*Patricia Leads*

## Engaging Hard-to-Reach Populations in Research: Implications for Nursing Research

*Christine Samuel-Nakamura, PhD*
*Postdoctoral Fellow*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Casey MacGregor, PhD, ACSW*
*Postdoctoral Fellow*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Tykeysha Thomas, MSN, PhDc*
*Pre-doctoral Research Fellow*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Patricia E. Leads, MSN, PhDc*
*Pre-doctoral Research Fellow*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Sharon Cobb, RN, MSN, PHN*
*Pre-doctoral Research Fellow*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Felicia Schanche Hodge, DrPH, MPH*
*Professor*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Purpose:** Our aim is to present successful methodological approaches in accessing, recruiting and engaging hard-to-reach vulnerable populations in nursing research: American Indians, Veterans under age 35, minority college students experiencing micro-aggressions, Latinos with chronic heart failure, and older African Americans with serious mental illness (SMI).

**Background:** Due to numerous historical and socio-cultural experiences, there is a high level of mistrust from vulnerable populations regarding research studies. Further, vulnerable populations – especially in rural communities and/or with significant health and mental health burdens – are more challenging to reach, access and engage in studies. Learning from nurse researchers around engagement is relevant in this context.

**Methods:** Qualitative methods involving in-depth interviews assessed challenges around disability compensation for young Veterans. Qualitative methods in the form of narrative storytelling were also used to collect data on micro-aggressions with disadvantaged college students. Surveys and secondary chart reviews were utilized for African American individuals with SMI. In-home surveys captured Latinos with CHF. A random control trial (RCT) employing mixed methods was conducted at reservations and urban sites to study American Indians. Study participants drew pictures to describe and illustrate their cancer-related pain.

**Results:** Presentations describe novel methods for recruiting and accessing hard-to-reach populations. One study offers culturally-sensitive methods regarding the engagement of American Indians in a study about cancer pain. A nurse scholar shares her experience entering the family homes of Latinos afflicted with chronic heart failure. Another nurse scholar describes the engagement of community stakeholders with reaching African Americans with SMI. Another study describes using student support groups and snowball sampling to reach a specific sample of younger Veterans. Finally, a nurse scholar conducting research with minority college students employs storytelling techniques to better engage the population. Navigation of research ethics with these various methods are also described.

**Implications:** These research studies offer unique insight into engaging several distinct vulnerable populations in nursing research. The use of relevant and culturally-sensitive approaches are essential to reaching hard-to-reach populations.

# ENGAGING HARD-TO-REACH POPULATIONS IN RESEARCH

## Unique Research Engagement with American Indians with Cancer Pain

*Felicia Hodge, DrPH*
*Professor, School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Purpose:** The purpose of this presentation is to describe the findings of a mixed RCT study on cancer symptom management among Southwest American Indians, with a particular focus on participant's drawings to communicate and memorialize their cancer pain and experience.

**Background:** Pain is a common symptom among cancer patients and survivors. For American Indians, hardships facing the individual, family, or community is seldom discussed thus cancer patients may suffer in silence. Communicating experiences of cancer-related pain to family members, caregivers and to providers can become difficult due to culture-bound responses to hardship, illness beliefs, and pain scales that inadequately describe pain.

**Methods:** A random control trial (RCT) employing mixed methods was conducted at 3 reservations and 2 urban sites in Arizona. Focus groups prior to the intervention testing phase sought to identify the types and descriptors of cancer-related pain. Thirteen focus groups were held with a total of 132 American Indian participants. In addition to focus group discussions, several cancer survivors submitted a drawing of their cancer pain as a means of communicating their experience. This mimics the "ledger art" reported during early reservations days, where American Indians memorialized their experiences on the back or margin of military artillery ledgers. Study findings informed the intervention materials and data collection tools.

**Results:** American Indian cancer survivors drew pictures of their cancer-related pain as a means to better communicate and their experiences. These pictures were identified pain as sharp, stabbing, fire, lightening, and jagged was memorialized in artwork as pictures of fire, lightening, stylized artwork, and of household and family home sites.

**Implications:** Understanding the pain that cancer patients/survivors experience is important so that measures and tools used to collect data and to evaluate interventions are appropriate for the population. This unique research engagement yielded much information to help nurses and clinicians effect change that will improve communication and help to provide treatment to stop or control the cancer-related pain.

---

Funding: Support by a grant from the National Cancer Institute, NIH, R01 CA115358.

# ENGAGING HARD-TO-REACH POPULATIONS IN RESEARCH

## Obtaining Stakeholder's Guidance in Mental Health Research with Minority Populations

*Sharon Cobb, MSN, RN*
*Pre-Doctoral Fellow*
*University of California, Los Angeles*
*School of Nursing*
*Los Angeles, CA*

**Purpose:** This presentation highlights the advantages of utilizing community stakeholders in mental health research, especially among vulnerable populations. Minority groups diagnosed with mental illness may face discrimination, poverty, and inequality, leaving them powerless and marginalized. Yet, the interest and participation of community stakeholders in this research can produce effective interventions for improved quality of life and health outcomes for these individuals. In light of recent national and global events, there is a critical need for research in mental health with this disenfranchised group, which can be answered from both affected individuals and community stakeholders.

**Background:** Complexities in the current healthcare environment require researchers to readily identify and examine evolving needs of various groups, especially vulnerable populations. Little is known about the health profile of minority adults affected by mental illness. This population may be harder to access due to being stigmatized and participating in risky behaviors, such as polysubstance abuse and unsafe sexual activities. Unfortunately, they face homelessness and incarceration at higher rates compared to the general population, justifying the significance of stakeholder engagement in mental health research. Community stakeholders are invested in finding positive solutions to their community's issues and can assist researchers in lending a "voice" to these individuals. They can easily facilitate access and engagement with community centers and specialized resources, which may be more difficult for an independent researcher.

**Method:** A research study examined the health profile of minority adults with mental illness utilizing both self-report and medical chart abstraction. The population of study are aging African Americans, ages 45 years and older, that are diagnosed with a mental illness. Before data collection occurred, community stakeholders were identified informing the researcher's decision-making of data collection methods, including survey questions. It is important that all issues and expectations of the stakeholder/s be identified before collaboration.

**Results:** Community stakeholders may be accessed in a variety of locations, including workers at mental health clinics and agencies, public health officials, and mental health nurses. Working with stakeholders can benefit mental health research in various ways and enhance the credibility and legitimacy of research studies. They can become heavily invested in the study, providing ideas and gaining buy-in and support from potential participants.

**Implications:** To improve policy and further research for this population, investigators must gather data that is both comprehensive and cost-effective. Establishing a trustful partnership with stakeholders can provide this type of data that is mutually beneficial to the mental health research and the community. Disseminating research findings guided by the perceptions of stakeholders will not increase the community's social capital, but lead to future policy and education that will directly benefit these individuals.

---

**Funding:** Supported by the National Institute of Nursing Research (NINR) T32 NR007077.

# ENGAGING HARD-TO-REACH POPULATIONS IN RESEARCH

## Researching Disadvantaged Groups Using a Storytelling Tradition

*Tykeysha Thomas, MSN, RN, PhD Student*
*University of California, Los Angeles*
*Los Angeles, CA*

**Purpose:** Efforts to increase research participation among disadvantaged populations for inclusivity and to better understand disadvantaged and understudied groups are often met with skepticism, distrust, and can result in poor recruitment turnout and/or high attrition rates. A history of exploitation and unethical treatment by researchers may inhibit participation in studies. Steps to increase the willingness of disadvantaged groups to participate in research may rest with inclusion of their cultural practices in research designs. One such practice is the tradition of storytelling which is still a common practice among several disadvantaged groups. This presentation discusses the innovation of using storytelling to engage disadvantaged groups in research.

**Rationale:** Storytelling is a method that has been employed over the centuries as a vehicle to pass intergenerational knowledge, particularly among disadvantaged groups. Storytelling preserves and transmits cultural histories, practices, and beliefs. Disadvantaged groups also use storytelling as a communication tool to address sensitive issues such as lessons of safety and self- perseverance against perceptions of cultural attacks. Members of disadvantaged groups engaged in storytelling sessions have a sense of ease, trust, and connectivity with one another as people that have had similar perceptions and outcomes from like experiences. Storytelling has the potential for researchers to gather data and communicate respect for disadvantaged groups and their culture while invoking that same sense of ease, comfort, and connectivity among participants.-

**Methods:** A qualitative approach to collecting data on micro-aggressions among college students from disadvantaged groups was conducted. Adult college students, aged 21-40, engaged in a series of storytelling sessions defining micro-aggression from their perspectives, personal micro- aggression experiences, and intergenerational stories of micro- aggressions. The analysis categorized these experiences to demonstrate the evolution of micro- aggressions that persist and in particular inform the unique characteristics of the micro-aggression experience by topic, setting, and circumstances.

**Results:** Research designs that are culturally sensitive and respectful of targeted disadvantaged groups have shown improved recruitment response and lower attrition rates among those groups. Storytelling as a data collection tool provided richer data that may not have been accessible by any other means as participants relayed stories in such detail and vividness that may have been withheld in more traditional and unfamiliar research settings.

**Implications:** Storytelling sessions can be informal events held by disadvantaged groups to share stories on topics that may seem superficial and meaningless to others, however the sessions have significance beyond the spoken word. Storytelling involves forwarding the essence of disadvantaged groups' collective being, their cultures. Storytelling as a research tool shifts the focus from researchers' viewpoints allowing participants and their conversations with one another to be the focus of data collection efforts. Storytelling requires researchers to assume a more collaborative role with their intended participants, taking a more passive role in the data collection process, and sharing their power over the research process with the disadvantaged group and/or study participants.

---

Funding: National Institute of Nursing Research (NINR) T32 NR007077 and the Institute of American Cultures, UCLA Institute of American Cultures, Asian American Studies Center, and Bunche Center for African American Studies, University of California, Los Angeles.

## Recruiting and Engaging Younger Veterans in Qualitative Research

*Casey MacGregor, PhD, ACSW*
*Postdoctoral Fellow*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Background:** U.S. Veterans often express distrust of the Department of Veterans Affairs (VA) and of research activities connected to VA programs. Engaging Veterans and younger populations in research studies about health and mental health perceptions is also a challenge. Recently returned Veterans experience many health and mental health problems post-deployment. Simultaneously, they are applying and appealing for Veterans disability compensation (VDC) from the VA at rapidly increasing rates. Little is known about how recently returning Veterans – especially younger Veterans – experience the process of pursuing disability compensation from the VA.

**Purpose:** A qualitative study was conducted to explore the experiences and perceptions of young Veterans pursuing VDC. The presentation will describe recruitment efforts to identify this specific population. Engagement during the research process will also be considered.

**Methods:** In-depth in-person qualitative interviews were conducted with Veterans age 35 and under, residing in the greater Los Angeles area, who received "unsatisfactory ratings" for disability compensation by the VA. Grounded theory methodologies were employed to analyze data and identify emerging themes.

**Results:** Veterans described complex emotional and physical barriers when pursuing VDC, including feelings of shame about perceived weakness. Recruiting this specific population occurred through engagement and trust-building with college Veteran organizations and transitional living residences for Veterans. Engagement during the interview process included the use of a younger female interviewer with knowledge about the VA and mental health conditions, willingness to travel to convenient locations for participants, allowing for second interviews and frequent pre-interview telephone conversations.

**Implications:** Anticipating and addressing concerns from research participants is important in building trust. Identifying cultural groups and nontraditional settings are important in locating participants. Consideration of age and gender of qualitative interviewer may be especially salient when interviews are conducted with younger groups and around topics of mental health issues.

---

Funding: This work was supported by the National Institute of Health (NIH)/Nursing Research (NINR) T32 NR007077.

# ENGAGING HARD-TO-REACH POPULATIONS IN RESEARCH

## Symptom Burden in Latinos with Chronic Heart Failure

*Patricia E. Leads, PhD(c), RN, FNP-BC*
*T32 Predoctoral Fellow, University of California, Los Angeles*
*School of Nursing*
*Los Angeles, CA*

Experts estimate that 8 million people will be afflicted with chronic heart failure (HF) by 2030. Latinos develop HF at an earlier age, are often underinsured, experience higher hospital readmission rates and demonstrate worse health outcomes compared to non-Latino HF patients. Compared to the US population, Latinos have the poorest health care coverage, least consistent access to medical care, and the most difficulty paying for health care.

Since HF patients often experience numerous symptoms simultaneously, understanding symptoms and the burden these symptoms have on the individual is vital in delivering effective care. Researchers found that when asked the majority of patients with HF felt that relief of symptoms was more important than survival. This finding suggests the importance of symptom management from the perspective of the person afflicted with HF. With the anticipated growth of Latinos in the US there is a need to expand existing knowledge of HF in the Latino population. This includes understanding symptoms and symptom burden in Latinos with HF.

This study addresses the need for effective symptom burden measures that illustrates symptom burden in Latinos with HF versus mere presence or absence of symptoms. The study takes a unique approach to assess HF symptoms among patients by collecting data in the home site. Where previous research report data collection activities are coordinated at the medical center or via the telephone, this study demonstrates the innovation in engagement via data collection in the environment of choice of the participant. Researchers then administer the measures that assess and evaluate symptom burden in the Latino HF population.

Finding ways to recruit and engage potential study participants can be challenging. Being flexible in the approach to recruit and collect data is necessary to encourage hard to reach individuals or groups to participate in research. One strategy may be to engage participants in their choice of environment during data collection. For example, interviewing participants in their home rather than a clinic may be a satisfactory option for both the investigator and the participant. This study uses a mixed methods design and addresses barriers to validity and reliability in measures that may contribute to lack of access to healthcare. Entry into the family homes to collect data of interest may expand research practice by identifying approaches that are more comfortable and less threatening to the participant, potentially yielding valuable insight regarding symptom burden in Latinos with HF.

---

**Funding:** This work was supported by the National Institute of Health (NIH)/Nursing Research (NINR) T32 NR007077.

# EXPERIENCES OF RNS IN CLINICAL PRACTICE

## DIMENSIONS OF DEPLOYED NURSES' EXPERIENCES QUESTIONNAIRE (D2NEQ): A PILOT STUDY

*Susanna Didrickson, Lori Lyn Trego*

## WORK RELATED MS SYMPTOMS OR INJURIES: COMPARISON BETWEEN US AND NON-US EDUCATED NURSES

*Kyung Mi Kim, Soo-Jeong Lee*

## DETERMINING MEDICAL-SURGICAL NURSES' PERCEPTIONS OF ALCOHOL-ABUSING PATIENTS

*Bailey Scalise, Brenda Hosley, Nancy Baumhover, Katherine S. Peterson*

## THE EFFECT OF AROMATHERAPY ON ANXIETY EXPERIENCED BY HOSPITAL NURSES

*Jill Donaldson, Diane Drake, Emilou Ocampo, Cindy Ingaro,*
*Brandon Lawson, Kim Entwistle, Amanda Phillips*

# EXPERIENCES OF RNS IN CLINICAL PRACTICE

## Dimensions of Deployed Nurses' Experiences Questionnaire (D2NEQ): A Pilot Study

*Susanna Didrickson, PhD, ARNP*
*Lab and Simulation Instructor*
*Department of Nursing*
*Cochise College*
*Sierra Vista, AZ*

*Lori L. Trego, PhD, CNM, ARNP*
*Colonel (Retired), U.S. Army Nurse Corps*
*Denver, CO*

**Purpose:** Explore the components of deployed military nursing leadership that contribute to positive or negative deployment experiences. Describe how leadership experiences at the Combat Support Hospital (CSH) are related to retention in the Military Nurse Corps. Compare the experiences of deployed nurses in the Air Force, Army, and Navy.

**Background:** A review of the research articles from the Vietnam Conflict to the present day yielded common themes in each era of military nursing: Communication, support, autonomy, purpose, supplies, readiness, staffing, and unit cohesion. As well, deployed military nurses and nurse leaders cited the importance of leadership in aiding or inhibiting their ability to effectively practice nursing in the deployed environment. The eight themes along with the leadership theories of Emotional Intelligence and Transformational Leadership Theory formed the basis of the instrument created to measure the nursing deployment experience. The D2NEQ scale has a possible high score of 140, with higher numbers indicating greater satisfaction with the deployed nursing experience.

**Sample:** 128 Nurse Corps officers; 80 from Afghanistan (Air Force n=27, Army n=5 and Navy n=48) and 48 from Iraq (Army, n=48).

**Methods:** Mixed-methods pilot study with a convenience sample of nurses from CSHs in Iraq and Afghanistan. Instrument development methods were utilized to create the D2NEQ. Questions were leadership-theory and literature-review-based, with 28 Likert-type questions, one multiple-choice question regarding retention in the Nurse Corps, and two qualitative free responses regarding positive and negative aspects of deployment.

**Results:** Chronbach's Alpha = 0.85 (n=85). Positive deployment experience was correlated with the leadership components of: Scheduling (r=0.72), military training and readiness (r=0.71), autonomy (r=0.62), communication (r=0.67) and unit cohesion (r=0.64). The Afghanistan group also had high correlations for purpose (r=0.7) and support (r=0.74). Retention was measured by "yes" or "no" "I intend to stay in military nursing following deployment", and the difference in D2NEQ scores was 97.3 vs. 88.4 respectively. The Navy had the highest D2NEQ scores (100.5) followed by the Air Force (96.6) and the Army (93.4). Content analysis of open-ended questions revealed the positive aspects of deployment: Unit Cohesion (33%), educational opportunities (16%), helping soldiers and host nation patients (16%), the experience of deployment (13%) and amenities (6.8%). Negative aspects included: Lack of purpose (13%) lack of leadership (12%), lack of unit cohesion (7.9%) and problems with scheduling/staffing (7.2%).

**Implications:** The results from this study illuminate which leadership qualities contribute to deployed nurses' experiences. Ascertaining those leadership qualities may help to develop training programs for effective nurse leaders of combat support hospitals and other deployable medical units. The results of this study may also contribute to the successful military mission of the Nurse Corps by identifying what could lead to positive deployment experiences and encourage retention in the military Nurse Corps.

# EXPERIENCES OF RNS IN CLINICAL PRACTICE

## Work Related Perceptions, MS Symptoms or Injuries between US and Non-US Educated Nurses

*Kyung Mi Kim, MS, RN, CNOR*
*Social Behavioral Sciences & Community Health Systems*
*University of California, San Francisco*
*San Francisco, CA*

*Soo-Jeong Lee, RN, PhD, ANP*
*Assistant Professor*
*Community Health Systems*
*University of California, San Francisco*
*San Francisco, CA*

**Purpose:** The purpose of this study was to examine the differences in perceptions about work and work-related musculoskeletal (MS) symptom or injury experiences between US educated and non-US educated registered nurses (RNs).

**Background:** Immigrant nurses account for a significant proportion of the nurse population in the United States. Nurses are known as an occupation with a high risk of work-related injuries. The different cultural background associated with immigration status may affect nurses' perceptions about work and work-related injury experiences. However, there has been little research in this area.

**Methods:** The study analyzed the cross-sectional survey data of 419 California RNs randomly selected from the California Board of Registered Nurses. Data were collected through both postal and online surveys. Nurses reported on demographics, job information, work-related perceptions (organizational culture, job demands, job control, job strain, job satisfaction, and perceived risk of injury), work-related MS symptoms (lower back, neck, shoulder and hand/wrist symptom) and work-related injuries (sprain, needle stick, exposure to violence, blood or chemical, and fall). Immigrant status was measured by the initial country of a nurse's education.

**Results:** Non-US educated RNs accounted for 19% of the sample. Non-US educated RNs were significantly more likely to have a graduate level education ($p < 0.001$), have a lower Body Mass Index ($p=0.019$), work in an urban area ($p=0.006$), be in the nursing profession for a longer period of time ($p<0.001$), and work more hours per week ($p=0.010$). Non-US educated RNs reported a more positive safety climate ($p=0.030$), and perceive their jobs as less demanding than US educated RNs ($p = .008$). The prevalence of work-related MS symptoms was significantly lower in non-US educated RNs than their US counterparts (72.5% vs. 83.2%, $p = 0.038$). However, there was no significant difference in the prevalence of work-related injuries between the two groups. The initial country where a nurse was educated was not significantly associated to work-related MS symptom experiences when work area, safety climate, and job demands were accounted for in the multivariable model (OR = 0.69, 95% CI: 0.31–1.53). It was also not significantly related to work-related injuries when taking safety climate and job demands into account in the model (OR = 1.12, 95% CI: 0.49–2.54).

**Implications:** This study is the first to examine the differences in perceptions, symptom and injury experiences related to work between US and non-US educated RNs. The study findings suggest that work-related perceptions and MS symptom experiences may be different between RNs according to immigration status. Interestingly, our study found that non-US educated RNs reported a significantly higher safety climate and lower job demands. The findings may be rooted in the differences in expectations about working environments and conditions between the two groups. Future research is needed to confirm the unexpected findings of differences in work-related perceptions and MS symptoms but not in work-related injuries by immigration status.

# EXPERIENCES OF RNS IN CLINICAL PRACTICE

## Medical-Surgical Nurses' Perceptions of Alcohol-Abusing Patients

*Bailey Scalise*
*Undergraduate Honors Nursing Student*
*College of Nursing & Health Innovation*
*Arizona State University*
*Phoenix, AZ*

*Brenda Hosley, PhD, RN, CNE*
*Clinical Associate Professor*
*College of Nursing & Health Innovation*
*Arizona State University*
*Phoenix, AZ*

*Nancy Baumhover, PhD, RN, CCRN-K, CNE*
*Clinical Associate Professor*
*College of Nursing & Health Innovation*
*Arizona State University*
*Phoenix, AZ*

*Katherine Peterson, MSN, RN*
*Program Manager ASU/Mayo Collaborative*
*Pre-licensure*
*Nursing Program*
*College of Nursing & Health Innovation*
*Arizona State University*
*Phoenix, AZ*

**Purpose:** The purpose of this study is to examine perceptions of medical-surgical nurses of alcohol-abusing patients admitted to an acute care facility. Data collected in this study will be used to increase awareness of staff nurse perceptions which may impact the quality of patient care delivered.

**Background:** Nurses have been caring for patients with substance abuse disorders for many years. Yet, only recently are researchers investigating nursing's attitudes towards substance-abusing patients and the impact of their attitudes on patient care. Studies report that many nurses have negative feelings about substance-abusing patients (Neville & Roan, 2014). Combined with a lack of knowledge about substance abuse disorders, nurses struggle to connect with the patient and develop a nurse-patient relationship that is conducive to quality patient care. Nurses also view caring for substance-abusing patients more emotionally challenging and dangerous, often leading to decreased motivation and lower levels of job satisfaction (van Boekel, Brouwers, van Weeghel & Garresten, 2013). However, little is known about how these factors affect nurses' ability to provide appropriate quality nursing care.

**Methods/Approach:** This study is a descriptive design using a 17-question 2-part survey. The first part of the survey includes seven demographic questions pertaining to the participants' characteristics and hours of training on alcohol related problems. The second part of the survey is adapted from the Short Alcohol and Alcohol Problems Perception Questionnaire (SAAPPQ). The SAAPPQ instrument is a reliable and valid instrument that has been used to assess healthcare providers' attitudes toward working with alcohol-abusing patients, including their self-esteem, role adequacy, motivation, and work satisfaction**.** The survey will be administered to a convenience sample of eighty four registered nurses working at a medical-surgical unit at an acute care hospital located in the southwestern United States.

**Results:** Eighty four medical-surgical nurses participated in the study. Over half reported having four hours or less of continuing education on alcohol abuse disorder. Regression analyses to determine the bivariate and multivariate relationships between the demographic variables and the hours of alcohol abuse education and nurses' attitudes toward alcohol-abusing patients will be reported.

**Conclusions/Implications:** Results of this study can be used to determine what factors contribute to nurses' perceptions of alcohol-abusing patients in the medical-surgical unit. Understanding such factors can help in identifying and developing effective policies, protocols, and interventions aimed at improving and providing quality patient care in this specific patient population.

---

References:

Neville, K., & Roan, N. (2014). Challenges in nursing practice: Nurses' perceptions in caring for hospitalized medical-surgical patients with substance abuse/dependence. *The Journal of Nursing Administration, 44* (6), 339-46. doi: 0.1097/NNA.0000000000000079.

van Boekel, L., Brouwers, E., van Weeghel, J., Garrestsen, H. (2013). Stigma among health professionals towards patients with substance-use disorders and its consequence for healthcare delivery: Systematic review. *Drug Alcohol Depend, 131* (1-2), 23-35. doi: 10.1016/ j.drugalcdep .2013.02.018.

# EXPERIENCES OF RNS IN CLINICAL PRACTICE

## The Effect of Aromatherapy on Anxiety Experienced by Hospital Nurses

*Jill Donaldson, MSN, CNS, CMSRN*
*Cynthia Ingrao, MSN, CNM, PHN*
*Diane Drake, PHD, RN*
*Emilou Ocampo, MSN, RN, CNS*
*Brandon Lawson, RN, BSN*
*Kim Entwistle, RN, BSN, OCN*
*Amanda Phillips, RN*

Hospital nursing is associated with high levels of work-related stress and anxiety. Alleviation of environmental stressors may be important indicator of a healthy work environment. Evaluation of strategies to improve occupational stress has been encouraging, but not conclusive. Symptoms of stress and anxiety among nurses can negatively affect professional practice, and ultimately patient safety. Certain essential oils have been shown to provide a positive calming effect with the potential of decreasing work-related stress. This study sought to examine changes in hospital nurse anxiety scores associated with exposure to workplace aromatherapy using a blend of chamomile and citrus-based essential oils.

Pre and post intervention differences in average hospital nurse anxiety scores were compared to investigate the effect of an essential oil aromatherapy blend administered using an electronic atomizing diffuser. Nurse anxiety was measured using the State Trait Anxiety Inventory Form Y (STAI Y-1), a 20-item questionnaire which measured an individual nurse's emotional state response to a stressful situation and emotional response to worry, nervousness, tension, and apprehension.

The study results failed to demonstrate that occupational exposure to aromatherapy was associated with a decrease in hospital nurse anxiety. There were no significant differences between the average baseline anxiety scores and anxiety scores during the aromatherapy intervention.

The results of this study indicate that hospital nurses, working on an orthopedic surgical trauma unit, reported low to moderate anxiety scores and did not experience significant reductions in anxiety when exposed to aromatherapy. Despite the lack of conclusive findings to support the anxiolytic effect of aromatherapy, the investigators observed an overall positive attitude towards the use of use of aromatherapy on the nursing unit.

# GERIATRICS

### A COMPARISON OF OLDER ADULT FALL AND NON-FALL INJURIES TREATED AT A LEVEL 1 TRAUMA CENTER

*David Peter ZoBell, Magen Tominey, David Baraghoshi, Linda S. Edelman*

---

### A DESCRIPTION OF OLDER ADULT GROUND LEVEL FALLS TREATED AT A LEVEL ONE TRAUMA CENTER

*Magen Tominey, David Peter ZoBell, Linda Edelman, David Baraghoshi*

---

### REFERRAL PATTERNS OF INJURED OLDER ADULTS TO SPECIALIZED TRAUMA CARE

*David Baraghoshi, David Peter ZoBell, Magen Tominey, Linda S. Edelman*

---

### HYPERTENSION KNOWLEDGE AND ADHERENCE AMONG OLDER CAUCASIAN WOMEN

*Holly Heaton*

---

### NEEDS, CHALLENGES, AND OPPORTUNITIES IN FACILITATING EARLY MEMORY LOSS SUPPORT GROUPS

*Anita Marie Souza*

---

### COMPARING AGING AMONG ETHNIC GROUPS: INTERDISCIPLINARY IMPLICATIONS

*Shelby L. Simpson, Susanne Montgomery, Lisa R. Roberts, Semran Mann*

---

### THE IMPACT OF AGEISM ON HIV/AIDS DIAGNOSIS AMONG OLDER AFRICAN AMERICAN ADULTS

*Attallah Dillard*

## PREDICTIVE VALIDITY OF PRESSURE ULCER RISK ASSESSMENT TOOLS FOR ELDERLY

*Young-Shin Lee, Seong-Hi Park, Young-Mi Kwon*

---

## THE PHYSICAL ACTIVITY CLUSTERS OF MIDLIFE WOMEN FROM FOUR MAJOR ETHNIC GROUPS

*Eun-Ok Im, Young Ko, Eunice Chee, Wonshik Chee, Jun James Mao*

---

## KOREAN IMMIGRANT SENIORS' EXPECTATIONS REGARDING AGING AND HEALTH

*Sarah E. Choi, Daniel Araiza, Andrew Oh, Catherine A. Sarkisian*

---

## NURSING STUDENT EXPERIENCES IN AN ALZHEIMER'S CENTER: A CHANGE IN ATTITUDES AND HEARTS

*Phyllis A. Heintz, Dannon Akins, Melissa Adriano, Stacy Jackson*

---

## THE INTERPLAY BETWEEN FEAR OF FALLING, FALL HISTORY AND FALLS EVENTS

*Rumei Yang, Ginette A. Pepper*

---

## YOGA FOR SENIORS: UNDERSTANDING OLDER ADULTS' BELIEFS AND BARRIERS TO PARTICIPATION

*Rebekah Perkins, Linda S. Edelman, Gail L. Towsley, Kara B. Dassel, Katarina F. Felsted*

---

## DEVELOPMENT OF A PROJECT SUPPORTING AGING IN RURAL JAPANESE COMMUNITIES

*Riho Iwasaki, Tamae Sato, Joan K. Magilvy, Takayuki Kageyama, Sachiyo Murashima*

---

## YIKES? GOING AGAINST THE EVIDENCE TO REDUCE PATIENT FALLS AND INJURIES

*Susan D'Antuono*

---

## LOOKING FROM THE INSIDE OUT: AN EMIC PERSPECTIVE OF A SKILLED NURSING FACILITY

*Kathleen Gilchrist*

# GERIATRICS

## A Comparison of Older Adult Fall and Non-Fall Injuries Treated at a Level 1 Trauma Center

*Dave ZoBell*
*BSN Student*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Magen Tominey*
*BSN Student*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*David Baraghoshi*
*BS Biology Student*
*College of Biology*
*University of Utah*
*Salt Lake City, UT*

*Linda S. Edelman, PhD, RN*
*Associate Professor*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

**Purpose:** The purpose of this study was to examine the demographic and outcome patterns of older adults (OA) admitted to a Level 1 Trauma Center (TC) after a fall and to compare fall injuries to non-fall injuries.

**Background:** Injured OAs comprise a growing proportion of trauma center admits. As the population ages, the significance of OA injuries on often over-burdened trauma centers is not known. Falls are the predominant injury experienced by older adults; however few studies have examined falls in the context of trauma care.

**Methods:** Data on all injuries occurring to adults 55 years of age and older admitted to an Academic Health Sciences Center TC during a two year period (2013-2014) were included in this retrospective review. Injuries were classified as falls or from other mechanisms. Descriptive statistical and linear regression analyses were conducted using SPSS 22 to identify differences in injury severity and outcomes between fall and other mechanism injuries. Significance was set at $p < 0.05$.

**Results:** A total of 1,433 OA injuries were admitted during the 2-year study period, accounting for 37% of all trauma database records. Falls (64.4%) were the predominant injury. Individuals who fell were older, $t(1431) = 14.49$, $p < .001$, and more likely to be female, $\chi^2(1, N = 1432) = 37.40$, $p = .001$, than those injured by other mechanisms. Fallers were less likely to: result in trauma system activation compared to other injury mechanisms, $\chi^2(1, N = 1433) = 20.91$, $p = .001$; have an Injury Severity Score >15, indicating a serious injury, $\chi^2(1, N = 1384) = 7.92$, $p = .01$; and be admitted to the intensive care unit, $\chi^2(1, N = 1433) = 23.08$, $p = .001$. Those who fell were more likely to have chronic conditions, particularly bleeding disorders, $\chi^2(1, N = 1433) = 32.93$, $p = .001$, hypertension, $\chi^2(1, N = 1433) = 40.22$, $p = .001$, and major psychiatric diagnoses, $\chi^2(1, N = 1431) = 12.69$, $p = .001$. Length of Stay (LOS) was shorter for fallers, $t(1416) = -5.10$, $p < .001$. Falling ($\beta = 1.85$, $p < 0.001$), injury severity ($\beta = 0.23$, $p < .001$) and congestive heart failure ($\beta = 2.59, p < 0.01$) predicted LOS controlling for other comorbidities, age, gender and trauma activation (all $p > 0.21$). The percentage of injured OAs did not differ by injury mechanism, $\chi^2(1, N = 1432) = 1.29$, $p = .257$.

**Results:** Falls accounted for a significant number of injured OAs TC admits. Even though fall injuries are not as serious, fallers were older and more likely to have chronic conditions; with the exception of CHF, these factors did not impact LOS.

**Implications:** OA falls account for over 1/3 of TC injury admissions; but are usually not serious and have low mortality rates. Access to specialized TC is increasingly limited in the United States. Further research and trauma system planning are needed to identify ways to facilitate more efficient triage of OA falls to TC while ensuring optimal injury outcomes.

---

Funding: In part by a University of Utah Center on Aging Pilot Grant.

# GERIATRICS

## A Description of Older Adult Ground Level Falls Treated at a Level One Trauma Center

*Magen Tominey*
*BSN Student*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Dave ZoBell*
*BSN Student*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Dave Baragoshi*
*BS Biology Student*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Linda Edelman PhD, RN*
*Associate Professor*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

**Purpose:** The purpose of this study was to describe older adult (OA) ground level fall (GLF) injuries treated at a Level 1 Trauma Center and contrast GLF demographics, injury severity and outcomes with falls from different levels (DLF).

**Background:** In 2013, 2.5 million nonfatal falls among older adults were treated in emergency departments and more than 734,000 of these patients were hospitalized. Falls account for an increasing proportion of trauma center admits at the same time that access to specialized trauma care is decreasing. Still, very little research has focused on the incidence of falls, particularly those from ground level, admitted to trauma centers and their outcomes.

**Methods:** This retrospective review included trauma database information on injuries occurring to OAs (> 55 years) admitted to an Academic Health Sciences Center TC during 2013-2014. Injuries were classified as GLF or DLF according to assigned ICD9 E-codes. Descriptive statistical analyses were conducted using SPSS 22 to describe GLF in terms of demographics, injury severity and outcomes. Significance was set at $p < 0.05$.

**Results:** Fall injuries ($N = 923$) accounted for 64.4% of OA trauma admissions; of those 672 (72.8%) were GLF. Over half (53.6%) of OAs who fell were female and the average age was 73.58 years ($SD = 11.12$). There were no differences in number of comorbidities between GLF and DLF falls. GLF were less likely to be transferred from another hospital, $\chi^2(1, N = 923) = 7.99, p < .01$, or to activate the trauma system, $\chi^2(1, N = 923) = 9.52, p = .001$, had lower Injury Severity Scores, $t(902) = -1.99, p < .05$, and tended to not be admitted to the ICU as frequently, $\chi^2(1, N = 923) = 3.51, p = .06$. However, the average hospital length of stay was not different between OAs who experienced GLF ($M = 4.29, SD = 4.19$) versus DLF falls ($M = 4.66, SD = 4.82$), $t(920) = -1.13, p = .26$. The percentage of injured OAs who died (4.9%) did not differ by fall type, $\chi^2(1, N = 923) = .01, p = .94$.

**Implications:** GLF accounted for 47% of adults older than 55 years admitted to the trauma center. GLFs usually do not result in serious injury, and even in OAs, many with multiple chronic conditions, rarely result in in-hospital death. Yet, OAs admitted to specialized TCs consume considerable resources. As specialized trauma care becomes increasingly limited, further research and guidelines for the assessment and referral of GLFs to non-trauma center hospitals are needed that recognize the complex needs of injured OAs.

---

Funding: By a University of Utah Center on Aging Pilot Grant.

# Referral Patterns of Injured Older Adults to Specialized Trauma Care

*David Baraghoshi*
*BS Biology Student*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Dave ZoBell*
*BSN Student*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Magen Tominey*
*BSN Student*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

*Linda Edelman PhD, RN*
*Associate Professor*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

**Purpose:** The purpose of this study was to compare referral patterns and outcomes of older adults injured in rural and urban locations and to determine how geography contributes to the referral of older adults to specialized trauma care.

**Background:** Adults age 55 years or older comprise 12.9% of the US population but account for 25% of all trauma admissions. Older adults (OAs) make up a higher proportion of rural county residents and have been reported to be at increased risk of injury. However, there is a paucity of research describing the geographic distribution of OA trauma referrals and the impact of geography and age on trauma outcomes.

**Methods:** A retrospective review of 1433 OAs (55+ years) treated at a Level 1 trauma center (TC) during 2013-14 was conducted. Differences between injuries occurring in rural and urban counties, as identified by RUC Codes, were identified using descriptive statistical analyses. Significance was set at $p < 0.05$.

**Results:** Less than 1/3 (28%) of injuries occurred in rural locations. The majority (54%) of injured older adults were male. OAs injured in rural areas were significantly younger (M = 69.3, SD = 10.3) than older adults injured in urban areas (M = 71.6, SD = 11.4), $t(1291) = -3.32, p < 0.01$. There were no differences in injury mechanisms between rural and urban injuries; falls accounted for the majority (67%) of injuries, followed by motor vehicle accidents (18%), and fire burns (5%). OAs injured in rural areas were less likely to be injured at home and more likely to be injured on a street/highway compared to OAs injured in urban areas, $\chi^2(24, N = 1268) = 82.4, p < 0.01$. Rural OA injuries were more likely (63%) to be referred to the TC from another hospital compared to urban injuries (31%), $\chi^2$ (1, N = 1292) = 114, $p < 0.01$, and less than half as likely (23% vs. 59%) to reach the TC within 1 hour, $\chi^2$ (1, N = 1197) = 130, $p < 0.01$. Injury severity scores indicated that rural injuries were more serious than urban injuries, $t(1248) = 3.22$, $p < 0.01$.There was a significant difference in hospital length of stay, $t(1276) = 2.84$, $p < 0.01$, with OAs injured in rural areas staying longer than OAs injured in urban areas. Mortality among OAs approached significance, $\chi^2(1, N = 1273) = 2.91, p = 0.088$; 6.4% of rural injuries compared to 4.2% of urban injuries resulted in death.

**Implications:** OAs injured in rural counties have more serious injuries, yet are less likely to be referred directly and quickly to a TC, which may result in longer hospital stays and poorer outcomes. The findings of this study will guide further research in developing trauma referral guidelines that take into account the vulnerabilities of age and rurality in order to improve the timeliness and appropriateness of referral to a TC best equipped to manage injuries and complicated chronic conditions.

---

**Funding:** By a University of Utah Center on Aging Pilot Grant.

# GERIATRICS

## Hypertension Knowledge and Adherence among Older Caucasian Women

*HollyAnne Heaton, BSN, RN*
*Graduate Student*
*College of Nursing*
*Washington State University*
*Vancouver, WA*

*Catherine Van Son, PhD, RN*
*Associate Professor*
*College of Nursing*
*Washington State University*
*Vancouver, WA*

**Purpose:** The aim of this study is to describe hypertension knowledge and medication adherence among older low-income Caucasian women.

**Background:** Hypertension is a chronic health condition afflicting more than one-third of adults in the United States. According to the Eighth Joint National Committee 2014 guidelines, hypertension is defined as a blood pressure reading greater than 140/90 for those younger than 60 years old and as greater than 150/90 for those over 60 years old. Hypertension contributes to several serious health problems such as myocardial infarction, stroke, heart failure, renal failure, and cognitive impairment. The level of knowledge a patient has about their hypertension has been shown to increase adherence to prescribed treatments. Increased adherence to prescribed medication therapy can reduce an individual's incidence of hypertension. The World Health Organization's Multidimensional Adherence Model states that medication adherence is based on several factors including the individual, the condition, the medication regimen, the healthcare system and the individual's 's socio-economic status. This model was used to guide this study's data collection and analysis.

**Methods:** A convenience sample of Caucasian women over the age of 55 diagnosed with hypertension and prescribed an antihypertensive medication was recruited. The participants completed a paper/pen survey that included a brief demographic profile, a ten item Blood Pressure Knowledge assessment and the ©Morisky Medication Adherence Scale, MMAS-8.

**Results:** Twenty-nine women completed the questionnaire. Participants were recruited from low-income retirement housing (rent determined using a sliding scale), Meals-on-Wheels lunch sites, churches, senior centers and word of mouth. The average age of the women was 74 with 62% having a high school level of education or greater. The results of the Blood Pressure Knowledge assessment found that 18 of the 29 (62%) women surveyed realized that hypertension usually lasts the rest of one's life. Only 13 (45%) women knew that hypertension could cause kidney problems. Thus, knowledge regarding the longevity of hypertension and the non-cardiac complications of hypertension was low in this sample. Low to medium adherence to medication therapy was found in 21 out of 29 women (72.4%) completing the ©Morisky Medication Adherence Scale. Forgetfulness was indicated as the primary barrier for 18 out of 29 (62%) of the women surveyed.

**Implications:** Older women need to understand the significance of lifetime vigilance regarding their hypertension and be aware of the potential complications if it is unmanaged. This study's findings confirm the need for continued research to identify specific interventions tailored to address the barrier of forgetfulness in hypertension medication adherence. Thus, nurses have an important role in both patient education and medication adherence as older adults manage their chronic health conditions.

## Needs, Challenges and Opportunities in Facilitating Early Memory Loss Support Groups

*Anita Souza*
*PhD Student*
*Psychosocial and Community Health*
*University of Washington*
*Seattle, WA*

*Rebecca Logsdon, PhD*
*Research Professor*
*Psychosocial and Community Health*
*University of Washington*
*Seattle, WA*

**Purpose:** The purpose of this investigation is to identify effective strategies, skills, and tools for nurses and others who provide counseling and support to the growing population of older adults affected by neurocognitive disorders (including mild cognitive impairment, early stage Alzheimer's disease, and other forms of dementia) and their care partners.

**Background:** A neurocognitive disorder diagnosis is frightening and alters an individual's intended life course. The diagnosis can be a stigmatizing event that brings with it concerns about how the disease will progress and how it will affect the multiple facets of one's life. Individuals with memory loss and their family members need support to meet the challenges of the disease, tools to cope and live life fully despite the diagnosis. Facilitated early stage groups offer a unique platform where persons with dementia and their care partners engage with others in similar circumstances. These groups are facilitated by volunteer professionals from a diversity of professional backgrounds including nursing, social work, pharmacy and education. These facilitators offer dynamic guidance and a trusted perspective that helps meet the immediate needs of these dyads and assists them in preparing for challenges they will navigate in the future. Facilitators have a unique vantage point through which to see the needs, challenges, and opportunities of this support model.

**Methods:** A one-hour semi-structured telephone interview protocol was developed. Question sets focused on five domains; Facilitator Demographics, Training Needs, Group Logistics, Program Content, and Group Dynamics. Collaborative partners from the Oregon Department of Health and the Oregon chapter of the Alzheimer's Association assisted with recruitment of facilitators. All interviews were digitally recorded. Interviews have been professionally transcribed. Responses are currently being analyzed for thematic content.

**Results:** Fourteen facilitators participated in the interviews. Preliminary analysis of the data shows that facilitators have important insight into the needs and concerns of those with memory loss. Responses also show a need for additional training and ongoing support for professionals who facilitate these groups.

**Implications:** The need for effective programs that both educate and support individuals and families confronting memory loss will continue to grow. Examining these programs from the facilitator perspective has implications for improving psychosocial care of both individuals with dementia and their carepartners.

---

**Funding:** In part from CDC's Prevention Research Centers Program: 005013.

# GERIATRICS

## Comparing Aging among Ethnic Groups: Interdisciplinary Implications

*Shelby L. Simpson, BASW*
*Student*
*Social Work and Social Ecology*
*Loma Linda University*
*Loma Linda, CA*

*Susanne Montgomery, PhD, MS/MPH*
*Professor*
*Social Work and Social Ecology*
*Loma Linda University*
*Loma Linda, CA*

*Lisa Roberts, Dr.PH, MSN, RN*
*Associate Professor*
*School of Nursing*
*Loma Linda University*
*Loma Linda, CA*

*Semran Mann, PhD(c), MPH, BS*
*Social Work and Social Ecology*
*Loma Linda University*
*Loma Linda, CA*

**Purpose/Aims:** We set out to explore how different ethnic/race groups in the Inland Valleys of California experience age-related cognitive and/or physical deterioration.

**Rationale/Conceptual Basis/Background:** There has been a recent shift in societal views leading to changes in self-perceptions of aging; previously, older adults were revered as wise and respected. In modern times, this perspective has changed to one where they are often seen as useless and a nuisance. In American culture specifically, there is an emphasis on youth and vibrancy. Due to recent shifts among the aging population it has become increasingly important to look at the ways in which societal influences of aging have an impact on cognitive and physical decline. Also, even though as we are getting more multi-cultural as a society, there is little information about ethnic/race differences in such perceptions. This project focuses on three prominent ethno-racial groups and differences among these groups to ascertain how culture may impact older adults' self-views of aging as well as how knowledge of someone with age-related illness potentially leads to fear of aging and decline which is associated with the aging process.

**Methods:** This project is a secondary analyses of a mixed methods data set collected in 2011. We will use a mixed methods approach to analyze qualitative ($N = 75$) and quantitative data ($N = 400$) from African American, Latino and White adults ages 55+ residing in the Inland Valley area of Southern California. Qualitative methods include grounded theory based analyses of key informant and focus group transcripts. SPSS will be used to explore quantitative differences in attitudes and experiences between the ethnic groups.

**Results:** Preliminary results suggest that both qualitatively and quantitatively there are significant differences by ethnicity. Latinos remain the most traditional in their views about aging, which includes respect for older adults and acknowledging older adults' continued value in the community, compared to other groups.

I**mplications:** It is becoming increasingly important for health professionals in all fields to be sensitive and aware of issues regarding our graying society. Especially with the aging of the Baby Boomers—it is critical for today's health professionals to be knowledgeable about cultural aging issues and concerns.

## The Impact of Agesim on HIV/AIDS Diagnosis among Older African American Adults

*Attallah Dillard, MSN, CDU/UCLA PHD Bridge Scholar*[1]
*Stella Turkson, MSN, CDU/UCLA PHD Bridge Scholar*[1]
*Abayomi Lawal, RN, MSN, CDU/UCLA PHD Bridge Scholar*[1]
*Maria Cajucom, MSN, CDU/UCLA PHD Bridge Scholar*[1]
*Janet C. Mentes, PhD, APRN, BC, FGSA, FAAN*[2]

[1]*Mervyn M. Dymally School of Nursing, Charles R. Drew University of Medicine and Science, Los Angeles, CA*
[2]*School of Nursing, University of California, Los Angeles, CA*

**Purpose:** This integrative literature review was conducted to determine the degree to which research has examined the impact of ageism on diagnostic practices for HIV/AIDS among older African American adults (age 50 and older**).** In addition this review was performed to understand the implications for adhering to Centers of Disease Control recommended universal HIV/AIDS education and screening for all ages.

**Background:** Recent studies have shown that older adults are an emerging population in the discussion of new HIV/AIDS diagnosis. African Americans experience one of the greatest rates of new HIV/AIDS diagnoses among all older adult populations. The reasons for the increases among older adults are not entirely clear. Some literature suggests the need for educating both health professionals and older adults about the risks in order to increase prevention and screening and to reduce delayed diagnosis. In addition some literature points to the theme of age discrimination as a significant factor in HIV/AIDS infection and delayed diagnosis among adults age 50 and older. This literature exposes that the factor of age discrimination is a key barrier in excluding older adults from primary and secondary healthcare and must be further understood to combat the increasing incidence of HIV/AIDS

**Methods:** The journal databases of CINAHL and PubMed were searched using the following key words: *older person, HIV/AIDS, screening, late diagnosis, African American, barriers, societal perceptions, stereotypes, physicians, discrimination, education, and ageism.* Articles (qualitative and quantitative) were selected for review based on the following criteria: population of health care providers or older adults (aged 50 or older), articles reporting various patient, institutional, and societal factors influencing new HIV/AIDS infection and delayed diagnosis among the older population. Literature was analyzed to identify if themes of ageism and age discrimination were mentioned as influencing factors in HIV/AIDS infection discourse as well as the experience of ageism from the perspective of providers and patients.

**Results:** Twelve articles were critically analyzed. Examination revealed that physicians are unaware of the prevalence of new HIV/AIDS infection among older adults as well as their risk factors. Studies also showed the following as themes in the discourse of ageism and HIV/AIDS infection: a belief that older adults are not sexually active, screening being low on priority list, and discomfort in talking about sex with patients. Despite research highlighting the experience of ageism as perceived by physicians, research is lacking that describes this experience as perceived by patients in specific cultural groups such as African Americans.

**Implications:** Further investigation of the role of ageism on HIV/AIDS diagnoses from the lens of older adults who are most at risk of further transmission to others is imperative. With a greater understanding of the impact of ageism on HIV/AIDS infection among this cultural group, we can begin to decrease unconscious prejudice towards the elderly within healthcare. This can increase standardized HIV/AIDS screening and education within gerontological health care while preventing further HIV/AIDS transmission among the geriatric population

---

**Funding:** UCLA/CDU Partnership for Enhancing Diversity of Nurses with Research Careers/NIH Grant Number: 5R25GM102777-02.

# GERIATRICS

## Predictive Validity of Pressure Ulcer Risk Assessment Tools for Elderly Patients

*Young-Shin Lee, PhD*
*San Diego State University*
*San Diego, CA*

*Seong-Hi Park, PhD*
*Soonchunhyang University*
*Cheonan-si, South Korea*

*Young-Mi Kwon, PhD*
*Kyung-In Women's University*
*Incheon, South Korea*

**Background:** While preventing pressure ulcers is one of the most challenging goals for health care providers, currently used tools to assess risk of pressure ulcer development rarely evaluate the accuracy of predictability, especially in older adults.

**Purposes:** The purpose of this study was to provide a scientific rationale in the form of a nursing tool for screening by evaluating the predictive functions of tools assessing risks of pressure ulcer development applied to older adults using a meta-analysis methodology.

**Method:** This study, a systematic review with a meta-analysis for the studies, used three pressure ulcer risk assessment tools: Braden, Norton, and Waterlow scales. The systematic review was initiated by searching key words through electronic search engines of Medline, EMBASE, CINAHL, KoreaMed, NDSL and manual searches published between 1966 and 2013. Twenty-nine studies involving 11,729 patients were selected. Predictive validity from each study was extracted and used to create a table with the sensitivity, specificity and diagnostic odds ratio; the pooled predictive validities and heterogeneity were calculated by type of screening tool and subgroup.

**Results:** The predictive validities indicated 0.72, 0.76, and 0.53 in the pooled sensitivity of Braden, Norton, and Waterlow scales and 0.63, 0.55, and 0.84 in the pooled specificity, respectively. Heterogeneity index (I2) in pooled sensitivity was shown to be between 80% to 90%; and those in the pooled specificity were over 96% in all three scales. In the analysis with subgroups using the Braden scale, male dominant studies and those conducted in long-term care setting showed higher sensitivity than female dominant studies and acute care or home care settings. Studies in long-term care settings had lower heterogeneity across studies although it was not statistically significant. In the 25 studies applying the Braden scale, five different cut-off points were used to influence heterogeneity.

**Discussion:** At the present time, commonly used screening tools for pressure ulcer risks have limitations regarding validity and accuracy for use with older adults due to heterogeneity among studies. Additional studies in long-term care settings which adopt a modified cut-off system reflecting elderly patients' skin conditions are needed to improve the accuracy and reduce the heterogeneity of the Braden scale.

# GERIATRICS

## The Physical Activity Clusters of Midlife Women from Four Major Ethnic Groups

*Eun-Ok Im, PhD, MPH, RN, CNS, FAAN*
*Professor & Marjorie O. Rendell Endowed Professor*
*School of Nursing*
*University of Pennsylvania*
*Philadelphia, PA*

*Young Ko, PhD, RN*
*Assistant Professor*
*School of Nursing*
*Gachon University*
*Incheon, South Korea*

*Eunice Chee, BSE*
*Research Assistant*
*School of Engineering and Applied Science*
*University of Pennsylvania*
*Philadelphia, PA*

*Wonshik Chee, PhD*
*Independent Consultant*
*School of Nursing*
*University of Pennsylvania*
*Philadelphia, PA*

*Jun James Mao, MD, MSCE*
*Associate Professor*
*School of Medicine*
*University of Pennsylvania*
*Philadelphia, PA*

**Purpose/Aims:** The purpose of this study is to determine the physical activity patterns of midlife women from four major ethnic groups in the U.S. and to provide directions for physical activity promotion in multi-ethnic groups of midlife women.

**Background:** A cluster analysis provides a prediction of behaviors of sub-groups within a population based on the subjects' membership to the groups with specific characteristics, which would help identify strategies to effectively reduce the risks by intervening the characteristics of the sub-groups. Despite potential benefits of cluster analyses, few studies have examined clustering of physical activities in midlife women. Furthermore, inconsistent associations between cluster patterns of physical activity and sociodemographic indicators have been found.

**Methods:** This secondary analysis used the data from a national Internet survey on attitudes toward physical activity among 542 midlife women. The instruments included: the Barriers to Health Activities Scale, the Physical Activity Assessment Inventory, the Questions on Attitudes toward Physical Activity, Subjective Norm, Perceived Behavioral Control, and Behavioral Intention, and the Kaiser Physical Activity Survey. The data were analyzed using inferential statistics including hierarchical cluster analyses.

**Results:** Forty-eight percent were categorized as the 'high active living and sports/exercise activity group'; about 27% were categorized as the 'high household/caregiving and occupational activity group'; and about 26% were categorized as the 'low active living and sports/exercise activity group.' There were significant differences in education, employment status, family income, number of children, perceived general health, BMI, menopausal symptoms, perceived barriers, self-efficacy, social influences, and attitudes toward physical activity among the clusters (p<05).

**Conclusions/Implications:** In future program development, health care providers need to consider multiple factors that might differently influence midlife women's physical activity depending on their patterns of physical activity.

---

Funding: This is a secondary analysis of the data from a larger study that was funded by the National Institutes of Health (NIH/NINR/ NHLBI; R01NR010568).

# GERIATRICS

## Korean Immigrant Seniors’ Expectations Regarding Aging and Health

*Sarah E. Choi, PhD, RN, FNP*
*Associate Professor*
*School of Nursing*
*University of California, Los Angeles*

*Daniel Araiza, BS*
*Research Associate*
*Division of Geriatrics*
*David Geffen School of Medicine*
*University of California, Los Angeles*

*Andrew Oh, BS*
*Research Associate*
*Division of Geriatrics*
*David Geffen School of Medicine*
*University of California, Los Angeles*

*Catherine A. Sarkisian, MD, MSPH*
*Professor*
*Division of Geriatrics*
*David Geffen School of Medicine*
*University of California, Los Angeles*

**Purpose/Aims:** To explore expectations regarding aging and health among Korean immigrant seniors

**Background:** Korean immigrant seniors are one of the fastest growing ethnic minority older adult populations. However, little is known about their expectations regarding aging and health in this group.

**Methods:** As a process to validate the Korean version of the 12-Item Expectations Regarding Aging (ERA) survey (Sarkisian et al, 2005), we conducted one to one in-person cognitive interviews with 7 seniors (ages 65-88, 5 males 2 females) recruited at a community senior center. The ERA survey asks participants to choose a response (definitely/somewhat true, definitely/somewhat false) that best corresponds with how they feel about 12 statements. These statements include physical health (“Having more aches are pains is an accepted part of aging”), mental health (“It is normal to be depressed when you are old”), and cognitive health domains (“Forgetfulness is a natural occurrence just from growing old”). To ensure cultural appropriateness of translation and understanding of each survey item, we asked supplementary questions. Two of them served as a guide to further explore their expectations of aging: What came to your mind when you heard this question? How did you choose your answer? A bilingual research associate conducted the interview in Korean under the guidance of a senior research associate. A bilingual lead author fluent in Korean listened to the entire interview audio recordings, took detailed notes, and conducted a preliminary analysis by identifying prominent themes common to most participants.

**Results:** Almost all seniors stated that they chose their responses based on their personal experiences. In addition, most participants said their peers, friends, and their parents came to their minds when they heard the survey questions. Most said that declining physical (e.g., aches and pains) and cognitive (e.g., forgetfulness) functions with aging are true and inevitable but it is the effort of the individual senior that determines whether he/she will live a healthy, happy life or experience more physical problems and/or depression. Most participants said that being socially active as people get older is important for mental health because loneliness can bring depression.

**Implications:** Formal data analysis of the interview findings is in progress. At the time of writing this abstract, we are testing the final Korean version of ERA survey in a group of Korean seniors in an NIH/NINDS funded stroke prevention intervention study. The interview findings will add to the validation findings of the Korean version survey and provide further information for the appropriateness and usefulness of this survey instrument in Korean immigrant seniors.

---

Reference: Sarkisian, C. A., Steers, N., Hays, R. D., & Mangione, C. M. (2005). Development of the 12-Item Expectations Regarding Aging Survey. The Gerontologist, 45(2), 240-248.

---

Funding: This study was supported by National Institutes of Health (NIH)/National Institute of Neurological Disorders and Stroke under Grant 1U54NS081764; NIH K24 Midcareer Investigator Award in Patient-Oriented Research under Grant 1K24AG047899-01; NIH/ UCLA Older Americans Independence Center under Grant P30AG028747; and NIH/ UCLA Resource Center for Minority Aging Research/Center for Healthcare of Minority Elders under Grant 2P30AG021684.

# GERIATRICS

## Nursing Student Experiences in an Alzheimer's Center: A Change in Attitudes and Hearts

*Phyllis A. Heintz, PhD, RN, CTN-B*
*Robert and Edith Cochran Endowed*
*Chair for Gerontological Nursing*
*Department of Nursing*
*California State University, Bakersfield*
*Bakersfield, CA*

*Dannon Akins, SN*
*Student Nurse*
*Department of Nursing*
*California State University, Bakersfield*
*Bakersfield, CA*

*Melissa Adriano, BSN, RN*
*Staff Nurse, Emergency Department*
*Kern Medical Center*
*Bakersfield, CA*

*Stacy Jackson, BSN, RN*
*Staff Nurse, Intensive Care Unit*
*Kern Medical Center*
*Bakersfield, CA*

**Purpose:** The purpose of this study was to compare student attitudes regarding care of older adults in an Alzheimer's Day Care Center.

**Background:** Nursing students' trepidation over caring for older adults may compound the complexity of health concerns found in older clients, such as dementia. Adults age 65 years or older represent a population with complex health conditions yet less than one percent of nurses are specialized in the field of gerontology. Incorporating a specialized education curriculum in the undergraduate nursing program will allow nursing students to better understand the needs of the graying population (Heise, Johnsen, Himes, & Wing, 2012).

**Methods:** This study used a one group quasi-experimental design. Fifty-two sophomore undergraduate nursing students engaged in a 20 hour geriatric nursing clinical experience at a local Alzheimer's disease Day Care Center. Three human subjects' protection trained senior nursing student research assistances performed descriptive content analysis on blinded student reflection papers. Codes were assigned to selected passages in the reflective papers. The codes were organized into categories and themes began to emerge from the coded data. Trustworthiness was assured through inter-rater reliability.

**Results:** Findings in the qualitative portion of the study were much more revealing and revealed noteworthy shifts in attitudes toward caring for older adults. Themes relative to shifts in attitudes that emerged from content analysis include: 1) surprise at high function, 2) older adults have the same human needs/ characteristics, 3) caring for the person is paramount, and 4) caregivers are at risk for burnout.

*Surprise at high function:* One student noted they were "surprised to see how high functioning" the older clients were. Another student observed that caring for the clients at the day care center has given them an "insight to different stages of dementia."

*Older adults have the same human needs/characteristics*. One student stated, "People have assumptions that the elder population don't have human desires." Another student added "They like fashion and fun."

*Caring for the person is paramount.* Five students found that age is less of an issue in caring for clients. One student noted, that making the clients feel like they belong is important because it "helps them feel like they are still noticed in the world and not invisible."

*Caregivers at risk for burn out*: Finally, caregiver burnout was identified as a significant issue. Students were able to observe caregiver support groups. Several students perceived that taking the time to listen and care for the family of clients was important in caring for older adults. One student observed, "I cannot even imagine the stress and hardships that the caregivers go through and the struggle that the patients face each day."

**Implications:** *Practice:* There is a need for nurses specialized in gerontology to care for the graying population; therefore, geriatric clinical experiences should be structured in a way to enhance nursing student interest in working with older clients.

*Nursing Research:* Further studies are needed to continue to examine how to foster compassion and understanding regarding the unique care of the older adult.

---

References:
Heise, B., Johnsen, V., Himes, D., & Wing, D. (2012). Developing positive attitudes toward geriatric nursing among millennials and generation Xers. *Nursing Education Perspectives*, *33*(3), 156-161.

# GERIATRICS

## The Interplay between Fear of Falling, Fall History and Falls Events

*Rumei Yang, MS*
*Doctoral Student and Research Assistant*
*University of Utah College of Nursing*
*Salt Lake City, UT*

*Ginette A. Pepper, PhD, RN, FAAN*
*Professor and Associate Dean for Research*
*University of Utah College of Nursing*
*Salt Lake City, UT*

**Purpose:** The purpose of this study was to identify the association of fall events and fear of falling (FOF), and to develop the risk profiles of FOF among older adults with medication- related falls.

**Background:** Falls are complex in nature, causing severe physical injuries and considerable financial cost. More importantly, approximately 30% -80% of fallers will develop emotional trauma called FOF, resulting a downward spiral state in which fallers limit their physical activities and consequently aggravate deconditioning and weakness, increasing risk of future falls. Previous studies commonly interwove the concepts of FOF and falls, assuming each was a risk factor for the other. However, the specific risk pattern of FOF among vulnerable fallers over 70 years taking fall-related medications has not been fully explored.

**Methods:** This study was a secondary analysis of data from a previously conducted longitudinal correlational study of 47 community-dwelling adults over 70 years ($M$=78.9) taking medications associated with falls. Fall events, defined as actual fall and near falls, were ascertained for 12 months using fall diaries and monthly postcard FOF was measured by the Modified Falls Efficacy Scale (MFES). Data were analyzed using SPSS for Windows (Version 22.0. Chicago).

**Results:** Participants with a fall history were more likely to fall again during the follow-up ($X^2$ (1, N=46) =12.94, $p<.01$). However, we did not find an association between fall history and FOF ($F(1,44)=.24, p=.62$) , nor FOF and falling ($F(1,45)=2.94$, $p=.09$). Among fallers (n=33, 70%), FOF was more prevalent in people who used assistive devices ($F(1,31)=5.10$, $p=.031$) and did not daily participate in outdoor activities ($F(1,31)=8.21$, $p=.007$). FOF was positively correlated to age ($\rho(33) =.43$, $p=.012$) and number of previous medical diagnosis ($\rho(33) =.35$, $p=.048$), while fall history ($F(1,30)=.28$, $p=.60$) and gender ($F(1,31)=.59$, $p=.45$) were not associated with FOF. Cluster analysis revealed two predominant groups of fallers: those with psychoemotional risk factors (sedation, depressive symptoms, fear of falling) and those with physiologic risk factors (age, ambulation assistive devices, postural sway).

**Implications:** Although the sample size was small and the MFES has limitations in measuring the construct of FOF, the commonly assumed interplay among FOF, fall history and fall events was not confirmed in this population who were all older than 70 years and taking medications associated with falls. Less active adults with advanced age, increased number of medical diagnosis, and use of assistive devices for walking should be assessed for FOF. Although exploratory, the two distinct risk profiles warrant further investigation.

---

**Funding:** NIH/NINR Grant No. R15 NR05136 and Emma Eccles Jones Research Center.

# GERIATRICS

## Yoga for Seniors: Understanding Older Adults' Beliefs and Barriers to Participation

*Rebekah Perkins, MS, RN, Doctoral Student*
*Katarina Friberg-Felsted, MS, Instructor*
*Kara Dassel, PhD, Director, Gerontology Interdisciplinary Program*
*Gail Towsley, PhD, NHA, Associate Professor*
*Linda S. Edelman, PhD, RN, Associate Professor*
*College of Nursing*
*University of Utah*
*Salt Lake City, UT*

**Purpose:** The purpose of this study was to examine pre-frail and frail older adults' beliefs about yoga, knowledge about availability, affordability and accessibility of classes, and perceived barriers and intentions to practicing yoga.

**Background:** Study results have described the benefits of yoga for older adults, such as improving quality of life and slowing the progression of functional decline and frailty. These factors are often associated with aging and physical inactivity. Yet older adults are the least physically active of all age groups, and have low participation in yoga classes. The Beliefs About Yoga Scale (BAYS), developed by Sohl et al. (2011), measures knowledge, beliefs, and barriers to yoga participation. While several studies have confirmed the benefits of yoga, more research is needed to better understand older adults' perceptions surrounding yoga.

**Methods:** The Theory of Planned Behavior was used to guide this research. A convenience sample of patients, aged 55 and older, from a university faint, fall, and frailty clinic was recruited to complete a survey about health, home environment, and physical activity levels. Participants also completed the BAYS and described their intentions to practice yoga, as well as social and environmental barriers. Survey data were combined with participant electronic medical record demographic and health status data. Descriptive statistical analyses were conducted using SPSS version 22.

**Results:** Participants (N=37) had a mean age of 72.81 (SD=9.05) years; 60% were female. Participants were pre-frail (67%) or frail (33%) and most (78%) had fallen in the past year. The majority (85%) reported engaging in only light physical activity weekly, and just over a fourth (27%) in moderate physical activity. The BAYS mean score indicated overall favorable attitudes, M=59.17 (SD=12.5) out of a possible range of 11 to 77. The BAYS scores were not significantly different from reported scores from a sample of middle-aged adults, suggesting that this older population had similar positive beliefs about the benefits of yoga. Over 90% of participants had no past or current yoga experience, 97% had no intentions to practice yoga, and 62% did not know locations of classes, 82% did not know the average class cost, and only 56% reported having available transportation to yoga classes. The top barriers to practicing yoga were level of difficulty, lack of motivation, and fear of injury. Interestingly, 24% of participants did not answer questions about yoga even though they answered questions about physical activity.

**Implications:** Our results indicate that even though older adults have positive beliefs about yoga, they have little experience or intention to participate in yoga. Moreover, a nearly 25% non-response rate to the BAYS, suggests that some older adults may not feel comfortable or qualified to answer questions about yoga. More research to understand their knowledge, intentions, and barriers to participation is needed to tailor future yoga classes to pre-frail and frail older adults. Dissemination of this research will contribute to the knowledge of how older adults engage in yoga, and how yoga can contribute to active aging and the management of frailty and functional decline.

# Development of a Project Supporting Aging in Rural Japanese Communities

*Riho Iwasaki, RN, MS*
*Assistant Professor*
*The Center for Nursing Education, Research and Collaboration*
*Oita University of Nursing and Health Sciences*
*Oita, Japan*

*Tamae Sato, PHN*
*Professor, Community Health Nursing*
*Oita University of Nursing*
*and Health Sciences*
*Oita, Japan*

*Joan K. Magilvy, PhD, RN, FAAN*
*Professor Emerita*
*University of Colorado*
*College of Nursing*
*Aurora, CO*

*Takayuki Kageyama, PhD*
*Professor & Head of Center*
*The Center for Nursing Education, Research*
*and Collaboration*
*Oita University of Nursing and Health Sciences*
*Oita, Japan*

*Sachiyo Murashima, PhD, RN*
*President*
*Oita University of Nursing*
*and Health Sciences*
*Oita, Japan*

**Purposes/Aims:** An academic-community partnership project in progress in rural Japan is presented. This longitudinal project aims to support community health through preventive home visits to older residents by nursing students. Project development, pilot, initial implementation, and early evaluation are described.

**Background:** Japan is rapidly aging with a high proportion of older persons especially in rural areas. Many experience health and social problems of isolation and are homebound related to increasing physical and mental frailty. Supporting rural elders is difficult due to a shortage of young people and the isolating rural environment. In Japanese nursing education limited opportunities exist for students to observe older residents in their homes and community. Academic-community partnerships can address both needs but are relatively new in Japan.

**Undertaking:**

1) Three major objectives were established for this project: a) prevent deterioration of physical and mental function of older community residents to facilitate independent living; b) contribute to community health through preventative home visits; and c) raise awareness of the significance of mutual support among generations.
2) Approach: Project development required both a community-oriented approach and total university involvement. Community members (key leaders, residents, government staff, and health care providers) met with key university administrators and faculty for project planning, community development, and evaluation strategies. A small team of faculty, community leaders and an American consultant conducted a community assessment (windshield survey) targeted to health of the older population in two selected rural sites and a community advisory board was established. The faculty then revised the undergraduate curriculum to integrate project activities throughout the academic program. A one-year pilot project was established prior to full implementation.
3) Methods: In the full rollout, a team of 4 nursing students (freshman, sophomore, junior, senior) visits one participant (over age 75) four times/year, continuing to visit the same resident throughout their undergraduate program. Older community-dwelling volunteers not requiring skilled nursing and public welfare services were selected as participants. The communities had a high proportion of older residents; one was near the university and one somewhat distant, requiring that students visit by walking, car, or bus. Formative and summative evaluation includes data collected from participants, students, faculty, and community members.
4) Process: During the pilot year (2013-14), 8 teams of students (n=33) visited 8 participants, supervised by several faculty. Pilot evaluation identified many strengths and several issues leading to revisions in preparation for full implementation. Community members and faculty were closely involved throughout.

**Outcomes Achieved:** Full implementation began in spring 2015 with 333 students visiting 80 participants. The project enjoys participation of the full faculty and is overseen by the Project staff. Early evaluation results show participants feel less isolated and are pleased with the students' visits. Students gained knowledge of aging from participants, teamwork, and leadership.

**Conclusions:** This project is demonstrating positive psycho/social outcomes to participants and is a model for Japan. Future goals are to identify participant and community health outcomes, and to explore implications for nursing education and academic-community partnerships.

**Funding:** By Japan Ministry of Education, Culture, Sports, Science and Tech.

# GERIATRICS

## Yikes? Going against the Evidence to Reduce Patient Falls and Injuries

*Susan D'Antuono, MS, RN-BC, CNS*
*Huntington Hospital*
*Pasadena, CA*

**Purposes/Aim:** Reduce Fall Events

**Rationales/Background:** In 2008, the Adult Med Surg CNS assumed the responsibility for fall prevention in a 625 bed community hospital. Fall events were continuing to climb. A fall team was formed and literature reviewed. AHRQ stated that "there is no consensus as to whether any of these assessment instruments is better than others in fall prediction. In fact, even the best of these tools in terms of sensitivity and specificity underpredicted and overpredicted falls in acute care settings". The CNS noted RNs were paying more attention to the score than the actual risk factors that put the patient at risk. Additionally, most patients coming into hospitals have higher acuities and typically will have one or several fall risk factors. CNS question, *shouldn't we assess each patients risk for falling and plan interventions for each patient rather than assess for scores and determine interventions based on the score?*

**Undertaking/Best Practice/Approach/Methods/Process:** An alternative to the standardized tools was developed using risk factors for Mobility, Mentation, Medication, Elimination, and History of Falling. Interventions were developed for each risk factor identified. Though the tool was not tested for validity or reliability, most common risk factors in fall risk assessment tools were used as main categories and criteria developed for each risk factor. Nurses validated their understanding of the concepts and criteria.

**Outcomes Achieved/Documented:** The documentation was changed to reflect our new fall risk assessment protocol. Since 2008 we have reduced our fall numbers by 50%. Our improvements continue in 2014 with a 20% reduction in fall events and fall rate from 2013.

**Conclusions:** Managing all patients' fall risk rather than those scored high risk reduced fall events.

# GERIATRICS

## Looking from the Inside Out: An Emic Perspective of a Skilled Nursing Facility

*Kathleen Gilchrist, PhD, FNP, PHN, RN*
*Professor, Nursing*
*California State University, Bakersfield*
*Bakersfield, CA*

**Purpose:** The purpose was to uncover the emic culture of living as a resident in a skilled nursing facility.

**Background:** *Ethnography* was developed by anthropologists as a mechanism for studying different cultures. It means "portrait of a people." Through ethnography, nursing seeks to understand people: their ways of living, believing, and adapting. A culture is a way of life and belonging to a designated group of people. It is a blueprint for living that guides a particular group's thoughts, actions, and sentiments. It is the accumulated ways in which a group of people solves problems and is reflected in language, dress, food, traditions, and customs. Little research has been conducted from the realistic perspective of from someone living as a resident in a skilled nursing facility.

**Methodology:** Qualitative, ethnographic methodology was employed and is presented as an individual case study. During a seventeen day residence at a skilled nursing facility, the researcher was a resident in the facility, conducted participant observation, and participated in resident activities. Data were generated through the researcher listening to what was said, asking questions, and observing what was happening. Researcher field notes were taken during this time period, included statements by residents, aides, and nurses.

**Results:** Rich textual data revealed several themes. The overarching theme included a Culture of Complaining by Residents and Not Listening by Nurses, and Nurses' Aides. The researcher discovered many of the residents were unseen and nurses and aides did not hear what residents were saying. Many times there was no response by nurses or aides, or residents were ignored all together. The theme of Helping Each Other arose. Residents in the dining room would help each other get into the dining room by pushing or pulling a wheelchair, and assist each other with ordering and cutting up food, or help one get down the hall to an activity. Another theme was Lack of Compassion which was evident on the nurses and aides faces and lack of empathy. Many had a blank look, and some were just silent and did not even talk with the residents. One of the saddest themes to arise was Resident to Resident Aggression where one resident slapped another resident for no reason. Then, observing that even when aides were notified, nurses were not notified until much later. One theme to emerge was Missed Medications. Nurses not knowing what medications they were administering to residents, lying about the meds or stating a resident had taken them when the resident had not. Not keeping track of the medications including not ordering meds, no pain medications, and no antidiabetic medications. Lastly, the theme of Resident Patience evolved. Residents had to have a lot of patience to survive in the facility.

**Nursing Implications:** Even though this is only one perspective, research validates some of the findings. Research about resident to resident aggression in skilled facilities has been documented. One of the biggest questions is what happens to the long-term residents who cannot speak up? Research long term should be continued.

## Abstracts of Poster Presentations

---

# GRADUATE NURSING EDUCATION

---

### NURSE PRACTITIONER PRECEPTOR DEVELOPMENT: PILOTING AN INTERPROFESSIONAL APPROACH

*Anne P. Poppe, Renee Cantarini, Catherine P. Kaminetzky, Joyce E. Wipf*

---

### INCORPORATION OF ENTRUSTABLE PROFESSIONAL ACTIVITIES INTO NP PRIMARY CARE EDUCATION

*Miranda Surjadi, Suzan Stringari-Murray, JoAnne Saxe*

---

### STUDENT OUTCOMES R/T PROFESSIONAL SOCIALIZATION WITHIN AN ONLINE PHD PROGRAM

*Marylou V. Robinson, Paula M. Meek*

---

### ENGAGING DOCTORAL NURSING STUDENTS IN HEALTHCARE INFORMATICS

*Mary Doyle, Nicolette Estrada*

---

### ADVANCED PRACTICE NURSING STUDENT SERVICE LEARNING IN SCHOOL HEALTH CENTERS

*Emily Green, Naomi Schapiro*

## GRADUATE NURSING EDUCATION

### Nurse Practitioner Preceptor Development: Piloting an Interprofessional Approach

*Anne Poppe, PhD, RN*
*Associate Director of Evaluations*
*Center of Excellence in Primary Care Ed.*
*VA Puget Sound Health Care System Clinical*
*Assistant Professor*
*University of Washington SON*
*Seattle, WA*

*Renee Cantarini, MSN, ARNP, FNP-BC*
*Associate Director, CoEPCE*
*VAPSHCS*
*Seattle, WA*

*Catherine P. Kaminetzky, MD, MPH*
*Associate Chief of Staff for Education*
*Director, CoEPCE Evaluation, VAPSHCS*
*Assistant Professor of Medicine*
*University of Washington*
*Seattle, WA*

*Joyce E. Wipf, MD*
*Director, CoEPCE*
*VAPSHCS*
*Professor of Medicine*
*University of Washington*
*Seattle, WA*

**Purpose/Aims:** The purpose for designing a faculty development framework is to integrate best teaching practices into learning opportunities for nurse practitioner preceptors in an interprofessional team-based primary care clinic.

**Rationale/Background:** The Institute of Medicine (IOM) has recommended that health care organizations support transition-to-practice programs for nurses who complete an advance practice degree. However, even as the need for quality nurse practitioner (NP) preceptors is well acknowledged, there is a paucity of resources to prepare advanced practices nurses for the scope, expectations and responsibilities of preceptorship. The Veteran Affairs (VA) Puget Sound Health Care System Center of Excellence in Primary Care Education (CoEPCE) established a nurse practitioner residency program as part of the growth in their interprofessional point-of-care training program. Based on lessons learned from student evaluations of the NP preceptors, a framework was designed for professional development of our NP clinician educators to better prepare them for precepting post-graduate NP residents in providing patient-centered team-based care.

**Description:** Focus groups were conducted with DNP students and faculty in the CoEPCE training program to assess areas for NP preceptor development. Then NP preceptor development sessions were conducted monthly to discuss best practices for teaching and tools for improvement. For example, an interprofessional clinician faculty team of internal medicine physicians and nurse practitioners co-taught a session on best techniques for teaching case presentations. They also taught the NP preceptors a method to teach that probes the student's reasoning of a clinical case, identifies knowledge gaps and provides targeted teaching pearls and feedback focused on the student's needs. Students evaluated the preceptors at 6 and 12 months post-initiation of the new faculty development framework with a newly designed tool based on competency domains identified in the literature and developed using a modified Delphi technique. Preceptor competency domains include: 1) organized/clarity, 2) attitude/ enthusiasm, 3) clinical competence, 4) knowledge, 5) modeling professional role, 6) teaching/ coaching, 7) supervision/ mentoring.

**Outcomes:** Pilot data from the preceptor evaluations showed improvements of NP preceptors in all of the preceptor competency domains.

**Conclusions:** Utilizing a faculty development framework is useful for integrating best practices in teaching to prepare NPs in their role as preceptors. Faculty development led by Interprofessional clinician-educators is effective as measured by a new tool to assess seven domains of preceptor competency. These early outcomes indicate that further development and evaluation of the framework as well as validation of the preceptor evaluation tool are warranted.

---

**Funding:** This project has been funded by the Centers of Excellence in Primary Care Education of the Office of Academic Affiliations, US Department of Veterans Affairs.

# GRADUATE NURSING EDUCATION

## Incorporation of Entrustable Professional Activities into Nurse Practitioner Primary Care Education

*Miranda Surjadi, RN, ANP-BC*
*Assistant Clinical Professor*
*Department of Community Health Systems*
*University of California, San Francisco School of Nursing*
*San Francisco, CA*

*Suzan Stringari-Murray, RN, ANP-BC*
*Clinical Professor*
*Department of Community Health Systems*
*University of California, San Francisco*
*San Francisco, CA*

*JoAnne Saxe, DNP, ANP-BC, FAAN*
*Clinical Professor*
*Department of Community Health Systems*
*University of California, San Francisco*
*San Francisco, CA*

**Aims:** Designing and implementing a competency-based evaluation tool for NP students in clinical residencies that is aligned with the American Association of Colleges of Nurses'(AACN) and National Organization of Nurse Practitioner Faculties' (NONPF) Adult Gerontology Primary Care Nurse Practitioner competencies.

**Background:** Advanced practice registered nursing has a growing list of professional competencies that are based on a population of focus. Yet, current evaluation processes often lack the ability to assess readiness for unsupervised practice. To respond to this gap, there has been a growing body of literature and best practices aimed at assessing readiness for practice referred to as Entrustable Professional Activities (EPA) assessments. EPAs are "units of professional practice" that represent a unit of work, which demonstrate competencies (Association of American Medical Colleges, 2014). Competency is an observable component, such as skill, knowledge, attitude, or values that can be assessed. In addition, EPAs are behaviors that students are entrusted to demonstrate unsupervised after they have achieved specific competencies prior to entry into NP practice.

The Association of American Medical Colleges has developed and implemented a conceptual framework for competency-aligned EPAs. Yet to date, nursing has not begun to identify developmentally appropriate EPAs that can guide assessment of the desired competency.

**Methods:** The University of California, San Francisco's Adult Gerontology Primary Care Nurse Practitioner (AGPCNP) Program Faculty have developed a clinical performance evaluation tool that is linked to a continuum of accountability in primary care ,which is milestone-based from not yet entrustable to entrustable for our AGPCNP first and second year students. The core EPAs are linked to the AACN and NONPF AGPCNP competencies. Our scaling system for our clinical performance evaluation system tool changed from a 10 point scale to a 5 point scale with descriptions of each point and how it links to the student learner's entrustability. We have 6 categories of EPAs with multiple competencies under each EPA category. Clinical educators who will be using the new clinical performance evaluation tool will receive the continuum of accountability, which outlines milestones for each quarter in first and second year of the AGPCNP clinical residencies.

**Outcomes:** We are in the process of revising our clinical performance evaluation tool to incorporate best practices in competencies and EPAs. Feedback from 13 clinician educators has been favorable. Faculty reviewers have noted that the new tool better measures clinical performance than previous clinical evaluation tools. Results from initial implementation of this EPA assessment process to all AGPCNP students in fall 2015 will be available for analysis in winter 2016.

**Conclusions:** We anticipate that a redesign of the AGPCNP clinical performance evaluation tool based on clinical competencies and EPAs will improve clinical assessment of our first and second year AGPCNP students. We have designed this clinical evaluation tool so that it can be generalized, used, and disseminated in other NP primary care programs nationwide. We strive to achieve best practices by incorporating EPAs into our clinical performance evaluation tool in order to better assess a student learner's readiness into professional NP practice.

---

**Funding:** Interprofessional Adult Gerontology Education for Nurse Practitioners, HRSA Advanced Education in Nursing Grant (D09HP25928).

# GRADUATE NURSING EDUCATION

## Student Outcomes r/t Professional Socialization within an Online PhD Program

*Marylou V. Robinson, PhD, FNP-C*
*Associate Professor, College of Nursing*
*University of Colorado Denver*
*Aurora, CO*

*Paula M. Meek, PhD, FAAN*
*Professor, College of Nursing and Director of the PhD Program*
*University of Colorado Denver*
*Aurora, CO*

**Purpose/Aim:** Determine whether students and recent graduates of the PhD program are socialized into adopting the professional role of the nurse scientist.

**Rationale/Background:** Quality in research focused doctoral programs is reflected by many attributes including socialization into the nurse scientist role. Weidman and Stein describe socialization as a fluid and interactive process "through which individuals learn to adopt the values, skills, attitudes, norms and knowledge needed to belong to a given society, group or profession." In traditional face-to-face programs, personal mentoring and role modeling occur on a frequent local basis. On-line programs face challenges in providing the same level of professional formation. Weidman and Stein (2003) developed the Doctoral Student Socialization scale with traditional programs in education, sociology and engineering. Our program has been online for 20+ years with both national and international student enrollment. Every semester there is a week-long face-to-face intensive followed by teleconferencing, synchronous and asynchronous discussion boards, individual telephonic or internet coaching sessions, personalized email and assignment feedback. Intensives include program updates and next steps, course content, links to faculty and their research, peer to peer time and social gatherings with all students and faculty to encourage networking, facilitation of communication between cohorts and establishment of ties to the program. This project is undertaken as part of the self-assessment program evaluation of our PhD program.

**Methods/Process:** Both current and recent PhD graduates will be asked to compete the Weidman & Stein scale via a URL link to RECAP which will provide responses to a non-PhD faculty member (first author). Statistical analysis with de-identified data using SPSS ver 22 for frequency and inferential results will be submitted to the PhD Program Director (second author) for review. General demographics plus three subscales will: a) enumerate scholarship activities; b) obtain student perceptions of peer and faculty interaction; and c) measure the faculty climate in the school. Cohorts will be compared to each other as well as with graduates using non-parametric statistics.

**Outcomes:** Data is being collected currently. Analysis will be completed by the conference date. The outcomes will be presented and compared with the published findings of another online nursing doctoral program using the same scale (Goodfellow, 2014).

**Conclusions:** Findings will be presented to the PhD Steering Committee with other aspects of the program evaluation. Needs potentially uncovered will contribute to continuous process of evaluation and form the basis for replication in the future.

---

**Funding:** President's Teaching and Learning Collaborative University of Colorado (intramural support).

# GRADUATE NURSING EDUCATION

## Engaging Doctoral Nursing Students in Healthcare Informatics

*Mary Davis Doyle, PhD, RN, CPHQ*
*Clinical Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*
*mdoyle6@email.arizona.edu*

*Nicollete Estrada, PhD, MAOM, RN, FNP*
*Clinical Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*

**Purposes/Aims:** The purpose of this paper is to identify methods and strategies for engaging students in informatics, a field that is rapidly changing.

**Rationale/Background:** Informatics supports healthcare delivery through the application of data management and computer technology. As this specialty has evolved in the last three to four decades, the importance of a working knowledge of informatics and in some areas, expertise, has grown for nursing leaders. In academia, the majority of nursing students are computer literate but usually limited in their interaction with personal computers, smartphones, and perhaps electronic health records. Increasingly, doctoral nursing programs are offering courses in informatics for students; The Eight Essentials for Doctor of Nursing Practice degrees specifically include informatics. During the beginning of their informatics course, many students report confusion and apprehension about what the course entails, indicating they are not familiar with the subject matter or how it may apply to their future role. The challenge undertaken by two instructors has been to revise an existing informatics course with an eye to updating content and method of delivering material. Since this is an online offering, a secondary challenge is to develop and maintain a supportive presence to engage with the students.

**Specific Actions Taken/Innovation:** The doctoral nursing informatics course has been offered for over fifteen years at the University of Arizona, beginning as a face to face course but transitioning to online status in the early 2000s. In 2015, multiple resources about informatics were explored to update content. Innovative delivery and evaluation options were examined for online teaching and accreditation of online courses. Informatics nurse scientists were consulted to guide the content and course design. Exemplars will be highlighted in the poster.

**Outcomes Achieved/Documented:** The standard method for evaluating courses and instructors at the University of Arizona is the Teacher Course Evaluations (TCE) program. TCE scores from before and after the revisions will be available for comparison before the 2016 WIN Conference. Additional informal feedback from the fall 2015 course will be included.

**Conclusions:** Preparing doctoral nursing students to be knowledgeable about the range of informatics applications is a challenge for instructors. Another challenge is to facilitate how to establish and maintain a presence with students as they find meaning for their new roles interacting with technology and information management. This paper will provide examples that have promise for meeting both challenges and sustaining the quality of this course and other online offerings.

# GRADUATE NURSING EDUCATION

## Advanced Practice Nursing Student Service Learning in School Health Centers

*Emily Green, RN, PhD*
*Staff Research Associate*
*Department of Family Health Care Nursing*
*UCSF School of Nursing*
*San Francisco, CA*
*Emily.Green@ucsf.edu*

*Naomi A. Schapiro, RN, PhD, CPNP*
*Clinical Professor*
*Department of Family Health Care Nursing*
*UCSF School of Nursing*
*San Francisco, CA*
*Naomi.Schapiro@ucsf.edu*

**Purpose:** NP students and faculty were placed in school-based health centers in a medically underserved urban area in order to increase the sustainability of these health centers and provide NP student service learning experiences in early adolescent development, culturally responsive care and social determinants of health. We performed a qualitative thematic analysis of written NP student pre- and post-experience reflections in order to ascertain the impact of alternative community-oriented service learning experiences on community engagement of nurse practitioner students.

**Background:** One part of a wider project aimed at building academic-community partnerships involved placing advanced practice nursing and dental faculty, as well as providers and advanced practice students in the middle school School Health Centers (SHCs). These students and practitioners delivered health care, population-level screenings, case management services and health education to students and their families, all while supporting a financially sustainable and integrated school-based health care service delivery model. The intended purpose of the self-reflections were to deepen the students' learning from service projects, specifically to deepen their understandings of the social determinants of health, working with youth across class, cultural and racial/ethnic differences, understanding the developmental issues of early adolescence, and how the students experienced interprofessional dynamics.

**Methods:** Students participated in self reflections that collected information before, during and after their service learning placement. Self-reflections were collected from PNP, FNP and dental students between 2012 and 2014. Fifty-one students completed the pre- reflections in 2012 (25) and 2013 (27). There was some attrition in participation over the course of the clinical placement. Thematic analysis was employed as the primary analytic strategy.

**Results:** Our analysis revealed an overall enthusiasm and satisfaction among students in school-health centers. Three major themes were identified: 1) the importance of orientation and preparation and its impact on expectations, supporting student's educational goals, and gaining rich self- reflections, 2) the impact of the student's personal background on their experience including whether or not they came from a similar community, confronted similar health issues, or identified with the youth population, and 3) unanticipated lessons learned (from practitioners, parents, students, staff, etc).

**Implications:** This project highlights the value of student service learning projects in supporting the development of academic-community partnerships. It also serves the greater purpose of increasing the diversity and cultural responsiveness of the future nursing workforce by engaging NP students in clinical practice in underserved communities and exposing urban youth to health-oriented science curriculum and graduate student role models.

---

Funding: UCSF Elev8 Healthy Students and Families grant from the Atlantic Philanthropies, a limited life foundation.

# HEALTH SYSTEM LEARNING: AN EMERGING FIELD FOR RESEARCH AND PRACTICE

## OVERVIEW: HEALTH SYSTEM LEARNING: AN EMERGING FIELD FOR RESEARCH AND PRACTICE

*Bret R. Lyman*

## THE LEARNING HISTORY: A RESEARCH METHOD TO STUDY HEALTH SYSTEM LEARNING

*Bret R. Lyman*

## HEALTH SYSTEM LEARNING: UNDERSTANDING PERFORMANCE IMPROVEMENT IN A CRITICAL CARE UNIT

*Kalene Mears, Bret R. Lyman, Hayley Lundeen*

## HEALTH SYSTEM LEARNING: UNDERSTANDING PERFORMANCE IMPROVEMENT IN A POST-SURGERY UNIT

*Lindsey Shaw, Bret R. Lyman, Lisa Echols*

## HEALTH SYSTEM LEARNING: UNDERSTANDING PERFORMANCE IMPROVEMENT IN NURSING EDUCATION

*Lisa Echols, Bret R. Lyman, Lindsey Shaw*

# HEALTH SYSTEM LEARNING: AN EMERGING FIELD FOR RESEARCH AND PRACTICE

## Overview: Health System Learning: An Emerging Field for Research and Practice

*Bret Lyman, PhD, RN*
*Assistant Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Kalene Mears, LPN*
*Baccalaureate Nursing Student*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Lindsey Shaw*
*Baccalaureate Nursing Student*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Lisa Echols*
*Baccalaureate Nursing Student*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

**Purpose:** The purpose of this presentation is to introduce an emerging field within organizational science that is focused on health systems, including the Learning History research method and findings from Learning Histories conducted to date.

**Background:** A 2012 Institute of Medicine paper suggested that achieving sustainable, systemic improvement in healthcare requires continuous learning across the entire United States' healthcare system, including the individuals and organizations that comprise the system.

Organizational scientists define the process of continuous learning as organizational learning. Organizational learning has been positively correlated with improved performance in many industries. Expected manifestations of organizational learning include high performance and rapid rates of performance improvement. In organizations that have achieved satisfactory levels of performance, organizational learning contributes to performance reliability (i.e. low variability in quality and outcomes).

Organizational science has significant potential to inform performance improvement in health system. However, although health systems share similarities with other types of organizations, health systems also have a unique culture, hierarchy, history, regulatory environment, financial model, public accountability, etc.

The uniqueness of health systems and the seemingly intractable challenge of achieving systemic improvement in standard measures of quality and safety seem to indicate the need for a focused field of study that attempts to combine the best science from organizational learning with the special organizational situation of health systems. We propose this focused field of study be called "health system learning". This symposium is designed to introduce this new field, a research method that has potential within the field, and to demonstrate research designs and findings that contribute to the field.

Dr. Lyman will present the Learning History method as research strategy with potential to contribute to this emerging field. Kalene Mears will present findings from a Learning History conducted with a critical care unit situated within a regional medical center that is part of a large, not-for-profit health system. Lindsey Shaw will present findings from a Learning History conducted with a specialty post-surgical unit embedded in a rural hospital that is part of a national, for-profit health system. Lisa Echols will present her research design and preliminary findings from a Learning History conducted with a College of Nursing that has demonstrated exceptional performance.

**Conclusion:** Each of these presentations should offer a unique, but complementary view of research methods and findings that reflect health system learning as an emerging field of research that has potential as a means for improving quality and safety in health systems.

# HEALTH SYSTEM LEARNING: AN EMERGING FIELD FOR RESEARCH AND PRACTICE

## The Learning History: A Research Method to Study Health System Learning

*Bret Lyman, PhD, RN*
*Assistant Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

**Purpose:** The purpose of this presentation is to introduce the Learning History as a research method that can generate new knowledge about how health systems learn. Health system learning manifests as improved health system performance.

**Background:** The Learning History is an action research method that was developed by organizational scientists as a participatory approach to studying and building infrastructure for learning in organizations. The participatory research process results in a documented history of an organization's improvement pathway, as it pertains to several outcomes that stakeholders within the organization have identified as notable. Although the Learning History has been used to study educational, governmental, industrial, and environmental organizations, it is new to healthcare. This method has significant potential to enhance our understanding of how learning and improvement occur in health systems. Gaining this understanding is a foundational step toward developing interventions that support, accelerate, and sustain learning (improvement) in health systems.

**Method:** The Learning History method involves several steps, as follows:

1. Establish an "insider/outsider" research team, with membership from within the organization and from outside the organization.
2. Invite key stakeholders from the organization to discuss the organization's performance and identify three to five areas of performance that are a source of pride for the organization (these are referred to as "notable outcomes").
3. Recruit participants from the organization others who are familiar with the organization's history, as it pertains to the notable outcomes.
4. Conduct individual interviews or focus groups in which participants recount the history of their organization's improvement related to the notable outcomes.
5. Gather "artifacts" (performance data, meeting records, etc.) that are complementary to participant accounts of organizational improvement.
6. Concurrently collect and thematically analyze data until saturation is reached.
7. Write a draft version of the organization's learning history
8. Validate the learning history with participants, editing as needed
9. Hold dissemination meetings within the organization to present and discuss the learning history.
10. Prepare a version of the learning history for presentation and publication to the broader community of researchers, educators, and practitioners.

**Implications:** The Learning History is an action research method that is new to healthcare, and has the potential to offer new insights into how health systems learn and improve.

# HEALTH SYSTEM LEARNING:
# AN EMERGING FIELD FOR RESEARCH AND PRACTICE

## Health System Learning: Understanding Performance Improvement in a Critical Care Unit

*Kalene Mears, LPN*
*Baccalaureate Nursing Student*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Bret Lyman, PhD, RN*
*Assistant Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Hayley Lundeen, BSN, RN, CCRN, CSC, CMC*
*Registered Nurse and Unit-Based Council Chair*
*Utah Valley Regional Medical Center*
*Intermountain Healthcare*
*Provo, UT*

**Purpose:** The purpose of this study was to generate new understanding of how health systems "learn", as evidenced by improvements in health system performance over time.
**Background:** Improving quality and safety in healthcare is a challenging imperative. Lagging rates of improvement in health systems have been attributed to their unique organizational complexity, culture, and structure. The IOM recommends continuous system-level learning as a way to achieve sustainable excellence in health care, yet little is known about how health systems learn. In this study, a research method that accounts for the complexities of health systems was used to better understand how such systems learn.
**Methods:** The health system of focus was a critical care unit with a reputation for sustained excellence in clinical outcomes and patient experience. The unit is situated in a regional medical center that is part of a large, not-for-profit health system. The Learning History research method was used to identify five of the unit's notable outcomes and document the unit's pathway toward achieving those outcomes. Notable outcomes included excellence in 1) patient experience, 2) staff engagement, 3) patient safety, 4) unit-specific core measures, and 5) unit-specific clinical outcomes. Focus group interviews were conducted with unit nursing staff and other interprofessional team members. Relevant artifacts, including unit performance data, were gathered to complement interview data. A thematic analysis process was used, and findings were validated with a subset of participants.
**Results:** In 10+ years, the critical care unit has experienced several eras of development that each contribute to their sustained, excellent performance in the notable outcomes identified. The eras progressed as follows: 1) creating a sense of ownership among the staff and establishing a positive identity for the unit, 2) using a team approach to work through challenges and building mutual respect among team members, 3) increasing individual and collective accountability for meeting performance expectations, while also enhancing support to meet those expectations, 4) seeking systems-based solutions to ensure performance reliability and sustainability in a complex, dynamic unit. The learning achieved in each era served as a foundation for the learning that would occur in the subsequent era. The current era of ensuring reliability and sustainability seems to reflect the unit's developed ability to anticipate change and rapidly adapt to it, and an ability to design processes that are robust to the change and complexities that are ever-present for the unit.
**Implications:** This unit's learning history demonstrates one pathway by which a health system has learned and improved its performance over time to achieve sustained excellence. This unit's learning history is likely unique in some ways, but common in others. Future research of this type should be conducted to begin identifying patterns that could lay the groundwork for theoretical frameworks and models of health system learning.

# HEALTH SYSTEM LEARNING:
# AN EMERGING FIELD FOR RESEARCH AND PRACTICE

## Health System Learning: Understanding Performance Improvement in a Post-Surgery Unit

*Lindsey Shaw, AA*
*Baccalaureate Nursing Student*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Bret Lyman, PhD, RN*
*Assistant Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Lisa Echols, AS, CMA*
*Baccalaureate Nursing Student*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

**Purpose:** The purpose of this study is to discover how a health system, specifically a hospital unit, learned to improve outcomes.

**Background:** This study builds upon a previous research in which the Learning History research method was used to discover and describe the pathway by which a critical care unit learned to achieve and sustain excellent outcomes. The previous study focused on hospital unit situated in a regional medical center that was part of a large, not-for-profit health system. That hospital unit's history of learning (improvement) extended over 10 years, and included several distinct developmental eras, progressing from creating staff ownership and a positive identity for the unit to striving for reliable performance and sustained excellence. This study will generate a detailed description of another hospital unit's learning history, thus offering an opportunity to begin identifying patterns of health systems learning across hospital units.

**Methods:** The unit of focus for this study is a specialty post-surgery unit, embedded in a rural hospital that is part of a national, for-profit health system. The Learning History research method was used to identify five of the unit's notable outcomes. These notable outcomes include, 1) collaboration among nurses and with physicians, 2) patient and family satisfaction, 3) low rates of hospital acquired infections, 4) effective shift change/report, and 5) clinical protocols. Individual interviews are currently underway with unit nursing staff. It is anticipated that other members of the interprofessional team will occur as well. Artifacts, including relevant forms, are being gathered. Thematic analysis is ongoing as the interviewing and data gathering process continues. Data collection will continue until saturation is reached. A validation process with selected participants will be used to improve the trustworthiness of the findings.

**Results:** This study is currently in process. No results are available at this time. It is anticipated that results will be available for inclusion in the conference presentation.

**Implications:** Implications are pending because this research is currently in process.

# HEALTH SYSTEM LEARNING:
# AN EMERGING FIELD FOR RESEARCH AND PRACTICE

## Health System Learning: Understanding Performance Improvement in Nursing Education

*Lisa Echols, AS, CMA*
*Baccalaureate Nursing Student*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Bret Lyman, PhD, RN*
*Assistant Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Lindsey Shaw, AA*
*Baccalaureate Nursing Student*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

**Purpose:** The purpose of this study is to identify notable outcomes within an organization, specifically a College of Nursing, and discover how that organization has learned (improved) over time to achieve those outcomes.

**Background:** A learning organization is one that facilitates the learning of its members and, as a result, continuously transforms itself to improve its performance over time. A growing number of scholars are conceptualizing and studying higher educational institutions (HEI) as learning organizations. This trend may be of particular interest to researchers studying organizational learning in health systems, also referred to as health system learning. Colleges of Nursing are necessarily situated in HEIs, yet they are also an integral part of the broader health care system. For example, Colleges of Nursing adapt curriculum to reflect advances in evidence-based practice, generate new knowledge for clinical practice through faculty research, and respond to changing workforce needs by adjusting admissions practices. This research complements two studies in which the Learning History research method was used to explore health system learning in different hospital units. Similarly, this study uses the Learning History method, but it also expands the scope of health system learning research to include Colleges of Nursing.

**Methods:** The unit of focus for this study will be a College of Nursing. A key stakeholder group from the participating College will be convened to identify three to five notable outcomes. Individual or group interviews will then be conducted to gain information about the learning (improvement) that occurred over time to achieve those notable outcomes. Interview participants will include College faculty, staff, students, administrators, and others who may be able to share relevant information. Relevant artifacts (such as College evaluation data, meeting notes, etc.) will be gathered to help triangulate and enrich the interview data. Ongoing thematic analysis will occur through the data gathering process. Data gathering will continue until saturation is reached. Researcher interpretations of the data will be validated with participants to enhance trustworthiness.

**Results:** This study is not yet complete, so no results are available. Initial results are expected to be available for inclusion in the conference presentation.

**Implications:** Specific implications will be available after the study is complete.

# Abstracts of Poster Presentations

# HEALTH SYSTEMS

## REVIEW OF COST-EFFCTIVENESS ANALYSIS IN US NURSING RESEARCH 1997–2014

*Wendy A. Cook, Megan L. Morrison, Linda H. Eaton,*
*Brian R. Theodore, Ardith Z. Doorenbos*

---

## RELATIONAL SKILLS TRAINING AND NURSES' RESPONSE TO CONFLICT

*Barbara D. Bonnice*

---

## DEVELOPMENT OF A NURSING RESEARCH DEPARTMENT IN A LARGE HEALTH CARE ORGANIZATION

*Tim Melden, Perry M. Gee, Frances L. Patmon, Elise Dempsey*

# Review of Cost-Effectiveness Analysis in U.S. Nursing Research: 1997-2014

*Wendy A. Cook, MSN, MA, RN, PhD Candidate*[1]*, wacook@uw.edu*
*Megan L. Morrison, MSN, FNP-BC, PhD Candidate*[1]
*Linda H. Eaton, PhD, RN, AOCN, Project Director*[1]
*Brian R. Theodore, PhD, Research Assistant Professor*[2]
*Ardith Z. Doorenbos, PhD, RN, FAAN, Professor*[1]

[1]*Biobehavioral Nursing & Health Systems*
[2]*Department of Anesthesiology & Pain Medicine*
*University of Washington*
*Seattle, WA*

**Aims:** The aims of this study were to describe the use and quality of economic evaluations in U.S. nursing research published in English-language journals between 1997 and 2014 and to determine the extent to which these studies followed the recommendations of the 1996 U.S. Preventative Services Taskforce (USPSTF) panel on cost-effectiveness in health and medicine.
**Rationale:** Healthcare resources must be used judiciously while still achieving desired outcomes. Research that evaluates both the clinical outcomes and cost-effectiveness of interventions provides nurses with important information to support decisions that make use of the limited resources available as efficiently and effectively as possible. Although there is a need for high-quality economic evaluations of nursing practice, the last review of economic evaluations in the nursing literature was completed in 1996. A current review on the state-of-the-science with respect to economic evaluations relevant to the field of nursing will identify current strengths and weaknesses in the quality of the methodology utilized, and potentially help improve the field by underscoring the importance of robust methodology in health economics.
**Methods:** Four databases were searched using a 10-item search strategy. Publication titles were reviewed to ascertain whether the publication related to an analysis of both costs and outcomes, evaluation within the U.S., and nursing and/or nursing care. Abstracts were reviewed when determination could not be made based on title alone. A final full-text review of remaining publications evaluated the additional inclusion criterion of use of the quality-adjusted life year (QALY) as the measure of effectiveness. For studies meeting the inclusion criteria, data were extracted from full-text articles using criteria from USPSTF guidelines for cost effectiveness analysis in health and medicine.
**Results:** From 2,465 titles initially identified, 33 met the inclusion criteria. Overall reviewer agreement across all four final inclusion criteria averaged 87%. Of these publications meeting inclusion criteria, a greater proportion were published in the last 3 years of analysis (average of 5.7 publications/year from 2012 – 2014) versus the preceding 15 years (average of 1.1 publications/year from 1997 – 2011). Analysis of study quality for each included study is in progress. Study quality will be assessed using selected items from USPSTF guidelines including the use of the recommended societal perspective, the discounting of future costs and outcomes, the inclusion of an indication of uncertainty in results, and the incorporation of the four recommended resource utilization categories: (1) healthcare resources, (2) non-healthcare resources, (3) patient time, and (4) caregiver time.
**Implications:** The publication record indeed shows a growing emphasis on economic evaluation, specifically cost-effectiveness analysis (CEA) trials, as well as improving quality of publications that are relevant to the field of nursing. Cost-effectiveness analysis is a valuable source of information that supports evidence-based decision-making. With the introduction of accountable care models of reimbursement, CEA will be an increasingly important addition to nursing research.

---

**Funding:** This work was supported by the National Institute of Nursing Research of the National Institutes of Health under award numbers R01NR012450 and K24NR015340.

Paper withdrawn. This page left blank intentionally.

# HEALTH SYSTEMS

## Nurses' Communication Skills and Response to Conflict: Impact of "New Directions" Relational Skills Training

*Barbara Bonnice, DNP, RN, NE-BC*

**Rationale/Background:** Conflict avoidance and ineffective efforts to resolve conflict are associated with increased patient harm. The person-centered approach (PCA) to relating provides four skills to assure effective communication, even in situations of conflict. Few studies have demonstrated changes in collegial relationships and improved patient safety after formal communication and conflict training.

**Purpose/Aims:** This study evaluated the sustained impact of the "New Directions" program on nurses' communication skills and response in situations of conflict.

**Approach/Methods:** This retrospective study followed one small group of subjects. The sampling frame included 24 participants who voluntarily registered for one of three "New Directions" Program at OHSU over the past four years. Dependent variables were approaching a team member in a situation of conflict and relating successfully in a situation of conflicting differences. Independent variables included use of relational skills at the end of the program versus two or four years later and the influence of participants' general self-efficacy (GSE). 13 participants completed the survey data and 11 submitted written exemplars of approaching and avoiding conflict.

**Outcomes Achieved/Documented:** A paired t-test demonstrated a significant increase in the relational skill of suspending negative judgments and in the outcome of approaching a team member in a situation of conflict. Correlational analyses show a significant correlation between GSE and the relationship skills at two or four years. Multiple regression testing demonstrated significance for the overall model of approaching conflict. Multicollinearly stemming from an untested relational skills scale precluded estimating the relative effect of each of the independent variables on the participants' approaching conflict and relating successfully. 40% of the exemplars showed the participants suspended negative judgments and 70% found a gift or benefit from having approached the conflict. Study participants who review the results identified professional responsibility for effective team relationships as another variable that influenced their approaching conflict.

**Conclusions:** This study contributes preliminary modeling for identifying the variables that most influence nurses to protect patient safety by approaching team members and relating successfully by embracing differences in situations of conflict.

# HEALTH SYSTEMS

## Development of a Nursing Research Department in a Large Healthcare Organization: Fostering a Culture of Inquiry

*Tim Melden, MS, RN, Director*
*Perry M. Gee, PhD, RN, Nurse Scientist*
*Frances L. Patmon, PhD, RN, Nurse Scientist*
*Elise Dempsey, PhD, RN, VP of Nursing Research, Chief Nursing Informatics Officer*
*Nursing Research and Clinical Informatics*
*Dignity Health*
*Phoenix, AR*

**Purpose:** The purpose of this project was to develop a nursing research program at a large health care organization focused on improving patient outcomes, fostering a culture of inquiry and guiding decision making based on evidence based practice. Additional goals were aimed at raising the bar of patient care while supporting strategic initiatives. Figure 1 illustrates the importance placed upon research as an integral component to patient care services.

**Background:** This healthcare organization is comprised of 43 facility healthcare system situated across three states. We developed and implemented a program of nursing research focused upon improving patient outcomes, optimizing the user experience, guiding decision making, measuring return on investment and other evolutionary motivators. The decision to pursue research at an enterprise level was the combined result of organizational changes at the executive level, the appointment of an enterprise-wide Chief Nursing Executive (CNE) and Chief Nursing Informatics Officer (CNIO), and realignment of the Clinical Informatics department with patient care services. These organizational changes combined with renewed opportunities to collaborate with the already existing research efforts at many of the facilities, assisted in the development of the Nursing Research and Analytics Team.

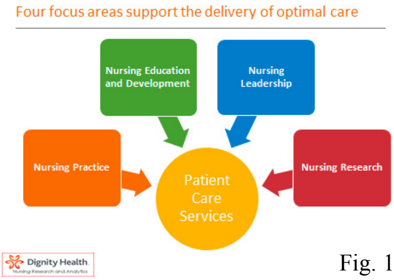


Fig. 1

A significant contributing factor to the development of the research department was organizational restructuring; however it was also related to the vision and support of the CNO and CNIO. Transitioning from the Information Technology (IT) division to patient care services refocused the clinical informatics department and allowed for a more formal enterprise wide Nursing Research department to take shape.

**Best Practice:** The development of the research team was the culmination of efforts on the part of the CNIO, Director of Nursing Research and the newly formed team. This group was able to assemble a team with a shared passion for "doing the right thing". The team constitution as illustrated in Figure 2, was assembled over a period of six months. A shared passion for research and data-driven decision making were pre-requisites for participation / selection. The structure of the team development was based upon guidance provided by recommendations from academically based colleagues, available literature and our organizational capacity for adoption of recommendations.

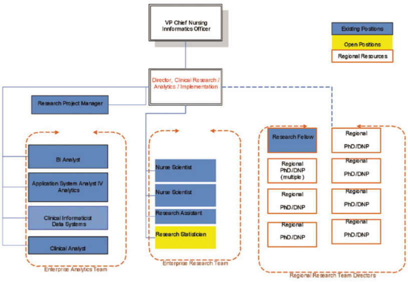


Fig. 2

**Outcomes Achieved:** There are several areas of study in place, as well as analytic projects. Ongoing efforts focus on support and development of research projects and ongoing development of the department. Notably, the recently held and well-received inaugural nursing research summit will inform future activities, including ongoing enterprise research council meetings, which will prioritize and align research collaboration.

**Conclusions:** The development of a nursing research program at a non-academic large healthcare organization is a novel and innovative decision. This infrastructure will support the advancement of nursing research and evidence based practice within the organization by establishing initiatives to increase professional growth through mentoring and research opportunities. This endeavor allows nursing to have a voice that will improve business decision making by providing scientific testing and analysis as well as contribute knowledge to the overall body of nursing literature.

# HEALTHCARE SYSTEMS RESEARCH AT THREE LEVELS IN CONTEXT OF HOSPITAL CARE DELIVERY

## OVERVIEW: HEALTHCARE SYSTEMS RESEARCH AT THREE LEVELS IN CONTEXT OF HOSPITAL CARE DELIVERY

*Jamie L. Mignano, Kara Snyder, Martha Grubaugh*

---

## TRANSITIONS OF CARE FOR PERSONS LIVING WITH HIV THROUGH HEALTHCARE SYSTEMS RESEARCH

*Jamie L. Mignano*

---

## EXAMINING THE NURSE MANAGER PRACTICE ENVIRONMENT

*Martha Grubaugh*

---

## AGILITY, PATIENT OUTCOMES AND ENVIRONMENTAL TURBULENCE: A THEORETICAL FRAMEWORK

*Kara Snyder*

# HEALTHCARE SYSTEMS RESEARCH AT THREE LEVELS IN CONTEXT OF HOSPITAL CARE DELIVERY

## Overview: Healthcare Systems Research at Three Levels in Context of Hospital Care Delivery

*Martha L. Grubaugh, RN, MS, NE-BC, PhD Student, martha.grubaugh@ucdenver.edu*
*Jamie L. Mignano, RN, MSN, MPH, PhD Student, jamie.mignano@ucdenver.edu*
*Kara Snyder, RN, MS, CCRN, CCNS, PhD Student, kara.snyder@ucdenver.edu*
*College of Nursing*
*University of Colorado at Anschutz Medical Campus*
*Aurora, CO*

**Purpose:** Systems research can be conducted at multiple levels of the health care delivery system. The purpose of this symposium is to apply the Systems Research Organizing Model (SROM) within three different contexts of hospital care delivery for three emerging programs of research, including re-engagement in care of persons living with HIV, workforce agility, environmental turbulence and patient outcomes, and nurse manager practice environment.

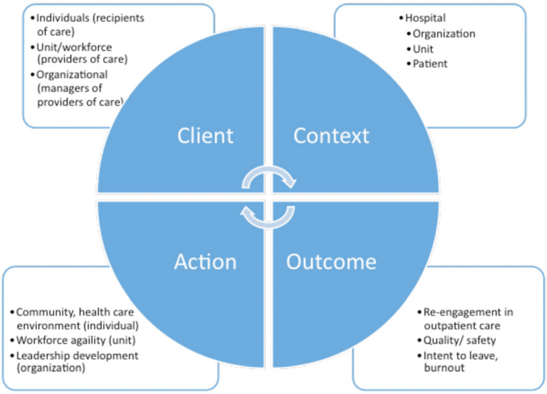
**Rationale/Conceptual Basis:** The SROM is a conceptual framework developed in 2008 by Brewer, Verran and Stichler, grounded in systems theory and may serve as a framework for new research. The SROM is well purposed for systems research due to its recognition that the healthcare environment is complex and interrelated. It organizes each variable of the health care system into four core constructs. Health care systems research may be carried out at multiple levels of the delivery system, but maintains the interrelated variables of the health care system. Models of health systems research can be carried out at three levels, including the individual, unit and organization.

**Methods:** The four concepts of the SROM were used to analyze systems research in three levels with hospital healthcare delivery system as the context: 1) patient; 2) unit; 3) organization.

**Results:** A conceptual model was developed for each context (Figure 1), with variables for each construct of the SROM.

**Implications:** In this symposium, each researcher will describe their application of systems research through a conceptual model and identify key research questions that pertain to the topic of interest.

Figure 1. SROM at Three Levels of Hospital Healthcare Delivery



# HEALTHCARE SYSTEMS RESEARCH AT THREE LEVELS IN CONTEXT OF HOSPITAL CARE DELIVERY

## Transitions of Care for Persons Living with HIV through Healthcare Systems Research

*Jamie L. Mignano, RN, MSN, MPH*
*PhD Student*
*College of Nursing*
*University of Colorado at Anschutz Medical Campus*
*Aurora, Colorado*
*jamie.mignano@ucdenver.edu*

**Purpose/Aims:** More than half of persons living with HIV (PLWH) are not engaged in outpatient HIV care. Little is known about the barriers and facilitators of re-engagement in HIV care after a gap of six months or more. Not only is this group at risk for poor clinical outcomes, PLWH who are not retained in outpatient HIV care are responsible for more than 60% of new HIV infections. Hospitalized PLWH are frequently not retained in outpatient care and are readmitted to the hospital more than the general population. In order to achieve international and national goals of an AIDS-free generation, gaps in the continuum of care for PLWH must be overcome.

Systems research can be done at multiple levels of the health care delivery system. This abstract is part of a symposium submission that describes proposed systems research at three levels of hospital care delivery. The acute care setting is a venue in which transitions in care are frequently initiated and systems research is needed to identify approaches to improve outcomes in PLWH who are not engaged in outpatient HIV care. The purpose of this abstract is to contextualize re-engagement in HIV care through Andersen's Behavioral Model (ABM).

**Description of Theory:** ABM is a health services research model that describes access to health care in vulnerable populations. The four core constructs of ABM may be used to contextualize re-engagement in HIV care: community characteristics, individual characteristics, external environment characteristics, and the health care environment characteristics.

**Internal Consistency of Theory:** Researchers have applied ABM to various populations and disease states, including HIV. Use of HIV care services among recently diagnosed PLWH and retention in HIV care are associated with all four proposed constructs of the model. Upon mapping re-engagement in care to the ABM, the following research questions are proposed:

- *Research Question 1:* What is the relationship between community, individual, health care environment, and external environment variables and re-engagement in HIV care among hospitalized PLWH with a gap in HIV care of six months or more?
- *Research Question 2*: Is there a relationship between 30-day readmissions and re-engagement in HIV care?
- *Research Question 3*: What are the differences in longitudinal clinical outcomes among patients who re-engage in outpatient HIV care and patients who do not re-engage in outpatient HIV care post-hospitalization?

**Logic Linking Theory to Nursing Practice or Problem:** Evidence-based nursing models, as well as effective interventions to link PLWH to care after HIV diagnosis may be drawn upon to improve re-engagement and improve long-term clinical outcomes in this population based on the results of the proposed research.

**Conclusions:** Once barriers and facilitators to re-engagement in outpatient HIV care are better understood in this population, interventions may be developed to facilitate re-engagement in care. Nurses in particular are poised to intervene with hospitalized PLWH.

# HEALTHCARE SYSTEMS RESEARCH AT THREE LEVELS IN CONTEXT OF HOSPITAL CARE DELIVERY

## Examining the Nurse Manager Practice Environment

*Martha L. Grubaugh, RN, MS, NE-BC*
*PhD Student*
*College of Nursing*
*University of Colorado at Anschutz Medical Campus*
*Aurora, Colorado*
*martha.grubaugh@ucdenver.edu*

**Purpose/Aims:** Systems research can be conducted within multiple levels of the health care system. This abstract is part of a symposium submission that describes systems research at three levels of hospital care delivery. The purpose of this study is to examine the nurse manager practice environment at the organizational level and apply The Nursing Organization and Outcomes Model to further understand the nurse manager practice environment and its relationship to patient and nurse manager outcomes.

When nurse managers leave their position, there are significant financial and cultural consequences to the health care organization and risks to patient outcomes. The American Organization of Nurse Executives reported in 2002 that nurse manager vacancy rates are on average 8.3%. Nurse managers are in a pivotal role to create an environment that promotes quality nursing care and positive patient outcomes, yet little is known about the nurse manager practice environment and how it can affect adverse patient events and nurse manager burnout and intent to leave. Limited understanding of the nurse manager practice environment, their job demands, job satisfaction, and the effect on patient outcomes poses a research gap and urgent problem for hospitals and administrative leaders since nursing shortages and reimbursement challenges continue.

**Description of Model/Concept:** The Nursing Organization and Outcomes Model is a set of propositions that suggest a link between the presence of supportive nurse practice attributes in the environment and positive patient and nurse outcomes.

**Internal Consistency:** The relationship between a supportive nurse practice environment, retention, and quality patient outcomes has been studied for decades within The Nursing Organization and Outcomes Model. Since findings from the nurse manager practice environment research reveal similar characteristics of The Nursing Organization and Outcomes Model, there is opportunity to test and determine if the propositions of the Model apply to nurse managers. The nurse manager practice environment will be measured with the Nurse Manager Practice Environment (NM PE) Scale developed by Warshawsky, Lake, Rayens, and Havens.

**Conclusion:** Findings from this study can help to develop future research questions that may help to further understand the nurse manager practice environment and its relationship with leadership, patient outcomes, and nurse manager outcomes. The following research question can help to address the research gap pertaining to the nurse manager practice environment.

**Research Question:** What is the relationship between a supportive nurse manager practice environment and nurse manager intent to leave, nurse manager burnout, and nurse manager reported adverse patient events among a national group of nurse managers?

Further research opportunities exist to determine and evaluate strategies to improve the nurse manager practice environment and ultimately outcomes and organizational performance. With focus on and development of a supportive nurse manager practice environment, nurse managers may be less inclined to leave their position and thus adverse outcomes and additional costs can be avoided.

# HEALTHCARE SYSTEMS RESEARCH AT THREE LEVELS IN CONTEXT OF HOSPITAL CARE DELIVERY

## Agility, Patient Outcomes and Environmental Turbulence: A Theoretical Framework

*Kara A. Snyder, RN, MS, CCRN, CCNS*

Patient safety is attributable in to nearly 100,000 deaths and $100 billion annually in the United States (Kohn, Corrigan, & Donaldson, 2000). A five-year evaluation of impact of the seminal report, *To Err is Human,* demonstrated that healthcare is only mildly safer (Kohn et al., 2000; Leape & Berwick, 2005). Organizational factors are key contributors to improving safety and quality (Hoff, Jameson, Hannan, & Flink, 2004). The nursing environment has been cited a pivotal organizational factor in safety and quality (Lin & Liang, 2007). Perceptions of the healthcare environment have been described as environmentally turbulent, filled with uncertainty and unpredictability (Begun & Kaissi, 2004; Jennings, 2008). In the face of uncertainty and unpredictability, an agile organization can create impact, and therefore, change the environment of an organization (Alavi, Abd. Wahab, Muhamad, & Arbab Shirani, 2014). There is currently no healthcare or nursing literature that empirically evaluates agility or moderators of environmental turbulence and outcomes. The purpose of the research is to develop an understanding of how agility functions in a Nursing context and to evaluate the relationship between agility, environmental turbulence and patient quality and safety outcomes.

This cross-sectional study will survey nurses across a variety of unit types, job types, leadership positions and experience in acute care facilities. Outcomes of patients from units with survey responses will be included in the analysis. It is the central hypothesis of this study that workforce agility will moderate the negative impact of environmental turbulence and patient safety and quality outcomes (Figure 1).

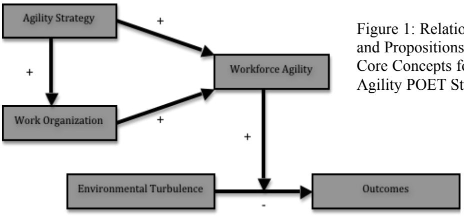


Figure 1: Relationships and Propositions of Core Concepts for Agility POET Study

The Systems Research Organizing Model (SROM) provides clarity and organization to this new program of research. The SROM is a conceptual framework grounded in systems theory and may serve as a framework for new research (Brewer, Verran, & Stichler, 2008). The organization of the theoretical framework is shown in Figure 2.

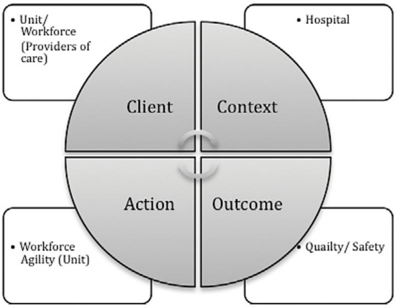


Figure 2. SROM as an organizing framework

There are no studies to date in the healthcare literature describing agility and its impact potential. This study aims to provide the first analysis of agility in healthcare as an organizational characteristic necessary to improve patient-centered outcomes.

# IMPACTS OF ELECTRONIC HEALTH RECORDS (EHRS) ON NURSING

## OVERVIEW: IMPACTS OF ELECTRONIC HEALTH RECORDS (EHRS) ON NURSING

*Elizabeth Schenk*

---

## DIFFERENCES IN NURSING ACTIVITIES AND LOCATIONS AFTER EHR IMPLEMENTATION

*Sarah Fincham, Ruth Schleyer, Beth Schenk, Cami Jones,*
*Kenn Daratha, Karen A. Monsen*

---

## PERCEPTIONS OF A NEWLY ADOPTED ELECTRONIC HEALTH RECORD (EHR)

*Jean Shreffler-Grant, Dorothy M. Mayer, Beth Schenk, Lola Goss,*
*Pamela Estill, Erin Ward-Barney*

---

## CHANGES IN MULTI-TASKING OF NURSE ACTIVITIES

*Kenneth B. Daratha, Sarah Fincham, Cami Jones, Beth Schenk,*
*Karen A. Monsen, Ruth Schleyer*

# IMPACTS OF ELECTRONIC HEALTH RECORDS (EHRS) ON NURSING

## Overview: Impacts of Electronic Health Records (EHRs) on Nursing

*Beth Schenk, PhD, MHI, RN*
*Research Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

**Purpose/Aims:** To share recent findings of two studies measuring impacts of comprehensive electronic health records on nurses and nursing practice. This symposium will present findings from novel papers for the first time.

**Rationale:** Electronic health records (EHRs) are in more common usage since the requirement to do so in the Affordable Care Act came into being. EHRs can change workflow, processes, roles, time allocation, patient focus and more, and adopting a new or more comprehensive EHR can be a disruptive change. Yet, there is little empirical evidence for how EHRs impact nursing care. It is incumbent on nurse leaders, researchers, educators, administrators and clinical nurses to understand impacts of EHRs, as they may change practice in significant ways that impact nurses, patients and outcomes.

**Method:** The three papers presented in the symposium address different aspects of nurses' experience before and after adoption of a comprehensive EHR. Together they examine impacts on nurses' perceptions of the utility of the EHR, their attitude toward it, impacts on nurses' activity and location in their daily work. By examining results of studies with different methodologies (mixed method quantitative-qualitative, and time-motion observational study), a fuller picture of the impact of this important but potentially disruptive technology is painted.

**Results:** Three papers from two studies will be presented. One study was a mixed method study examining nurses' perceptions of a new comprehensive EHR. The nurses were surveyed before and after implementation of the EHR to measure their perceptions on usefulness, ease of use, and attitude regarding the EHR. A smaller subset was interviewed before and after adoption for a deeper understanding of these same domains. The second study was an observational time –motion study comparing nurses' activities and location before and after adoption of a comprehensive EHR on three different unit types. One paper will present overall differences in activity and location before and after the implementation of the EHR. A second paper will address the interesting and complex phenomenon of multi-tasking in this same study.

**Implications:** Billions of dollars are spent on EHRs in acute care in the United States. However, the impact on one of the most affected groups, Registered Nurses, is not well understood. By expanding research opportunities and approaches, nurse leaders and educators will be better prepared to plan for a work culture that is heavily influenced by the EHR.

# IMPACTS OF ELECTRONIC HEALTH RECORDS (EHRS) ON NURSING

## Differences in Nursing Activities and Locations after EHR Implementation

*Sarah Fincham, DNP, ARNP, NP-C*
*Clinical Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Beth Schenk, PhD, MHI, RN*
*Research Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Ruth Schleyer, MSN, RN-BC*
*Clinical Director, Informatics,*
*Academics & Education*
*Providence Health & Services*
*Portland, OR*

*Cami Jones, PhD*
*Research Assistant*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Kenn B. Daratha, PhD*
*Associate Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Karen Monsen, PhD, RN, FAAN*
*Associate Professor*
*Co-Director Center for Nursing Informatics*
*University of Minnesota*
*Minneapolis, MN*

**Purpose/Aims:** The purpose of this interventional study was to examine differences in nursing activities and locations in three different nursing units in an urban acute care hospital before and after implementation of a comprehensive Electronic Health Record (EHR).

**Rationale:** EHR use has become widespread in both inpatient and outpatient healthcare settings across the U.S., particularly since the passage of the 2009 Health Information Technology for Economic and Clinical Health (HITECH) Act and with the "meaningful use" EHR Incentive Program. EHR implementation has been promoted for its ability to improve quality and information sharing in healthcare. Despite these potential advantages, the actual impact of implementation and use of an EHR on nurses' work is unknown. Nurses in the acute care setting may be significantly impacted by implementation of an EHR because of their frequent need for documentation, as well as their heavy reliance on information from the EHR to perform patient care duties. Further, there is little evidence available in the literature on how nurses in different types of units may be impacted.

**Methods:** Handheld devices with an interface based on the Omaha System of standardized nursing terminology, and the web-based TimeCaT data collection tool were used to gather observational data of nursing work. Nurse observers tracked activities and locations of practicing nurses on three different units (medical/surgical, telemetry, ICU) within the same acute care hospital for approximately 90 hours both before and after implementation of a comprehensive EHR. Post-implementation observations occurred twelve months after the EHR go-live.

**Results:** Numerous differences were observed: after the EHR implementation, nurses spent more time in patient rooms (41.8% to 60.5% of time) and less time in team areas (38.7% to 23.9%). This pattern was consistent in the three nursing units observed. Documentation time (both writing notes and chart review) increased overall, with some unit differences noted. Total time spent in report decreased from 5.6% of nurses' time before the change to 2.3% after. In addition, the mean length of time of each episode of report decreased from 4.5 to 2.8 minutes.

**Implications:** The impacts of EHRs on nursing workflow and process are significant. In this study, we have described how and where nurses spend their time on three acute care nursing units before and after EHR implementation. Often EHR implementation neglects addressing the impact on nursing work. While the impact of an EHR implementation is associated with changes in nursing workflow, the influence on patient outcomes remains unknown.

# IMPACTS OF ELECTRONIC HEALTH RECORDS (EHRS) ON NURSING

## Nurses' Perceptions of a Newly Adopted Electronic Health Record (EHR)

*Jean Shreffler-Grant, PhD, RN*
*Professor*
*College of Nursing*
*Montana State University*
*Missoula, MT*

*Dorothy "Dale" Mayer, PhD, RN*
*Assistant Professor*
*College of Nursing*
*Montana State University*
*Missoula, MT*

*Pam Estill, MSN, RN*
*Manager of Quality*
*Providence St. Patrick Hospital*
*Missoula, MT*

*Erin Ward-Barney, RN*
*Providence St. Patrick Hospital*
*Missoula, MT*

*Lola Goss*
*IRB Coordinator*
*Providence St. Patrick Hospital*
*Missoula, MT*

*Beth Schenk, PhD, MHI, RN*
*Research Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

**Purpose/Aims:** The purpose of this mixed-method research study was to address a gap in knowledge about nurses' perceptions of a newly adopted comprehensive Electronic Health Record (EHR).

**Rationale:** As use of EHRs in hospital settings increase, leaders must prepare staff members for change. There is limited empirical information about the impact of adoption of an EHR on registered nurses (RNs) who work with EHRs at the point of care.

**Method:** The study was conducted in a 250 bed regional tertiary hospital with over 400 direct care RNs employed in a variety of clinical settings that implemented a comprehensive EHR. Clinical RNs were surveyed using an adapted version of Masrom's Technology Acceptance Scale. They responded to items focusing on 3 domains (ease of use, usefulness, and attitude towards) before and after the implementation of an EHR. A subset of nurses were interviewed for a deeper understanding of perceptions associated with this change.

**Results:** A total of 285 nurses participated in one or both of the electronic surveys; 131 nurses in the pre-EHR survey (31.2% response rate) and 154 nurses in the post EHR survey (36.7% response rate). One year after adoption, nurses believed that the EHR did not improve patient care, the learning curve was steep, and they had lower confidence using the EHR than anticipated. In the interviews, nurses commented on both their frustration and optimism about the EHR.

**Implications:** This study provides insight into RNs' perceptions of the utility of an EHR, providing important information for nursing administrators. It can help nursing leaders anticipate change, plan for change, and provide needed support.

# IMPACTS OF ELECTRONIC HEALTH RECORDS (EHRS) ON NURSING

## Changes in Multi-Tasking of Nurse Activities

*Kenn Daratha, PhD*
*Associate Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Sarah Fincham, DNP, ARNP, NP-C*
*Clinical Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Cami Jones, PhD*
*Research Assistant*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Beth Schenk, PhD*
*Research Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

**Purpose/Aims:** This study sought to describe the level of multi-tasking activities of nurses and which activities are interrupted before and after the implementation of an Electronic Health Record (EHR) in an acute care hospital.

**Rationale:** Nurses who work at the bedside are in a position to advocate for their patients to the rest of the healthcare team, intercept medical errors, impact health care costs, and prevent harm to patients. Understanding how nurses use their time when engaged in clinical activities is important for determining how to improve work efficiency and, ultimately, quality of care. Nursing activities are complicated by the over-lapping of tasks, referred to as multi-tasking. One rationale for the implementation of EHRs is to improve work efficiency and quality of care. However, no studies to date have reported the impact of EHR implementation on multi-tasking of acute-care nurses which directly impacts the efficiency and quality of care.

**Method:** Nursing activities were observed before and after implementation of an EHR in three nursing units (medical/surgical, telemetry and ICU). Activities of nurses were recorded by trained nurse observers using handheld devices. Observers were trained through viewing successive training videos in which inter-rater reliability was established. The Omaha System of standardized terminology was implemented within an electronic data collection tool using the TimeCaT system. Within each observation of nursing activities, an activity was identified as multi-tasked if a subsequent activity started before the previous activity completed. Roughly ninety hours of observation were completed in both the period before implementation of an EHR and twelve months after implementation of an EHR.

**Results:** More than a third of nursing activity time measured was categorized as multi-tasked. Multi-tasking activities increased slightly in the post-EHR-implementation period compared to the pre-EHR-implementation period (35.9% from 33.7%). The most common activities multi-tasked were classified as teaching which included instruction, guidance and counseling to patients, families and other providers (26.7% of all multi-tasked activities in the pre-EHR-implementation period and 32.5% of all multi-tasked activities in the post-EHR-implementation period). Case management activities (workflow not associated with patients and families; coordination; medication preparation; isolation preparation; supplies; orders; diet; report and equipment activities) were the second most common multi-tasked activities before implementation of the EHR (23.7% of all multi-tasked activities). After implementation of the EHR, case management dropped to 15.7% of all multi-tasked activities. In both the pre-implementation and post-implementation periods, the most common activity started before a previous activity was completed was classified as teaching, guidance and counseling.

**Implications:** This study demonstrates that a significant percentage of nursing activities are multi-tasked. The implementation of an EHR influences which nursing activities are multi-tasked. The impact of this change on work efficiency and quality of care warrants further investigation.

# Abstracts of Poster Presentations

# INDIVIDUAL DEVELOPMENT PLANS

## THE MENTOR'S ROLE IN AN INDIVIDUAL DEVELOPMENT PLAN

*Kathryn Lee, Carmen Portillo, Kellie Freeborn, Rosamar Torres*

# INDIVIDUAL DEVELOPMENT PLANS

## The Mentor's Role in an Individual Development Plan

*Kathryn Lee, PhD, RN, CBSM*
*Professor Emeritus*
*University of California, San Francisco*
*San Francisco CA*

*Carmen Portillo, PhD, RN, FAAN*
*Professor & Chair*
*University of California, San Francisco*
*San Francisco, CA*

*Kellie Freeborn, RN, MS, ANP-BC, FNP*
*Assistant Clinical Professor and*
*Doctoral Student, Department of*
*Community Health Systems,*
*School of Nursing*
*University of California, San Francisco*
*San Francisco, CA*

*Rosamar Torres, PhD, RN*
*Post-Doctoral Fellow*
*Research Center for Symptom*
*Management*
*School of Nursing*
*University of California, San Francisco*
*San Francisco, CA*

**Purpose:** This presentation addresses individualized qualitative experiences and best practices for the next generation of nurse researchers – predoctoral students, postdoctoral trainees, and assistant professors. Experiences will be emphasized in terms of benchmarks and timeframes for professional development and research productivity outcomes based on academic careers in nursing science.

**Background:** The NIH has mandated the use of the Individual Development Plan (IDP) for trainees supported on any NIH training grant mechanism. The IDP is an important tool for self-evaluation at all levels of scholarship across the nursing profession from the staff nurse to the tenured academic. Various formats are available and adaptable to the specific mentor-mentee relationship, and critical to its success is the frequency with which both mentor and mentee review and revise the IDP.

**Approach:** The mentor's role in IDP development and revision will be presented in an overview with examples that range from mentoring the bedside nurse in a research project to mentoring the assistant professor in the tenure process. Both parties are initially provided with the rewards and challenges of mentoring and after discussion, an IDP is initiated by the mentee for review by the mentor and other supervisors as necessary.

**Outcomes:** An effective, written IDP that holds both the mentee and mentor accountable for benchmarks and productivity will ultimately benefit both careers.

**Conclusion:** The benefits of an IDP for career development at all stages of one's career, whether as a nurse clinician or nurse scientist, whether at the bedside or in the classroom, will be presented and discussed.

# INFANTS THROUGH ADOLESCENTS

## GIVE ME A CHOICE: YOUTH WHO AGED OUT OF FOSTER CARE IN TRANSITION TO ADULTHOOD

*Jennifer L. Collins, Rosalinda R. Jimenez*

## BARRIERS TO PEDIATRIC NURSE PRACTITIONERS IN INTEGRATED BEHAVIORAL HEALTH

*Andrea LeClaire, Michael Rice*

## AYA INVOLVEMENT IN CANCER TREATMENT DECISION MAKING: A PILOT STUDY

*Kimberly Ann Pyke-Grimm, Roberta S. Rehm*

## HUNGER AMONG STUDENTS AT AN URBAN SERVING UNIVERSITY

*Christine Stevens*

## THE EFFECT OF ART INTO THE HOSPITALIZED PEDIATRIC PATIENT'S EXPERIENCE

*Kathy Lopez-Bushnell*

## PARENT EDUCATION ON KANGAROO CARE IN THE NICU AND INTERMEDIATE CARE NURSERY

*Kathy Lopez-Bushnell*

## MANAGING CARE OF A CHILD WITH AUTISM SPECTRUM DISORDER: FILIPINO BELIEFS/PERCEPTIONS

*Sharee B. Anzaldo*

## EXPERIENCES OF FOSTER PARENTS CARING FOR CHILDREN MOVING FROM HOSPITAL TO FOSTER HOME

*Max Veltman*

---

## NURSES' PERCEPTION OF IPAD USE AS DISTRACTION THERAPY FOR PEDIATRIC PATIENT

*Frances L. Patmon, Perry M. Gee, Michelle D. Sanders*

---

## SLEEP TIME AND ENO IN YOUTH WITH & WITHOUT ASTHMA

*Martha J. Lentz, Gail M. Kieckhefer*

---

## ENGAGING YOUTH IN PROMOTING HEALTHY SNACKING ZONES IN FOOD STORES NEAR RURAL SCHOOLS

*Nancy E. Findholt, Betty T. Izumi, Jackilen Shannon, Carole A. Smith, Thuan Nguyen*

---

## OBJECTIVE ACTIVITY MEASUREMENT FOR A CHILD WITH SPECIAL HEALTH CARE NEEDS

*Heather Aldrich, Catherine Jankowski, Kate Lyden, Bonnie Gance-Cleveland*

---

## SCHOOL NURSES' ROLE IN ADDRESSING HEALTH-RISK BEHAVIORS DURING SPORTS PHYSICALS

*Karen E. Johnson, Marian Morris, Annie-Laurie McRee, Amanda J. Simonton*

---

## MEXICAN AMERICAN ADOLESCENTS' CULTURAL PERCEPTIONS OF OBESITY

*Tia N. Foukas, Audrey Russell-Kibble*

---

## HEALTH CARE TRANSITION PROGRAM FOR ADOLESCENTS WITH SPINA BIFIDA

*Kathleen Sweeney, Craig McDonald, Teresa Scavone*

# INFANTS THROUGH ADOLESCENTS

## A Big Way of Life for Rural Mexican American Adolescent Men and Caregivers

*Jennifer L. Collins, PhD, RN*
*Assistant Professor*
*School of Nursing*
*Texas Tech University Health Sciences Center*
*Lubbock, TX*

*Rosalinda R. Jimenez, EdD, RN, MSN, APRN-BC*

Youth in foster care who are not adopted, returned to family or non-relative kin upon turning 18 years of age leave foster care charged with assuming adult responsibilities for managing healthcare needs. Suffering long-term physical and mental health illnesses as a consequence of both caregiver harm and placement instability requires ongoing management of chronic medical and mental health illness in transition to adulthood. Experiencing receipt of healthcare services before aging out of care and after aging out of care and the nurse's role in providing this care to foster youth is understudied. The purpose of the study was to describe the experience of youth who have aged out of the foster care system in interacting with healthcare services during their time in and after leaving foster care.

A convenience sample of youth who exited foster care was recruited from a center providing services to at-risk youth. Participants were asked open-ended questions about the experience of healthcare service delivery during 1 hour focus-group interviews. Interviews were recorded, transcribed and compared to audio-tapes for accuracy and clarification of context clues. Preliminary analysis of these two focus groups have been completed using phenomenological analysis (van Manen, 2014). Data management and integration of analysis was facilitated by use of NVivo. Rigor was addressed by developing consensus between investigators in initial examination of themes and inclusion of memos to create a decision trail.

Five female participants were in group one and four male participants were in group two. Two preliminary themes were identified: 'You give up' and 'We love him!' You give up. The taken for granted nature that silences youth in foster care: they become numb to making choices, asking questions, asking for what they want because over time, they speak and nothing happens. One asks for a lower medication dose because he falls asleep in class and the doctor asks the foster mother who tells the doctor the dose does not need to be changed. She tells a doctor not to do a pelvic exam and the doctor does one anyway. Youth in foster care are told what to do and they become numb. They lose their will. 'We love him!'

Healthcare providers can support a return of their will through choice. "He told me everything and it happened the way he told me it would." "He told me to pick a date that I could deliver my baby when it worked for me. We love him!!" "She knows my name, she asks me how school is. It's like she cares who I am." Youth felt cared for by healthcare providers who asked them questions, listened to their questions and answers, and took time with them to hear the answers.

Restoring choice to individuals in this sample appears to be one of the most powerful interventions by healthcare providers for youth who aged out of foster care. Additional evidence is needed regarding providers' ability to support foster youth transition to adulthood through development of choice and ability to ask questions.

---

Funding: TTUHSC School of Nursing

# INFANTS THROUGH ADOLESCENTS

## Barriers to Pediatric Nurse Practitioners in Integrated Behavioral Health

*Andrea LeClaire, MSHA, BS, BSN, RN, NEA-BC, PhD Student*
*College of Nursing, University of Colorado Anschutz*

*Michael J. Rice, PhD, APRN, RN, FAAN, Professor & Endowed Chair*
*Psychiatric Nursing*

**Problem Statement:** There is ongoing emphasis on integrating behavioral health care into primary health care for the last several years. However, evidence indicates that fewer than 35% of affected children and youth with behavioral disorders receive treatment because of a lack of appropriate screening. The rationale for the lack of screening in pediatric populations is unclear. The purpose of this study is to examine data on Pediatric Nurse Practitioners' (PNP) perception and barriers to behavioral mental health in primary care settings.

**Theoretical Framework:** The System's Research Organization Model (SROM) is used as a structure and model to look at the system of nursing's role in the integration of mental health assessment of the pediatric medical patient. The SROM has four core constructs: client, content, action focus and outcomes. The feedback loops of this model are essential in understanding the nursing system and process, and comprehending how all elements are interrelated in delivering care.

**Methods and Design:** This pilot study used a mixed methods design to collect data from Pediatric Nurse Practitioners's (PNPs) in focus groups, quantified the interviews and compared the results with a quantitative measure. The quantitative measure consisted of a seven question Likert scale measuring the Barriers to Behavioral Mental Health Screening. The instrument was administered to the subject group participants prior to the focus group and after the focus group had been completed.

**Analysis:** The qualitative data were analyzed using a thematic analysis matrix evaluating the thematic link, barrier and fit within the SROM conceptual framework. The validity of the initial coding was checked by the senior investigator and yielded 88 to 93% agreement. Agreement of the conceptual coding was calculated using Cohen's Kappa demonstrating a moderate high to high level of agreement (k=.77-.90). The qualitative data were numerically recoded and included with quantitative data for statistical analyses. The variable of barriers were collapsed into dichotomous categories and analyzed using Chi-square. Chi-square was completed on the pre and post focus group survey results. The level of agreement that increased the greatest was the screening role of PNPs, but the change was not statistically significant (Chi = 1.6, and p=.655).

**Results:** Thematic Analysis results were categorized into four barrier themes: Finance, Screened, No Training and Parents. Chi Square statistics failed to demonstrate a difference between PNP's screening of pediatric patients with and without psychiatric\ mental health conditions. The differences between the PNP's screening did not vary across the identified barriers

**Implications for Psychiatric-Mental Health Nursing Practice:** Analysis of the data indicated that there is little difference between the behavioral mental health screens of children with and without behavioral problems. The potential effect of assessing PNP's perception of mental health screening and barriers will be instrumental in determining successful approaches to mental health screening in pediatrics.

**Implications for Future Research:** Identified barriers and potential for further education requirements for PNPs to be part of integration through mental health screening can define research and interventions.

# INFANTS THROUGH ADOLESCENTS

## AYA Involvement in Cancer Treatment Decision Making: A Pilot Study

*Kimberly Pyke-Grimm, RN, MN, CNS*
*PhD Student*
*Department of Family Health Care Nursing*
*University of California, San Francisco, School of Nursing*
*San Francisco, CA*

*Roberta S. Rehm, RN, PhD, FAAN*
*Department of Family Health Care Nursing*
*University of California, San Francisco, School of Nursing*
*San Francisco, CA*

**Purpose:** The purpose of this pilot study was to explore and describe young adult cancer survivor's recollection of their experiences with treatment decision making (TDM) when they were 13-23 years old.

**Background:** During the past half-century there have been striking improvements in outcomes of cancer patients, however in the last five years, improvement has essentially halted for the 15 to 25 year age group, possibly due to non-adherence rates approaching 60%. Involvement in TDM improves adherence, but little is known about AYA involvement in TDM.

**Methods:** Four survivors (3 male and 1 female) of pediatric cancer between 25-37 years of age who attended the Pediatric Oncology Survivorship Program at University of California, San Francisco participated in an interpretive ethnographic study using interviews and informal participant observation. Analysis included field notes, analytic memos and coding.

**Results:** The average time after diagnosis was 15 (range 9-20) years. Participants were interviewed individually once (2) or twice (2). Four organized patterns of involvement in cancer TDM were identified reflecting different phases of the AYA's disease trajectory. At diagnosis, participants were not part of, nor present for the initial discussion between parents and oncologists, but were informed later. They often described it as a conscious decision or mental mindset to go along with the treatment plan with the goal to "beat the cancer." Participants often felt involved in TDM because they were informed about the treatment plan, felt listened to, were part of discussions, and were able to ask questions or make suggestions. When they had completed therapy or at relapse, participants described themselves as the primary decision maker. The parent's role changed to being supportive. Overall, providers kept them informed. They repeatedly spoke about wanting to be treated as a teenager not as a child.

**Implications:** Preliminary findings suggest AYA's role in TDM evolves over time to become more active. The findings highlight the importance of the role of family and relationship with the health care provider. TDM may become challenging for those who experience late effects of treatment such as fertility issues or disease reoccurrence. Limitations include; data collection was partial and findings are preliminary due to limited sample diversity. However, these results will inform my dissertation which will examine involvement in TDM among AYAs with cancer, what factors influence their role choice and how they make these treatment decisions within the context of family. These findings will be used specifically to develop the interview guide, plan sampling strategies, develop qualitative research skills and plan for follow-up work.

**Conclusion:** Understanding AYAs' preferences is key to changing how we deliver care to improve the patients' participation in decision making, satisfaction with the process, compliance with the therapeutic plan and ultimately to improve outcomes.

---

Funding: National Institute of Nursing Research 1F31NR015951-01.

# INFANTS THROUGH ADOLESCENTS

## Hunger among Students at an Urban Serving University

*Christine A. Stevens, PhD, RN*
*Associate Professor*
*Nursing and Healthcare Leadership programs*
*University of Washington Tacoma*
*Tacoma, WA*

**Purposes/Aims:** The purpose of this study was to explore the experience of food insecurity in students at an urban serving university. The specific aims of this proposal were to (1). Describe the prevalence of food insecurity among university students at one urban campus. (2) Identify factors that contribute to food insecurity

**Background:** Food insecurity among **university** students in the United States (US) can have a detrimental effect on academic achievement and long-term health outcomes. While access to education is a strategy used to address social determinants of health in many marginalized populations, the high cost of college can affect the ability to have stable, nutritious and affordable food source. Currently, there is a need to explore the reasons for food insecurity, student populations at most risk and strategies needed to address this issue.

**Methods:** This descriptive study utilized a 41 question anonymous online survey sent to then entire undergraduate (UG) and graduate (G) student population at one urban serving university. The areas addressed were sociodemographic including housing, barriers and strategies to address food insecurity. In addition, the USDA food security survey (USFSS) which is an 18-item self-report questionnaire for assessing household food security was part of the survey

**Results:** The survey completed by 298 (10%) university students (UG78%; G22%). Findings indicate that 32% of the participants went hungry due to the lack of money to buy food even when they had part or full time employment and federal educational loans. The results from the USFSS survey indicated that each of the participants fluctuated between low food insecurity with some days of food insufficiency. Thirty-eight percent of the participants lived with their children while attending school and all reported that they cut their meals so that their children had marginal food insecurity. The factors that contributed to food insecurity were income, affordable food sources, and stable affordable housing. Participants were asked if they would use a food bank on campus and 8% of the food insecure participants said no due to the sigma.

**Implications:** The population of US university students is changing due to strategies of increased access to education. However, we need to be aware that access does not always provide equity in meeting their basic needs of affordable food sources. Urban serving universities need to think about a range of strategies to address this hidden issue of hunger on campus.

## The Effect of Art into the Hospitalized Pediatric Patient's Experience

*Kathy Lopez-Bushnell, EdD, MPH, MSN, CTSC*
*Director of Nursing Research*
*University of NM Hospital*
*Albuquerque, NM*

**Purpose/Aims:** The purpose of this research project is to measure how art making activities may be helpful in providing a way for children to express themselves, induce relaxation and reduce stress responses (lower heart rate and increase oxygen saturation). When children are provided art materials and prompts from an art educator visiting their rooms and engage in art activity, their stress levels will decrease.

**Background:** Psychological and physiological well-being of children in hospital settings is extremely important in contributing to the health process. Research findings have demonstrated that art can support stress reduction. Hospitalized children suffer emotional and physical pain due to their illness as well as isolation that result from being in a hospital room. Many parents and family relatives cannot visit these children due to work and family responsibilities.

A comprehensive review of related literature indicated that art is therapeutic and beneficial for hospitalized children. Additionally, art therapy and art education have been successfully integrated into some hospital programs for children and adult patients.

**Methods:** This is an IRB approved study will involve a registered nurse, Marian Berg RN, MA who is an excellent artist and has been providing art and creative opportunities to children at the UNMH Children's Hospital since January 1, 2013. She has provided art experiences to about 1,100 children. She has collected non-invasive data with no patient identifiers before and after the art experiences on 60 children. This data has indicated that art making activities resulted in an increase in oxygen saturation level and a decrease in the heart rate in most children.

**Results:** This pediatric clinical study will recruit 200 children who will participate. The hospitalized children's pain and emotion will be measured before and after the art experience using the "Wong-Baker FACES Pain Rating Scale," and if the child is on a monitor, the child's heart rate and oxygen saturation level will be recorded before and immediately after the art activity.

Depending on the age of the child, the child, the parents, or the Legalized Authority Representative of the child will sign a consent form giving permission to use the child's art for publication. No identifiers including name, medical record number or other patient information will be collected. The rational for the consent/assent is that the art belongs to the child and we will need permission to publish the art. Depending on age, the child will sign an assent form to give permission.

**Implications:** The implications of this study are that the children are able to express emotions such as fear and powerlessness through their art. When they can transform their reality through art activity, they can reshap~~e~~ their world after their own needs, and find satisfaction through the symbolic, expressive art activities. Hospitalized children who can express themselves through art can have a valuable way to communicate feelings that they might not be able to express verbally.

# INFANTS THROUGH ADOLESCENTS

## Parent Education on Kangaroo Care in the NICU and Intermediate Care Nursery

*Kathy Lopez-Bushnell, EdD, MPH, MSN, CTSC*
*Director of Nursing Research*
*University of NM Hospital*
*Albuquerque, NM*

**Problem Statement:** Does implementation of a Kangaroo Care educational pamphlet increase parental knowledge and thus their willingness to participate in Kangaroo Care in an inpatient setting?

**Background:** Parents of infants in a Neonatal Intensive Care Unit (NICU) and Intermediate Care Nursery (ICN) experience a heightened level of stress. This increased stress placed on the parents can hinder the natural parent to infant bonding process and decreased interaction between the parents and infants can have detrimental effects on them both. Kangaroo care (KC) is a cost effective method that can be implemented to help reduce the stress placed on parents and their infants. Evidence supports that the implementation of KC can stabilize infant vital signs, decrease their hospital stay, increase the mother's breast milk production, and give parents a sense of participation in care for their infant. We are hoping by educating parents to the benefits of KC they will be more willing to participate during their infant's hospital stay.

**Intervention:** An educational pamphlet that was discussed with the parents which defines what KC is, lists the benefits KC has to offer infants as well as parents, explains when it is safe for infants to do kangaroo care, and finally informs parents what they need to do to get started.

**Method:** Pre and post surveys were created and distributed to parents in the NICU and ICN. The types of questions asked were "Yes and No" style questions. The pre-survey assessed if the parents knew about KC, what they thought KC was, if they knew any of its benefits, and asked if the nurse had mentioned KC to them before. We handed out the pre-surveys to the parents and then went over the educational pamphlet with them. Finally we had the parents answer the post survey questions which contained the same questions as the pre-survey as well as additional questions that assessed if the pamphlet increased their knowledge of KC and their willingness to do it with their infant.

**Sample:** The parents at UNMH NICU and ICN were sampled. The age of their infants ranged from 28 gestational weeks to under 2 months old. These infants were on several different modalities of respiratory support, required various types of intravenous support including peripheral and central lines, had different forms of feeding tubes, and were of all levels of acuity.

**Results:** Pre and Post surveys were collected from 17 different parents within the NICU and ICN. Of these 17, 11 of the parents had never heard of KC before and did not know what it was.

**Implications for Practice:** Our study showed that providing parents with an educational pamphlet about KC will increase their knowledge about this topic as well as make them more willing to try it with their infants. Further studies can be done to see if the pamphlet will also increase the use of KC on the unit and if this in turn will in fact decrease the infant's hospital length of stay.

# INFANTS THROUGH ADOLESCENTS

## Managing Care of a Child with Autism Spectrum Disorder: Filipino Beliefs/Perceptions

*Sharee B. Anzaldo, MS, RN*
*Doctoral Student*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Introduction:** Autism spectrum disorder (ASD) is a neurodevelopmental disability that affects an individual's social interactions, communication patterns, and behavioral patterns. According to the CDC, 1 in 68 children in the United States are afflicted with ASD. Within the Asian American population, the prevalence of ASD is 21.0 per 1,000 children. Capturing composite data about ASD in Asian Americans and Pacific Islanders does not account for unique cultural beliefs and values in each group.

**Significance:** A dearth of knowledge exists about ASD in the Filipino American community. ASD is largely underreported in this population due to shame and stigma from raising a developmentally disabled child, which may result in a delay in seeking health care services. Overall health status is optimized with early intervention treatment and services. Parents may also experience physical and psychological stressors from managing care of their child.

**Purposes/Aims:** This study (1) explores Filipino American cultural beliefs and perceptions about ASD; (2) identifies how Filipino American parents manage caring for a child diagnosed with ASD; and (3) generates a theory about the processes involved in Filipino American parental management of care of a child with an ASD.

**Background:** Traditional Filipino health beliefs and perceptions are based on the notion of *timbang* (balance), where balance signifies health and imbalance causes illness. Cultural beliefs, such as *pakikisama* (getting along with others), *hiya* (shame), and *bahala na* (putting matters into God's hands) influence help-seeking behaviors. As a collectivist culture, Filipino Americans highly regard group needs, which in turn affect health care communication, treatments, and decisions.

**Methods:** Grounded theory was used to explore ASD in Filipino American culture. In-person interviews of Filipino American parents elicited their cultural beliefs and perceptions about ASD as well as experiences managing care for their child with ASD. Kleinman's exploratory model of illness served to further understand cultural influences of ASD. A demographic questionnaire and a validated instrument, A Short Acculturation Scale for Filipino Americans, captured participant demographics. Philosophical underpinnings of symbolic interactionism and pragmatism, and the theoretical framework of social constructionism, guided the research study.

**Results:** Data analysis commenced with coding processes congruent with grounded theory as well as use of analytic tools, including memos, diagrams, field notes, and reflexive journals. The constant comparative method guided by inductive processes takes raw data to higher levels of abstraction, and generates a theory grounded in the participants' responses.

**Implications:** Research exploring ASD in Filipino American culture is crucial for developing effective nursing interventions and providing support for parents of a child with ASD. Findings from this study provide the groundwork for culturally sensitive protocol for ASD screening, diagnosis, and management. Such insight is necessary for optimizing health outcomes for the Filipino American child with ASD.

---

Funding: Sigma Theta Tau International Honor Society of Nursing Alpha Eta Chapter Research Award.

# Experiences of Foster Parents Caring for Children Moving from Hospital to Foster Home

*Max Veltman, RN, MSN, PhD(c), CPNP-PC*
*Associate Professor*
*School of Nursing*
*Boise State University*
*Boise, ID*

**Purposes/Aims:** The purpose of this study was to identify and explore the common issues that foster parents encounter as they care for children making the transition from the acute care setting to the foster home.

**Rationale/Conceptual Basis/Background:** Over the last 2 decades, there has been an increase in the number of children with significant health issues and complex care needs who are placed in foster care while hospitalized. This often requires the child welfare caseworker(s) to recruit a qualified foster parent who cares for the child when they are discharged from the hospital into the foster parent's home. Yet while the incidence of this phenomenon seems to be increasing, there is a scant amount of published research devoted to the specifics of what this experience is like for the foster parents who provide the necessary care for these children.

Many factors such as increases in cases of abuse and neglect as well as advances in medical technology and care are allowing more of these children to survive and leave the hospital, while in the recent past these children might not have survived. Caseworkers often find it challenging to recruit qualified foster parents to take on the duties of caring for these children as they often have demands that require significant amounts of time, energy and resources.

Literature involving foster parents who work with children with Special Health Care Needs (SHCN) has described many challenges faced by foster parents including communication breakdown(s) with caseworkers and/or health care providers, significant transportation demands for foster parents living in rural areas, and problems dealing with the various health care, legal and child welfare systems. This is believed to be a significant factor in the growing attrition rate of qualified foster parents and the difficulty recruiting new foster parents.

**Methods:** Interpretive Description (ID) was the primary methodology guiding this study. ID was first developed by Sally Thorne as a response to the need (often for nursing) to generate knowledge through alternative methods. After interview data was collected, the ideas and understandings were clustered, sequenced and woven together so that several patterns, themes and sub-themes were identified and described.

**Results:** The results produced several themes. Communication issues/breakdowns with social services, lack of critical information prior to fostering and conflicts with child welfare policy(s) were some of the challenging aspects of the experience of participants. Feeling supported by health care workers and making a positive impact on both the foster child and the biological parent were noted as positive themes. The motivation to foster or continue to foster children was also a significant theme coming from participants.

**Implications:** This study adds knowledge to the experience of foster parents who work with children with special health care needs. This study adds insight into the experience foster parents have when working with nurses, physicians, child protection workers, and the various systems (child welfare, health care, legal, etc..) that foster parents deal with while ensuring quality care of the children moving from the hospital into the foster home.

# INFANTS THROUGH ADOLESCENTS

## Nurses' Perception of iPAD Use as Distraction Therapy for Pediatric Patient

*Frances L. Patmon, PhD, RN*
*Nurse Scientist*
*Nursing Research and Clinical Informatics*
*Dignity Health*
*Phoenix, AZ*

*Perry M. Gee, PhD, RN*
*Nurse Scientist, Nursing Research and Clinical Informatics*
*Dignity Health*
*Phoenix, AZ*

*Michelle D. Sanders, DNP, ACNP, FNP, BC, Trauma Clinical Specialist*
*Trauma Services*
*Mercy Medical Center Redding*
*Redding, CA*

**Purpose:** This pilot study will examine the perception of clinical nurses using iPads as part of distraction therapy for pediatric patients prior to a surgical procedure.

**Background:** Distraction therapy has found success in reducing anxiety and pain in the pediatric patient prior to a surgical procedure. Previous research has shown that the use of distraction therapy has decreased the need for pre-sedation medication in patients as well as decreasing the anxiety of family members. The use of technology in health care has dramatically increased in the last decade especially with games, mobile technology and more recently iPads. Recent studies in the literature have highlighted benefits of distraction therapy using the iPad with in pediatric patients. However the successful adoption of any technology is highly dependent upon user acceptance. To date little is known about the usability of such technology in the clinical setting from a nurses' perspective.

**Methods:** Due to the newness of this phenomenon a qualitative approach initially by means of a semi-structured interview process and researcher observations will be used for the gathering of the data. Following Institutional Review Board approval, a purposive sample of 15 to 20 registered nurses who are using iPads for distraction therapy in the pre-operative surgical department will be interviewed in or near the clinical setting until saturation of data has been reached. The sampling and interviews will be adapted based on analysis of the initial data collected using a constant comparative methodology. When new findings or experiences are identified by the research team, the new hypothesis will inform the subsequent interviews.

**Results:** Data analyses for this pilot study will utilize a Grounded Theory approach. Grounded Theory is based on repeated sorting, categorizing and coding of the data. Final verification of data findings will occur through member checking and ongoing consultation with independent qualitative researchers.

**Implications:** There is a paucity of literature around nursing perception of the impact of technology on clinical practice. This pilot study will add to the body of knowledge in this area. Results from this pilot study will be used to develop the research design for a larger study. Data will also be used in to seek funding for a larger study aimed at validating a modified pre-operative anxiety tool for pediatric patients and examining parental anxiety.

# INFANTS THROUGH ADOLESCENTS

## Sleep Time and eNO in Youth with and without Asthma

*Martha J. Lentz, PhD, RN*
*Research Professor Emerita*
*Biobehavioral Nursing & Health Systems*
*University of Washington*
*School of Nursing*
*Seattle, WA*

*Gail M. Kieckhefer, PhD, ARNP*
*Joanne Montgomery Endowed Professor*
*Family & Child Nursing*
*University of Washington*
*School of Nursing*
*Seattle, WA*

**Purpose and Background:** Asthma is a chronic health condition marked by respiratory symptoms that often worsen during the night. Little is known about the relative influence of sleep vs. circadian forces on inflammatory parameters such as eNO. The purpose of this study was to assess the association of minutes of sleep and eNO level in the four hours following the usual bedtime and the fours after a sleep delay in children 9 to 11 years old with and without asthma.

**Methods:** Children 9 to 11 years old with asthma (n=26) and controls (n=24) were recruited using flyers posted in the community and by word of mouth. Children did not have upper respiratory symptoms in the two weeks preceding the study. Children with asthma maintained their regular prescribed management plan. All children slept in the School of Nursing Sleep Research Laboratory for two consecutive nights and followed their usual bedtime and rise times on the first night and delayed four hours on the second night. They carried out their usual daytime activities, but were asked to refrain from drinking beverages containing caffeine after 1PM before each laboratory study night. Sleep was recorded with a standard montage and digitized using a computerized data acquisition system (EMBLA, Iceland). Data were scored for wake and sleep in 30 sec epochs. On both nights eNO was collected off-line and analyzed using a Seivers (Boulder, CO) chemiluminescence analyzer (ppb)

**Results:** During the four hours between the pre sleep eNO testing and the first sleep period eNO testing the minutes of sleep, stages 1 thru 5, did not differ significantly between groups on either the usual bedtime night or the sleep delay night. Children with asthma had a mean of 180.0±34.9and 212.4±17.7 minutes of sleep for nights one and two. The control children had a mean of 190.3±336.8 and 210.1±43.7 minutes. Children with asthma mean levels of eNO were, 29.8+21.7 ppb night one and 24.7+17.4ppb night two and differed significantly ($p<0.01$) from children without asthma 10.7+5.1ppb and 9.9+4.4ppb. Due to the significant difference in eNO level correlations were run by group. Children with asthma did not have significant correlation between minutes of sleep and eNO level on either night ($r= -0.148$ & $r=0.014$) children without asthma had a significant association ($p<.05$) on night one ($r=-.478$) but not night two ($r=.014$).

**Conclusions & Implication:** Children with and without asthma as evidenced by the negative and small correlations appear to have a rapid and sustained rise in level of eNO on both the usual bedtime night and the sleep delay night associated with sleep onset implying an effect from sleep but not a circadian effect. Further studies are needed to confirm this hypothesis. If these finding are sustained it suggests that children with asthma might have an increased risk for respiratory distress early in the sleep period as they experience a rapid rise in eNO upon an already elevated level at sleep onset.

---

Funding: Supported by NINR R01 NR08238 and P30 NR04001.

## Engaging Youth in Promoting Healthy Snacking Zones in Food Stores near Rural Schools

*Nancy E. Findholt, PhD, RN*
*Associate Professor*
*School of Nursing*
*Oregon Health & Science University*
*La Grande, OR*

*Betty T. Izumi, PhD, MPH, RD*
*Associate Professor*
*School of Community Health*
*Portland State University*
*Portland, OR*

*Jackilen Shannon, PhD, RD, MPH*
*Associate Professor*
*Public Health & Preventive Medicine*
*Oregon Health & Science University*
*Portland, OR*

*Carole A. Smith, M.Ed.*
*NE Oregon Regional Administrator*
*Oregon State University Extension Service*
*La Grande, OR*

*Thuan Nguyen, PhD*
*Assistant Professor*
*Public Health & Preventive Medicine*
*Oregon Health & Science University*
*Portland, OR*

**Purpose:** This presentation will describe a novel intervention that engaged elementary and middle school students in creating and promoting “healthy snacking zones” in food stores located near five schools in rural Union County, Oregon.

**Background:** Rural children are at greater risk for obesity than their urban counterparts. Changes in children’s eating patterns have coincided with the rise in obesity rates, including a marked increase in consumption of energy-dense, low-nutrient snacks and beverages. Small food stores located near schools are an important source of snacks and beverages for children but typically offer few healthy options. Thus, interventions to increase access to healthy snacks and beverages in food stores near schools are urgently needed, especially in rural areas.

**Methods:** Youth engagement occurred through participation in SNACZ clubs, which were part of the Union County 4-H program. Students in grades 4-8 were invited to be club members. The role of the youth was to promote healthy snacking among their peers and work to create healthy changes within their communities. Photovoice and nutrition education were used to mobilize and prepare the youth for this role. Adult mentorship was provided by volunteer club leaders with support from project staff.

**Results:** On average, 36 youth participated in the SNACZ clubs. With adult support, the youth conducted taste tests in their schools to identify healthier snacks and beverages that appealed to young people and could be carried in the stores, worked with store owners to set up healthy snack and beverage displays within the stores, designed marketing materials to promote the healthy products, and conducted outreach activities within their communities to encourage other youth and adults to make healthier choices. Store owners supported the youth’s activities, the youth reported satisfaction and personal growth related to the project, and the changes made within the stores were attractive and drew widespread community attention.

**Implications:** Interventions that engage youth as advocates for healthy food environments can reap benefits for communities and the youth themselves. SNACZ is one such intervention that has been popular among students and has produced positive changes within food stores near rural schools.

---

Funding: This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2012-68001-19702.

## Objective Activity Measurement for a Child with Special Health Care Needs

*Heather Aldrich, PhD*
*Professional Research Coordinator*
*College of Nursing*
*University of Colorado*
*Anschutz Medical Campus*
*Aurora, CO*

*Catherine Jankowski, PhD, FACSM*
*Associate Professor*
*College of Nursing*
*University of Colorado*
*Anschutz Medical Campus*
*Aurora, CO*

*Kate Lyden, PhD*
*Postdoctoral Fellow*
*School of Medicine*
*University of Colorado*
*Anschutz Medical Campus*
*Aurora, CO*

*Bonnie Gance-Cleveland, PhD, RNC,*
*PNP, FAAN, Professor, Loretta C. Ford*
*Endowed Chair, College of Nursing*
*University of Colorado*
*Anschutz Medical Campus*
*Aurora, CO*

**Purposes/Aims:** This study describes how accelerometers can be used to objectively evaluate physical activity in youth who have special health care needs, illustrated with a case study comparing ActiGraph$^{TM}$ and activPAL$^{TM}$ monitors.

**Background:** The importance of establishing healthy physical activity habits in childhood is well documented, but often not addressed with children and adolescents who have special health care needs. Youth with special health care needs are also often left out of obesity prevention efforts, despite high rates of obesity and related conditions.

**Methods:** The case study profiles a 25-month-old boy with a history of tracheostomy and ventilator dependence resulting in gross motor delays. The child wore two physical activity monitors simultaneously for 24 hours: the ActiGraph$^{TM}$ GT3X+ and the activPAL$^{TM}$. Both monitors have been validated with young children who are ambulatory, but little work has been done using accelerometers on children with special health care needs impacting gross motor movements. The child's parent was instructed to have the child participate in usual activity for the day and keep a detailed journal of the child's activities. ActiGraph$^{TM}$ data was collected at 60 Hz, summarized in 1-second epochs, and converted to mean counts per minute. Results were analyzed to give estimates of sedentary, light, and moderate intensity activity levels and total activity counts per day as an estimate of total daily movement. Time-stamped "event" data from the activPAL$^{TM}$ were analyzed with a customized R program to determine total time spent sitting/lying, standing, and stepping for 24 hours.

**Results:** Both devices remained in place on the child during activity and sleep, and were well-tolerated by the child and the parent. The ActiGraph$^{TM}$ results showed that the child spent 22.9 hours being sedentary (including sleep time), 0.8 hours in light intensity activity, and 0.3 hours in moderate intensity activity. The activPAL$^{TM}$ monitor indicated that the child spent 20.9 hours sitting or lying, 2.5 hours standing, and 0.6 hours stepping. Both devices showed similar patterns and corresponded to the parent's journal entries, with the period of highest activity being the child's physical therapy session.

**Implications:** Pediatric nurses working with children with special health care needs and their families need to be attuned to the risk factors that predispose this population to obesity and related conditions. ActiGraph$^{TM}$ and activPAL$^{TM}$ monitors are well-suited for measuring physical activity in pediatrics, including youth with special health care needs. Each device has its specialty; the ActiGraph$^{TM}$ provides data on exercise intensity, whereas the activPAL$^{TM}$ is body posture oriented, thereby distinguishing the sedentary end of the activity spectrum. Children and adolescents with special health care needs or disabilities are an important and growing population. More research should be done to include these children in health promotion efforts. Improving the use of high-quality outcome measures, such as accelerometers, is needed.

# INFANTS THROUGH ADOLESCENTS

## School Nurses' Role in Addressing Health-Risk Behaviors during Sports Physicals

*Karen E. Johnson, PhD, RN*
*Assistant Professor*
*School of Nursing*
*University of Texas at Austin*
*Austin, TX*

*Marian Morris, MPH, RN*
*Graduate Research Assistant*
*School of Nursing*
*University of Texas at Austin*
*Austin, TX*

*Annie-Laurie McRee, DrPH*
*Assistant Professor*
*General Pediatrics & Adolescent Health*
*University of Minnesota*
*Minneapolis, MN*

*Amanda Simonton, BS, RN*
*Graduate Research Assistant*
*School of Nursing*
*University of Texas at Austin*
*Austin, TX*

**Purpose/Aims:** To examine school nurses' involvement in sports physicals, particularly addressing health-risk behaviors among student athletes.

**Rationale/Conceptual Basis/Background:** Current guidelines for adolescent clinical care include screening and the provision of preventive guidance about health risk behaviors (HRBs) such as substance use, risky sexual behavior, and violence. About 60% of adolescents participate in sports and are required to complete a pre-participation exams (PPE). PPEs are often an adolescent's only annual contact with the health care system and offer an important opportunity to discuss HRBs with a large number of adolescents. Yet, PPEs traditionally focus on ruling out relatively rare cardiac contraindications to participation, as opposed to these leading causes of morbidity and mortality during adolescence. As trusted professionals whose reach spans into both school-based and primary care settings, school nurses could play an important role in addressing HRBs among adolescents. Yet, we know little about the role school nurses currently play in PPEs.

**Methods:** We report preliminary findings from the qualitative strand of a mixed methods exploratory sequential design study. Between December 2014 and March 2015, we conducted semi-structured interviews with 12 school nurses in Texas who worked in at least one high school to explore their role in PPEs, interest in and barriers to addressing HRBs among student athletes, and suggestions for facilitating school nurse involvement in PPEs. Interviews were transcribed verbatim and coded by members of the research team using thematic content analysis.

**Results:** Preliminary themes included level of involvement in PPEs, collaborations, and barriers. Nurses reported that, in addition to seeing a private doctor or going to a clinic, group PPEs organized by school athletic departments were one way student athletes fulfilled PPE requirements. The majority of nurses reported no involvement in PPEs, while others reported minimal involvement such as staffing a station during a group physical. Other nurses described performing some non-systematic, occasional follow-up with specific students on health issues that surfaced during group physicals. Nurses reported little to no collaboration with clinicians providing PPEs. Nurses identified a number of physical, attitudinal, and policy/systemic barriers to addressing HRBs during PPEs including: time constraints, lack of administrative support and resources, privacy constraints, reluctance of parents and administrators for students to have health-related information, concerns about legal issues, and perceptions of territoriality between nurses and athletic department staff. Participants also offered suggestions for facilitating nurse involvement in PPEs including: securing private space, collaborating with mental health care providers or multi-disciplinary assessment teams, orienting students to comprehensive PPEs, gaining support from coaches and trainers, and dedicating time for nurses to address HRBs with student athletes.

**Implications:** Findings from this exploratory study offer new information about the role of school nurses in PPEs and suggest potential avenues for addressing barriers to school nurse involvement. Future research should determine the feasibility and effectiveness of integrating school nurses into the PPE process so that HRBs among student athletes can be addressed holistically.

---

**Funding:** American Nurses Foundation #4554-14 (PI: Johnson).

# INFANTS THROUGH ADOLESCENTS

## Mexican American Adolescents' Cultural Perceptions of Obesity

*Tia N. Foukas, DNP/FNP Student, BSN, RN*
*College of Nursing*
*The University of Arizona*
*Tucson, AZ*

*Audrey Russell-Kibble, DNP, RN, FNP-C*
*Clinical Assistant Professor*
*College of Nursing*
*The University of Arizona*
*Tucson, AZ*

**Purpose:** To describe how Mexican cultural values, such as *familismo, machismo, marianismo, fatalismo, personalismo,* and *respeto*, influence Mexican American adolescents' perceptions of obesity in order to determine the need for a culturally-centered health promotion program as a viable treatment option for this population.

**Background:** The rate of obesity among Mexican American adolescents is increasing at a higher rate compared to other ethnic groups, and reasons behind this trend are not well understood. Health care providers must understand Mexican American adolescents' perceptions and attitudes regarding obesity so culturally-tailored treatment options can be created and implemented; treatment options that reflect cultural perceptions and attitudes are more likely to increase adherence, improve patient-provider relationships, and enhance health outcomes. This is a significant issue in health care today because without cultural knowledge, health care providers will continue to provide treatments that lack cultural sensitivity for this population, thus reducing the overall quality, safety, and outcomes of care. The obesity epidemic among the Mexican American adolescent population can diminish; one answer lies in better understanding cultural values and influences on their health behaviors.

**Methods:** Qualitative descriptive methodology was employed to evaluate interview data from participants attending a focus group of Mexican American adolescents, between the ages of 14 and 17. Participants were recruited through snowball sampling from a church, in a community near the U.S.-Mexico Border. The focus group was held in a public library. The entire interview process was audio-recorded for accuracy and transcribed. Data analysis was accomplished using an iterative process of theme analysis of the interview data collected.

**Findings:** Participants completed a demographic questionnaire, measured their height and weight that was entered into an app for BMI, and discussed Mexican American culture, eating habits, obesity, family traditions, and family life. Data from the questionnaire and focus group discussion revealed the adolescents' perspectives on culture, obesity, and health. Major themes and categories of data were extracted and are presented with exemplars of words from participants.

**Implications:** The data obtained will be used to further educate and empower health care providers that care for Mexican American adolescents with the knowledge needed to better understand how cultural values influence these adolescents' health and healthcare outcomes. Additionally this data will be used to inform a culturally-centered health promotion program as a viable treatment option for obesity in Mexican American adolescents.

# INFANTS THROUGH ADOLESCENTS

## Healthcare Transition Program for Adolescents with Spina Bifida

*Teresa Scavone, MSN, PNP-BC*
*Spina Bifida Case Manager*
*Shriners Hospitals for Children, Northern CA*
*Sacramento, CA*

*Kathleen Sweeney, DNP, CPNP*
*Clinical Associate Professor*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

*Craig McDonald, MD*
*Professor and Chair, Department of*
*Physical Medicine & Rehabilitation*
*UC Davis Medical Center*
*Sacramento, CA*

**Purpose:** The primary objective of this project is to evaluate the feasibility of implement-ing an NP facilitated formal transition program for adolescents with Spina Bifida, ages 15 to 19 years.

**Rationale:** There is an increased awareness of the need for health care transition for youth with special health care needs (YSHCN) due to the 2009-2010 Maternal Child Health Branch National Survey findings that only 40% of YSHCN receive adequate support for transition that meets the core outcome measures. Recent studies have investigated transition in youth with chronic disease specific conditions such as diabetes, cystic fibrosis, and congenital heart defects, and provide valuable insight into possible strategies for transition management. However, there is limited translation of the evidence to transition programs specific to adolescents with Spina bifida (SB) that are focused on transition readiness or knowledge related to self-care management. Adolescents with SB face many challenges due to their medical complexities and potential development of secondary health conditions as young adults. Adolescents with Spina bifida often have difficulty with knowledge acquisition, attention, organization, and problem solving, all factors that are necessary to facilitate successful healthcare transition.

**Process:** A formal transition program was implemented into routine follow-up visits of 20 adolescents who were scheduled at the SB clinic. A readiness and knowledge assessment were administered to SB adolescents, which helped to identify educational gaps related to their understanding of their health conditions as well as skills needed to access health care. The teen and parent also rated the importance of transition preparation and the adolescent's ability to master this process. This information guided teaching and interventions to facilitate transition readiness and promote setting of future goals towards independence.

**Outcomes:** Project implementation is in progress for the transition program, which serves a heterogeneous, culturally diverse group of adolescents with SB. Quantitative data will display the range of abilities regarding transition readiness, knowledge related to the systems affected by SB, and experience in self-care management. Benefits and challenges related to program implementation will also be discussed. Project completion will be achieved by December 2015.

**Conclusions:** NPs in specialty practice are positioned well to translate the evidence on transition into formal programs. It is important to address the feasibility of implementing transition programs, including identifying interventions that translate to improved outcomes for adolescents with SB in meeting goals towards independence. The results of this project will provide guidance to other NP's in developing a formal transition program with YSHCN that face multiple health challenges.

## Abstracts of Poster Presentations

# INTERPROFESSIONAL EDUCATION

### DEVELOPMENT OF AN INTERPROFESSIONAL EDUCATION MODEL FOR SYSTEMS-BASED PRACTICE

*Sara E. Hart, Wendy Hobson-Rohrer, Rebecca D. Wilson*

---

### THE EFFECT OF A TEAM-BASED TRAINING PROGRAM AMONG HEALTHCARE PROFESSIONALS IN A CCU

*Dawon Baik*

# INTERPROFESSIONAL EDUCATION

## Development of an Interprofessional Education Model for Collaborative Systems-Based Practice

*Sara Hart, PhD, RN*
*Assistant Professor*
*College of Nursing*

*Wendy Hobson-Rohrer, MD, MSPH*
*Associate Dean for Faculty Development*
*School of Medicine*

*Rebecca Wilson, PhD, RN*
*Assistant Professor*
*College of Nursing*

*University of Utah Health Sciences*
*Salt Lake City, UT*

**Purposes/Aims:** The purpose of this project was to create an interprofessional education model to influence systems-of-care and the health of populations. In this model, health professions students and faculty from all disciplines learn to collaboratively identify and discuss the complex economic, social and structural drivers of health and gain skills to influence, educate, and advocate for health systems change and health care delivery transformation.

**Rationale/Background:** Interprofessional education (IPE) and interprofessional collaborative practice provide us with new and exciting opportunities to grow and strengthen our influence in health policy and health systems transformation. When health professionals collectively identify social, economic and structural barriers to health they are more likely to collaboratively advance effective systems-based interventions. The positive effect of this collaboration serves to strengthen our collective voice for transforming health care, and in doing so, transforming health.

**Undertaking/Best Practice/Approach/Methods/Process:** This project began with an in-depth examination of systems-based practice (SBP) definitions, accreditation standards and competencies across the health professions. A review of accreditation requirements and curricula was conducted for the following programs: pharmacy, undergraduate and doctoral nursing, undergraduate and GME medicine, physician assistant, dentistry, and public health. Examination of each health professions' program accreditation requirements demonstrated similar learning outcomes for SBP, across all professions. At our university, courses with systems-based practice content were identified and examined; each health profession program was found to teach one or more discipline-specific courses with a focus on SBP. Across the health sciences programs, more than one dozen courses with SBP content were identified with significant overlap found in the content and skills taught.

**Outcomes Achieved/Documented:** Using the findings, an IPE model for collaborative systems-based practice was developed for implementation during an upcoming IPE revision. Adhering to core principles of interprofessional education, this model connects systems science, professional advocacy roles, and frameworks for influencing systems-level change. Students develop a population health orientation while learning to: 1) collectively identify the complex drivers of health; 2) intervene in the presence of systems-driven inequities; and 3) collaboratively promote systems-level interventions for improving health and transforming health care. Personal discovery, professional values, systems-based practice knowledge and systems transformation skills are integrated into a rigorous longitudinal interprofessional education curriculum, with content connecting systems science, professional advocacy roles, and frameworks for influencing systems-level change. Shared learning occurs in interprofessional teams. Didactic and simulation experiences further develop students' comprehensive understanding of the relationships between biological and social characteristics, and the ways in which health interacts with broader economic, cultural, and physical environments.

**Conclusions:** IPE provides an opportunity to develop a population health orientation while building critical connections between our biological and social characteristics and our broader economic, cultural, and physical environments. Evolving IPE, beyond the focus of sick-care, can prepare health professionals to collaboratively advance systems-level interventions, which improve the health of our patients and our communities. Future work with this model includes implementation strategies, faculty and student attitudes pre and post-implementation, and methods for ongoing evaluation of learning outcomes.

# INTERPROFESSIONAL EDUCATION

## The Effect of a Team-Based Training Program among Healthcare Professionals in a CCU

*Dawon Baik, MN, RN*
*PhD Student*
*School of Nursing*
*University of Washington*
*Seattle, WA*

**Background:** An important factor in RN job satisfaction is team functioning. Interprofessional teams that have a lot of conflicts, low mutual respect, and poor communication result in low RN satisfaction and retention. Purposeful team training can help interprofessional healthcare teams achieve mutual respect, trusting relationships, and effective communication skills. Higher levels of relational coordination (RC) have been associated with higher functioning teams. Strategies to enhance relationships and communication between healthcare professionals include TeamSTEPPS® (Team Strategies and Tools to Enhance Performance and Patient Safety), RC, conflict resolution, and leadership training. TeamSTEPPS® was developed by the Department of Defense and the Agency for Healthcare Research and Quality and is an evidence-based team training program to improve teamwork among healthcare professionals. RC and TeamSTEPPS® have complementary relationships in that RC serves as a validated teamwork diagnostic tool that assesses strengths and weaknesses of team functioning, and TeamSTEPPS serves as a validated multilevel teamwork training program. Although they have complementary relationships to improve team functioning, there has been no attempt to evaluate the effect of the integration of RC and TeamSTEPPS® as a training approach to improve healthcare teamwork, communication, job satisfaction, and retention.

**Purposes/Aims:** The aim of the parent study is to determine whether the proposed team-based training program improves teamwork and team communication for healthcare professionals providing care to patients with advanced heart failure (AHF). The aim of the substudy (dissertation) is to determine whether the proposed team-based training program contributes to job satisfaction and retention among RNs in one specific unit, the coronary care unit (CCU) for AHF through improved teamwork and team communication.

**Methods:** This proposed pilot study will conduct a one group, pre-post study design and semi-structured focus group interviews. All CCU healthcare professionals (MDs, RNs, advanced practice providers [nurse practitioners, physician assistants], Pharmacists, and Social Workers) will be invited to participate. The team-based training program includes the RC and TeamSTEPPS® as well as leadership workshops, conflict resolution, interprofessional rounding, coaching and mentoring, and interprofessional education (IPE) competencies. The training team is the Team Collaboration for Organizational Excellence (TeamCORE) group as TeamSTEPPS® master trainers at the University of Washington Institute for Simulation and Interprofessional Studies (UW ISIS). Teamwork and communication will be measured by the RC survey and T-TPQ (TeamSTEPPS Team Perception Questionnaire). Job satisfaction and retention data will be obtained from the hospital pre and post the team training. RC and TeamSTEPPS Surveys will be collected at baseline and three month following the intervention, and focus group interviews will be conducted two to three months following the last training.

**Results and Implications:** We expect that the team-based training will have a significant positive effect on team functioning (teamwork, team communication, and relationships), and that the team training will contribute to RNs job satisfaction and retention through improved team functioning in the CCU. The results of this study will help cultivate improved changes in mutual respect and trusting relationships as usual in the CCU, and potentially enable further study on patient safety as an effect of the team training.

---

**Funding:** Parent Study funded by HRSA NEPQR Grant.

# MENTAL HEALTH

## EMERGENCY NURSES' SYMPTOMS OF COMPASSION FATIGUE VERSUS THE CURRENT CONCEPTUAL MODEL

*Lindsay Bouchard Cais, Kate G. Sheppard*

---

## ASSOCIATION OF DEPRESSIVE SYMPTOMS WITH COGNITIVE IMPAIRMENT

*Melanie Gaye Walters*

---

## WOMEN VETERANS' PERCEPTIONS OF MENTAL HEALTH OUTPATIENT SERVICES

*Lindsay Williams*

---

## PHYSICAL ACTIVITY AND DEPRESSIVE SYMPTOMS IN PERSONS WITH FIBROMYALGIA

*Shayna Joy McDaniel, Dana N. Rutledge*

---

## PROMOTING MENTAL HEALTH IN A SAN ANTONIO REFUGEE COMMUNITY: A PILOT STUDY

*Rebekah J. Salt, Margaret E. Costantino, Emma L. Dotson*

---

## DEPRESSION, ANXIETY AND SYMPTOM DISTRESS IN LATINAS WITH BREAST CANCER

*Terry Badger, Tracy Crane, Chris Segrin, Alice Pasvogel*

---

## ATTITUDES AND PERCEPTIONS OF ICU NURSES BEFORE AND AFTER DELIRIUM AWARENESS MONTH

*Jacqueline Marie DeMellow, Teri Kozik*

# PEER-SUPPORTED STORYTELLING AS A METHOD TO REDUCE THE OCCURRENCE OF COMPASSION FATIGUE

*Brittany Abeln, Kate G. Sheppard, Audrey Russell-Kibble*

---

# IMPROVING SUICIDE RISK ASSESSMENT AND MANAGEMENT IN MILITARY PRIMARY CARE

*John Anthony Hoyos, Michael Terry*

---

# THE POWER OF THE SEED: A CBPR PROJECT

*Socorro Escandon, Martha L. Martinez*

---

# PREDICTION AND PREVENTION OF VIOLENT PATIENT BEHAVIOR

*Kornelia Anna Kopec*

---

# CREATING A STANDARD LANGUAGE FOR PATIENT AGGRESSION TO IMPROVE RN COMMUNICATION

*Derrell A. Wheeler*

# MENTAL HEALTH

## Emergency Nurses' Symptoms of Compassion Fatigue Versus the Current Conceptual Model

*Lindsay Bouchard Cais, MS, RN*
*DNP Student*

*Kate G. Sheppard, PhD, RN, FNP, PMHNP-BC, FAANP*
*Clinical Associate Professor*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

**Purpose:** To compare emergency nurses' symptoms of compassion fatigue to the currently accepted conceptual model of compassion fatigue.

**Conceptual Basis:** Compassion fatigue is commonly conceptualized as the combined negative impact of burnout and secondary traumatic stress and offset by positive compassion satisfaction. The concept of burnout is thought to have three dimensions: overwhelming exhaustion, feelings of cynicism or detachment, and a sense of ineffectiveness. The positive aspects of compassion satisfaction and the negative effects of burnout and secondary traumatic stress are described within the currently accepted conceptual model of compassion fatigue for helping professions.

**Methods:** Data from a secondary analysis of four semi-structured interviews in which emergency nurses were asked to describe their experiences related to compassion fatigue were compared to the currently accepted compassion fatigue conceptual model.

**Results:** Many reported symptoms were aligned with the symptoms described in the model related to compassion satisfaction, compassion fatigue, burnout, and secondary traumatic stress. However, multiple symptoms and detrimental effects were identified that are not included within the current compassion fatigue model. These themes included negative and inappropriate emotions outside of work, difficulty talking about work at home, and becoming hypervigilant about own family. Data also indicate that one aspect of burnout, detachment, is consciously used as a coping mechanism at work.

**Implications:** Compassion fatigue is of growing concern within the profession of nursing due to its negative impact on nurses' mental and physical health, productivity, and patient care. Emergency nurses may be at high risk given the requirements and experiences within their work, and this population of nurses may experience compassion fatigue in different ways than in other practice settings. Additional research is required to further explore emergency nurses' symptoms of compassion fatigue. Gaining a better understanding of this population's experiences and negative effects of compassion fatigue is needed in order to develop and implement effective interventions.

# MENTAL HEALTH

## Association of Depressive Symptoms with Cognitive Impairment in Adults

*Melanie Gaye Walters, MSN, APRN, PhD Student*
*Lynne A. Hall, DrPH, RN, Associate Dean of Research*
*Tim N. Crawford, PhD, MPH, Assistant Professor*
*School of Nursing*
*University of Louisville*
*Louisville, KY*

**Background:** Cognitive impairment is a term that encompasses a range of neuropsychological deficits that limit an individual's ability to execute sound problem-solving, planning, and decision-making. Thus, cognitive impairment has a direct influence on one's ability to perform adequate daily self-care and health maintenance activities. Individuals with depressive disorders may be at higher risk of experiencing cognitive impairment during the acute stage of illness and during remission than individuals in the general population.

**Purpose:** The purpose of this study was to examine the relationship of participant reports of depressive symptoms with cognitive impairment in a nationally representative sample.

**Aims:** The specific aims were to: (1) evaluate the relationship between depressive symptoms and cognitive impairment, controlling for sociodemographic variables; and (2) identify the best predictors that yield correct classification of cognitive impairment based on sociodemographic variables and mean number of days of depressive symptoms in the prior two weeks.

**Methods:** Secondary analysis of cross-sectional data from the CDC 2011 Behavioral Risk Factor Surveillance System (BRFSS) telephone survey was conducted. A total of 20,382 adults, ages 18 to 99 years who resided in Nebraska, participated but only 161 participants answered all questions related to depressive symptoms and cognitive impairment. Thus, they formed the sample for this study. The average age of participants was 51.9 (SD = 14.1). Sixty-nine participants (42.9%) were married, 64 (39.8%) were high school graduates, 35(21.7%) were employed for wages, and 31 (19.3%) reported an annual income of less than $10,000. Depressive symptoms were measured as the number of days within the previous two weeks that participants experienced each of eight symptoms. Cognitive impairment was measured by asking participants whether they experienced confusion or memory loss that was perceived as worsening within the previous 12 months (yes/no).

**Results:** The mean number of days of depressive symptoms was significantly higher for those who reported memory loss or confusion (M = 10.0, SD = 3.26) compared to those who reported no memory loss or confusion (M = 8.0, SD = 3.32), $t_{(159)} = -3.65$, $p<.05$, two-tailed. The mean difference was -1.905, 95% CI (-.873, -2.937).

Using logistic regression, cognitive impairment/memory loss was regressed on only the two significant predictors – employment status and mean number of days of depressive symptoms in the past two weeks. Mean number of days of depressive symptoms was significantly related to participants' reports of confusion or memory loss (OR = 1.17, $p = .004$, 95% CI: 1.053 - 1.301). Participants employed for wages were less likely to have reported confusion or memory loss (OR = .372, $p = .035$, 95% CI: .148 - .934). The full model increased overall correct classification of cognitive impairment, confusion or memory loss, over the null model, from 55.9% to 68.3%.

**Implications:** Individuals who experienced a higher number of days of depressive symptoms were more likely to report cognitive impairment/ memory loss. Nurses should be alert to the presence of depressive symptoms when interacting with their clients who have subjective reports of confusion or memory problems, for early intervention.

# MENTAL HEALTH

## Women Veterans' Perceptions of Mental Health Outpatient Services

*Lindsay Williams, PhD, MS, RN, PHN*
*Project Manager, Performance Improvement*
*Cedars-Sinai Medical Center*
*Los Angeles, CA*

**Purposes/Aims:** The purpose of this study is to understand women Veterans' experiences when using outpatient mental health services and factors influencing their utilization of those services. This study addressed the following specific aims:

1. To examine women Veterans' decision-making process regarding entering mental health outpatient services.
2. To examine women Veterans' experiences utilizing mental health outpatient services.
3. To identify aspects of mental health outpatient services that are important to women Veterans.
4. To develop an explanatory framework to explain the processes used by women Veterans in their access and utilization of mental health outpatient services.

**Rationale/Conceptual Basis/Background:** This study utilized the theoretical framework of symbolic interactionism, constructivist Grounded Theory, Sofaer and Firminger's conceptual model of patient perceptions of care, Andersen-Gelberg's model of Healthcare Utilization for Vulnerable populations.

Studying how women Veterans decide to access care in VA, private or community based healthcare services, can help us to understand their perceptions about mental health outpatient care and assist in creating services that are gender sensitive and appropriate for their Veteran status. Furthermore, although there has been research on the prevalence of mental health conditions in women Veterans, there is a paucity of research on women Veterans' perceptions of outpatient mental health services and if it meets the needs they identified as important to them.

**Methods:** This study used constructivist Grounded Theory methods to explore the experiences of women Veterans when accessing mental health outpatient services, their decision-making process when they make the choice to enter mental health service, and aspects of the experience that are important or meaningful to them.

**Results:** Twelve women Veterans revealed meaningful, personal stories on their experiences of trauma and their use of mental health outpatient services. While addressing each of these factors, what emerged from the data was a broader Grounded Theory Process model of how women Veterans process trauma, and the categories of Trauma, Transitions, Identity and Structure. Women Veterans who participated in the study used mental health outpatient services to assist in reestablishing identity after trauma and to propel forward in their lives.

**Implications:** This research provides key insight into how women Veterans make healthcare related choices and process traumatic events, like military sexual trauma (MST).This has implications for research, practice, and policy to improve the provision of care for women Veterans.

The development of the major concepts of "Trauma", "Transitions", "Identity", and Structure" offer another aspect of understanding the social worlds and significant interactions that shape the lives of women Veterans. These concepts give voice to their powerful and impactful stories have been silenced or ignored, and lay the basis for further research, practice, and policy change that can positively impact the lives of women Veterans and their families, including changes in healthcare settings, workforce policy and the availability of resources.

# MENTAL HEALTH

## Physical Activity and Depressive Symptoms in Persons with Fibromyalgia

*Shayna McDaniel, RN, BSN*
*Graduate Nursing Student*
*School of Nursing, College of Health and Human Development*
*California State University, Fullerton*
*Fullerton, CA*

*Dana N. Rutledge, RN, PhD*
*Professor Emeritus*
*School of Nursing, College of Health and Human Development*
*California State University, Fullerton*
*Fullerton, CA*

**Study Aims:** The purpose of this study was to compare the relationship between self-reported physical activity (PA) levels and depressive symptom severity in people with fibromyalgia (FM) age 50 and above with a healthy cohort. The specific aims are to (a) compare the severity of depressive symptoms in people $\geq$ 50 with FM with a healthy cohort, (b) examine the relationship between PA level and depressive symptom severity in both cohorts, and (c) determine if FM status and PA level are significant predictors of depressive symptom severity.

**Background:** FM is a chronic musculoskeletal syndrome involving symptoms of persistent widespread pain, heightened pain sensitivity, muscle tenderness, stiffness, fatigue, non-restorative sleep, cognitive dysfunction, and mood disturbance. Rates of depression in FM are significantly higher than in the general population; this may exacerbate pain, impaired daily function, and decreased quality of life for FM sufferers. In both the general and older adult populations, PA acts as a protective factor against depression. Evidence on this relationship in the FM population is inconsistent, warranting further investigation.

**Methods:** Data for this study came from a longitudinal study examining cognitive and physical performance in community-dwelling, functionally independent adults 50+ with and without FM. This observational study utilized the most recent data (2014 collection period) of FM status, depressive symptom severity, and PA level for 92 participants, 47 with FM and 45 without. Participants were recruited via advertisements sent to local FM support groups and senior centers, and via phone calls and e-mails to people from two university center databases (Fibromyalgia and Chronic Pain; Gerontology). The Beck Depression II Inventory and Rapid Assessment of Physical Activity were used to assess depressive symptom severity and physical activity levels, respectively.

**Results:** As hypothesized, results revealed higher ($p < .0001$) depression scores in FM ($M = 15.72$, $SD = 10.22$) compared with controls ($M = 4.78$, $SD = 5.13$). Also, a weak, negative correlation was found between PA levels and depression scores in both cohorts, $r = -.257$, $p = .014$. Both FM status and PA levels predicted depression severity; FM status accounted for 31% of the variance in depression scores ($p < .0001$) and PA scores accounted for an additional 3% ($p < .05$).

**Implications:** These results strengthen current evidence on depression prevalence in FM. Although the effect size is small, the negative correlation supports the potential use of PA as a recommended intervention for people with FM. Study findings support that PA may be a protective factor against depressive symptoms. All providers involved in the symptom management of those with FM should be aware of the need to encourage PA in persons with FM; in their educational messages, they can include the potential beneficial effects of PA on depression. Nurses, in particular, are in an ideal position to incorporate the latest evidence in providing patient education to those with FM by explaining the benefits of PA, encouraging participation in PA, and helping identify barriers to PA.

# MENTAL HEALTH

## Promoting Mental Health in a San Antonio Refugee Community: A Pilot Study

*Rebekah J. Salt PhD, RN*
*Assistant Professor*
*School of Nursing*
*The University of Texas Health Science Center at San Antonio (UTHSCSA)*
*San Antonio, TX*

*Margaret E. Costantino, MA, LPC*
*Director*
*Center for Refugee Services*
*San Antonio, TX*

*Emma L. Dotson, SN*
*Undergraduate Research Scholar*
*School of Nursing, UTHSCSA*
*San Antonio, TX*

**Purpose/Aims:** The purpose of this study is to evaluate the feasibility and effectiveness of screening for mental health using the Refugee Health Screener (RHS-15) and the Pathways to Wellness (PW) intervention program with refugees at the Center for Refugee Services (CRS) in San Antonio, Texas. Specific Aims: 1) To identify internal/structural barriers affecting recruitment and administration of the RHS-15 and PW intervention with a group of seamstresses at the CRS who participate in a cottage industry, and 2): To compare the RSH-15 and PW intervention scores at baseline and immediately following the intervention to evaluate program impact.

**Background:** In Fiscal Year 2013, the United States admitted almost 70,000 persons through the U. S. Refugee Admissions Program. Refugees often suffer life threatening circumstances prior to flight from their countries. This coupled with the stressors associated with resettlement can have a negative impact on the health of this vulnerable population. During the resettlement process there are internal and structural barriers that arise such as the stress of adapting to a new culture, language, transportation, change in socioeconomic status, and unemployment. In addition, studies have reported a high prevalence of mental health disorders including depression, post-traumatic stress disorder (PTSD), panic attacks, and somatization for refugees.

**Methods:** Interpreters will assist with recruitment, consent, and the PW intervention and will document barriers encountered during the process. Descriptive statistics will report means and frequencies and a paired t-test will be used to compare RHS-15 scores at baseline and after the final session of the PW. The RHS-15 tool consists of 15 questions and screens for common mental disorders in refugees, reports good sensitivity and specificity, takes about 4 to 12 minutes to complete, and has been translated into eleven languages. The PW intervention includes eight 90 minutes sessions using facilitators to help refugees recognize symptoms and understand and reduce stigma associated with mental health in the United States.

**Implications:** The resettlement process can be difficult for refugees and good mental health is important for their transition into U. S. culture. The CRS is a trusted and convenient site in the refugee community and cottage industries can provide social and economic opportunities for this population. Mental health assessments, using culturally sensitive screening tools and interventions may decrease some of the stigma associated with mental health disorders and lead to improved health literacy and outcomes for refugees.

---

**Funding:** This study is supported by the University of Texas Health Science Center at San Antonio, School of Nursing, Rosemary Kerr McKevitt Research Award and the University of Texas Health Science Center at San Antonio, Institute for Integration of Medicine & Science Community Engagement Small Project Grant.

# MENTAL HEALTH

## Depression, Anxiety and Symptom Distress in Latinas with Breast Cancer

*Terry Badger, PhD, RN, PMHCNS-BC, FAAN*
*Professor*
*The University of Arizona College of Nursing*
*Tucson, AZ*

*Tracy Crane, MS, RD*
*Doctoral Candidate*
*The University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Chris Segrin, PhD*
*Professor*
*The University of Arizona*
*Communications*
*Tucson, AZ*

*Alice Pasvogel, PhD, RN*
*Research Specialist*
*The University of Arizona College of Nursing*
*Tucson, AZ*

**Purpose:** This study examines preliminary findings from an ongoing trial evaluating the effectiveness of two telephone-based interventions on depression, anxiety and symptom distress among Latina breast cancer survivors and their supportive partners (SP).

**Methods:** Latina breast cancer survivors (*n* = 155) and their SPs were randomly assigned to either telephone interpersonal counseling (TIP-C) or telephone supportive health education (SHE). The typical Latina was in her mid-40's, married, had less than a high school educational level and reported an income of less than $30k. She was Stage II or III. Symptom distress, depression, and anxiety, were measured at baseline and at the end of the 8-week intervention. At time 2, 128 participants completed the measures for a retention rate of 83%.

**Results:** Participants in both the TIP-C and SHE interventions exhibited significant reductions in depression, anxiety and symptom distress in both the survivor and SP over the 8 week intervention. Women assigned to the TIP-C had significantly higher symptoms of depression at baseline, as measured by the CES-D. However, the degree of change for both groups over the 8 week intervention period was comparable, even after controlling for the presence of depression at baseline (CES-D score >15). Cost-analysis indicates the TIP-C to be more cost effective than the SHE, at $189 versus $302 per dyad, respectively.

**Conclusions:** These early findings suggest benefits in overall symptom distress, anxiety and depression with relatively low cost, acculturated, brief telephone interventions for both Latina breast cancer survivors and their SPs. Future analyses will reveal the sustainability of treatment effects for both the TIP-C and SHE.

**Implications:** Including SPs in clinical trials expands tests of treatment efficacy in the family system, especially in disparate populations who place a high value on *familism*. These findings indicate that telephone based interventions delivered to both the survivor and their SP decrease symptoms of depression and anxiety and reduce overall symptom distress.

---

Funding: American Cancer Society.

# MENTAL HEALTH

## Attitudes and Perceptions of ICU Nurses before and after Delirium Awareness Month

*Jacqueline DeMellow, RN, MS, CCNS, CCRN*
*Clinical Nurse Specialist, Critical Care*
*Dignity Health - St Joseph's Medical Center*
*Stockton, CA*

*Teri M. Kozik, PhD, RN, CCNS, CCRN*
*Supervisor Clinical Research*
*Dignity Health - St Joseph's Medical Center*
*Stockton, CA*

**Purposes/Aims:** To determine if specific interventions would increase nursing awareness and improve the quality of assessments of patient delirium utilizing the CAM ICU tool, in critically ill patients at a community hospital.

**Rationale/Background:** Nurses need to find value in early detection, monitoring and implementing strategies to mitigate the effects of delirium. Based on recommendations from the 2013 Pain, Agitation and Delirium Guidelines, there has been much emphasis on increasing awareness of the importance of delirium assessment nationwide. However, nurses at the bedside need on-going training and reinforcement about this extremely vital assessment. Assessment of attitude and perceptions of intensive care unit (ICU) nurses towards ICU Delirium, may elucidate specific barriers in implementation of delirium assessment and indicate need for future training.

**Methods:** A baseline survey was administered utilizing survey monkey to all nursing staff in 4 Adult ICUs. Delirium Awareness month with focused education for staff including reinforcement of the CAM-ICU tool and a return demonstration competency with a written test was then completed. Other activities to increase awareness and understanding of ICU Delirium were conducted during this month. The post survey was repeated two months after the Delirium awareness month activities to detect any changes in attitudes and behaviors resulting from the intervention.

**Outcomes:** A total of 55 critical care nurses responded to the pre survey (response rate 49.5% (55/111)), and 51 critical care nurses responded to the post survey (response rate 49%, (51/104)). Of the nurses that took the pre survey, 64.2% completed the post survey. Nurses ranked inability to complete the assessment in sedated patients, difficulty interpreting the assessment in intubated patients and belief that the assessment did not improve outcomes as the top three reasons that might prevent them from doing the CAM ICU. A significant drop was observed in ranking difficult interpretation in intubated patients as a factor that might prevent assessment for delirium from 59.6% pre survey to 32.6% post survey ($c^2 = 4.81$, $p = .025$) indicating that the delirium awareness activities and education could have played a role in increasing comfort with doing the assessment on intubated patients. There were no differences in the ranking of the order in which to evaluate conditions in ICU by importance, with altered level of consciousness, improper placement of devices and presence of pain being in the top three in both the pre and post survey and evaluation of Delirium and Agitation remained least important.

**Conclusion:** With the exception of a decrease in the perception that interpretation of the CAM ICU in intubated patients is difficult, delirium awareness activities did not change perceptions of nurses. Belief that assessments do not improve outcomes and challenges with sedated patients remained the top two barriers to assessment despite increased education and might necessitate ongoing audits and one on one teaching. Nurses also need to feel that their assessments will be utilized by physicians and other members of the health team and that they can impact and improve outcomes for patients in order to value the importance of delirium assessment.

# MENTAL HEALTH

## Peer-Supported Storytelling as a Method for Reducing the Occurrence of Compassion Fatigue

*Brittany Abeln, BSN*
*DNP Student*
*The University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Kate Sheppard, PhD, RN, FNP, PMHNP-BC, FAANP*
*PMHNP Specialty Coordinator*
*The University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Audrey Russell-Kibble, DNP, FNP-C*
*Comprehensive Health Assessment Project Coordinator*
*The University of Arizona*
*College of Nursing*
*Tucson, AZ*

**Purpose:** Describe storytelling as a superior method to reduce the incidence of compassion fatigue (CF) among nurses who work in hospital settings.

**Background:** Compassion fatigue can strike nurses at any time and without warning. CF is comprised of three concepts: loss of job satisfaction, burnout, and secondary traumatic stress (an emotional response to a patient or situation). There are numerous potential causes of compassion fatigue such as work-related bereavement and lack of meaningful recognition. Compassion fatigue ultimately can lead to a decrease in retention, adverse patient events, and is a stressor on the nurse who is experiencing it. Peer-supported storytelling is an intervention that focuses on the sharing of experiences between two or more individuals that results in feelings of mutuality and community. Peer-supported storytelling has empirically been found to lessen the stressors that potentially can lead to compassion fatigue.

**Brief Description of Approach to Best Practice:** Review of the literature in PubMed was conducted using the keywords: *nurses, compassion fatigue, attitudes, retention, storytelling* and *work-related bereavement.*

**Outcomes:** The project resulted in a best practice model utilizing peer-supported storytelling as a support for nurses who are at risk for experiencing compassion fatigue. Based on the above literature review, peer-supported storytelling was chosen at the core of the best practice model. Formalized group support meetings and informal nurse-to-nurse dialogue are highlighted in the best practice model. The model includes key concepts such as peer-supported storytelling, casual dialogue, and journaling as a way to express one's personal story.

**Conclusions:** The proposed best practice model to support nurses experiencing work-related bereavement through storytelling is expected to reduce possible stressors, prevent adverse patient events, and promote nurse retention in hospitals. Storytelling is an evidence-based method of support for nurses that is shown to reduce the incidence of compassion fatigue.

# MENTAL HEALTH

## Improving Suicide Risk Assessment and Management in Military Primary Care

*John A. Hoyos, MA, RN-BC*
*DNP Student*
*Hahn School of Nursing and Health Science, University of San Diego*
*San Diego, CA*

*Michael J. Terry, DNP, APRN*
*Clinical Associate Professor*
*Hahn School of Nursing and Health Science, University of San Diego*
*San Diego, CA*

**Purposes/Aims:** The aims of this project were to improve the quality of suicide risk assessment and initial management, when it is indicated, in the primary care clinics, and to align the work of the providers with best practices through the use of brief training interventions, a modality whose efficacy is established in the literature. The project specifically sought to improve the consistency of providers in conducting adequate risk assessments and providing crisis hotline information to patients who were cleared to return home following an encounter, in accordance with National Patient Safety Goal (NPSG) 15.01.01.

**Background:** Suicide is a nationwide public health problem. The Centers for Disease Control and Prevention reported that suicide ranks as the 10th leading cause of death among all ages as of 2010. In spite of the goal of the CDC to reduce suicide rates by 2020, current trends suggest that the problem is growing worse rather than better in the general population. In the military also, completed suicides and suicide attempt rates have risen across all services since 2001 in spite of various intervention programs. The suicide rate per 100,000 service members stands at 18.7 as of 2013, up from 10.3 in 2001. This reflects an increase of 82% over that period. The evidence suggests that one of the major factors influencing this problem is that suicide risk assessments are either not performed or are inadequately performed. Providers are often not prepared to conduct effective risk assessments and initial management of suicidal patients. Recognizing this problem, the Joint Commission monitors hospital performance related to NPSG 15.01.01, which requires accredited facilities to assess for suicide in cases where a patient is being treated for a behavioral or emotional disorder. It also requires crisis line information to be provided to those patients once they are cleared for return home from the facility.

**Project Plan Process:** This evidenced-based project was guided by the Knowledge to Action Framework for translation of relevant evidence and the Countenance Model for program planning and evaluation. Data were collected and analyzed in a pre-intervention and post-intervention fashion. The intervention consisted of an hour-long interactive presentation designed by a committee consisting of a doctoral student, primary care providers and mental health care providers. It was delivered to all of the primary care providers at the eleven clinics associated with a military treatment facility. A pre-test and post-test were administered to determine the level of learning achieved by the providers. NPSG 15.01.01 trends were tracked to determine if provider performance improved following the educational intervention.

**Outcomes Achieved/Documented:** In progress.

**Conclusions:** The data analysis is in progress. We anticipate that the results of this project will demonstrate notable improvement in the screening, assessment and initial management of patients at risk of suicide in the primary care clinics at Naval Medical Center, San Diego.

# MENTAL HEALTH

## The Power of the Seed: A CBPR Project

*Socorro Escandón, PhD, RN*
*Assistant Professor*
*University of Texas Health Science Center in San Antonio*
*School of Nursing*

*Martha Martinez, MSN, RNC, WHNP*
*Clinical Assistant Professor*
*University of Texas Health Science Center in San Antonio*
*School of Nursing*

**Background:** The Xinachtli (*germinating seed)* program is a comprehensive indigenous based, youth leadership program that supports and guides young women through their rites of passage process. The curriculum focuses on the development of the youth's ability to identity principles, personal strengths, and teachings from generation to generation; assists youth to identify creative tools for continued development; and encourages self-development and community improvement. Curriculum sessions address three separate areas. *Reflection*: individuals reflect on personal gifts, identity and history. *Creation*: understanding of personal creation abilities and responsibilities. *Consciousness Raising:* facilitation of critical thinking skills.

**Purpose:** The goal was to work with community extending and strengthening relationship between community and academia; to provide and support activities benefiting the community by collaboratively working on a program identified by the community. Project supported community's identified need with a program design and implementation for girls in the center's Girl Zone program of Martinez Street Women's Center (MSWC)

**Specific Aims:** To assist and support the planning and delivery of an innovative youth health and rites of passage curriculum for young girls. Goals were to: 1) Create an advisory group from girls in the Girls Zone program; 2) Facilitate, support and evaluate the curriculum for all girls.

**Community Partner:** MSWC a trusted health and education resource center for over 15 years in San Antonio, Texas. Their mission is to transform communities through women and girls by providing access to vital health services, quality education, and advocacy. Begun in 1999 by 10 diverse and multi-talented women with a vision to create a space for healing and empowerment, has grown into a multi-service resource center supporting health and educational opportunities for over 5,000 individuals each year.

**Methods/Design:** This approach stressed equal partnership with power sharing of resources and decision-making authority in all phases in accordance with Community Based Participatory Research (CBPR) principles. Specific objectives called for quantitative and qualitative data collection methods.

**Advisory Group:** Girls were recruited to participate in an advisory group. Girls participated in planning meetings and focus groups prior to the program, as well as during and after program delivery.

**Assessment:** Girls completed a self-esteem scale prior to and after the curriculum program. *Curriculum Delivery:* During sessions, girls entered reflections in journal notebooks.

**Significance:** MSWC ascribes to a positive youth development framework consisting of forty developmental assets that serve as building blocks of healthy development that are essential for all youth, regardless of their background. The focus is on strengths, supports, and skills that young people need to succeed and overcome challenges. The degree of community involvement young people engage in facilitates their empowerment and boundary-setting processes that are linked to lessened risk-taking behavior and enhanced. Caring outside the family can play a significant role in helping develop external and internal assets that can result in increased well-being in young people.

# MENTAL HEALTH

## Prediction and Prevention of Violent Patient Behavior

*Kornelia A. Kopec, BSN, RN*
*Hahn School of Nursing & Health Sciences*
*University of San Diego*
*San Diego, CA*

**Purpose:** The aim of this project is to design a stratified clinical response interventions based upon a standardized tool predicting violent behavior, Broset Violence Checklist (BVC). The purpose is to reduce incidence of violent acts in an adult psychiatric population, by recognizing symptoms early and intervening appropriately, effectively and safely before the violence occurs.

**Background:** Throughout history behavioral health professionals have tried to effectively asses for, accurately anticipate and successfully prevent violence, yet it remains one of the most complex phenomenon. (Grisso & Applebaum, 1992). Violence prevention is of outmost importance to healthcare providers who moreover, are required by law to protect third parties against patient violence, as evidenced by California's Supreme Court decision in Tarasoff vs Regents of the University of California in 1976 case. The Broset Violence Checklist (BVC) assesses 6 variables which include: confusion, irritability, boisterousness, verbal threats and attacks on objects and is a useful instrument when used to predict violence within 24-hour period. Designing a stratified response schedule based on the BVC score and selecting appropriate interventions in response to observed behavior is the key to prevention injuries and delivery of high quality, individualized, client driven and patient focused care.

**Project Plan Process:** The stratified response schedule will be introduced into an acute care settings of a behavioral health care facility, implemented by nursing staff and incorporated into daily patient plan of care. The nursing leadership in collaboration with the facility educator, under the direction of the director of Medical and Director of Nursing services, in collaboration with the Doctor of Nursing Practice student, will implement the stratified response schedule into practice as a pilot project over the period of three months on a locked adult psychiatric unit. Pre and post-intervention data will be collected relating to identified cases of high assault risk and outcomes of selected interventions as outlined by the stratified response schedule.

**Outcomes:** While the BVC will predict likelihood of violent behavior, choosing appropriate interventions correlating to BVC scores should result in early intervention and improved patient and staff safety and security outcomes.

**Conclusions:** Importance of accurate violence prediction and pairing it with appropriate clinical interventions has a wide application not only in behavioral health, but expands into general healthcare arena, correctional settings, and many other public, private and corporate sectors. A safer workplace and care environment will be created for all.

# MENTAL HEALTH

## Creating a Standard Language for Patient Aggression to Improve RN Communication

*Derrell Wheeler, BSN*
*RN*
*14C General Medicine*
*Oregon Health and Science University*
*Portland, OR*

*Alex Hyde, BSN*
*RN*
*5C Family Medicine*
*Oregon Health and Science University*
*Portland, OR*

**Purposes/Aims:** Create a standardized language regarding patients at risk for aggression and use this language to better communicate with other nurses and physicians to improve care of this population.

**Rationale/Background:** Patient aggression against nurses can have many negative effects including decreased job satisfaction, post-traumatic stress disorder, altered relationships with colleagues, fear of returning to work, injury, and even death. Inconsistent use of terms to describe patient aggressive behavior increases confusion about patient risk. A staff survey on two medicine units revealed that violence is seen regularly, and many nurses reported feeling emotional distress.

**Undertaking/Best Practice/Approach/Methods/Process:** The "Arc of Anxiety," a tool that defines four key terms, anxiety, anger, hostility, and aggression, was adopted. This quality improvement project was conducted on 2 medical units in an academic medical center, Unit A with 31 beds and Unit B with 14 beds. The first phase was to increase usage of these standardized terms with patients who were assessed by the RNs as being at risk of aggression. Nurses from Unit A received two hours of education about how to identify and respond to aggressive behavior, as part of a longer unit education day. Nurses on Unit B reviewed educational slides and talked about aggressive patients during a 4 week period of time. Baseline assessment of confidence in ability to recognize and describe aggressive behavior was collected prior to training. A chart review of 60 charts on each unit was conducted to determine the percent of charts that included key terms and vague terms to describe aggressive behavior.

**Outcomes Achieved/Documented:** Three months following training, RNs on both units reported increased confidence in their ability to recognize, find tools, and communicate about patients at risk for anxiety. The chart review revealed that the use of appropriate terms to describe aggressive behavior increased and the use of vague terms decreased on both units. These improvements were sustained 6 months following training.

**Conclusions:** Training nurses to use a standardized language to describe potentially aggressive behavior successfully increased nurses' confidence and use of clearly-defined terms. Improvements were seen on both units, despite the difference in training strategies. Next steps are to link early recognition of anxiety to appropriate interventions for the patient. There are opportunities to engage providers in learning and using the same terms and to partner with Public Safety to assess the need for extreme interventions (i.e. use of force).

# A NATIONAL CLINICAL NURSE LEADER STAKEHOLDER ENGAGED RESEARCH COLLABORATIVE

## OVERVIEW: A NATIONAL CLINICAL NURSE LEADER STAKEHOLDER ENGAGED RESEARCH COLLABORATIVE

*Miriam Bender*

---

## CLINICAL NURSE LEADER HISTORY AND RESEARCH FROM A POLICY PERSPECTIVE

*Joan Stanley*

---

## CLINICAL NURSE LEADER PRACTICE-RESEARCH COLLABORATIVE SCIENTIFIC PRODUCTS

*Miriam Bender*

---

## AN EDUCATION/PRACTICE PERSPECTIVE FOR CLINICAL NURSE LEADER EVIDENCE

*Linda Roussel, James L. Harris, Patricia Thomas, Nancy Hilton, Patricia Baker, Bobbie R. Shirley, Alice Avolio*

---

## CHALLENGES OF BUILDING A CLINICAL NURSE LEADER EVIDENCE BASE

*Marjory Williams, Miriam Bender*

# A NATIONAL CLINICAL NURSE LEADER STAKEHOLDER ENGAGED RESEARCH COLLABORATIVE

## Overview: A National Clinical Nurse Leader Stakeholder Engaged Research Collaborative

*Miriam Bender, PhD, RN*
*Assistant Professor*
*Program in Nursing Science*
*University of California, Irvine*
*Irvine, CA*

**Purpose:** The purpose of this symposium is to describe the development, research products, and implications of a national level research collaborative linking research, policy, education and practice stakeholders into an ongoing partnership to advance conceptual and empirical knowledge of clinical nurse leader (CNL)-integrated care delivery and its influence on care quality and safety.

**Evidence Gap:** The IOM's *The Future Of Nursing; Leading Change, Advancing Health* report challenged the nursing profession to become full partners in redesigning healthcare delivery to achieve high quality patient care. There is startlingly little evidence supporting nursing care delivery models that consistently improve care quality outcomes. Many health systems have overcome this evidence gap by actively developing care delivery innovations in response to economic and policy mandates for improved quality and safety. What is lacking is a mechanism to translate these innovations into generalizable nursing care delivery knowledge that can be used across the healthcare spectrum.

**Care Delivery Innovation:** One innovative model integrates certified Clinical Nurse Leaders (CNL) into microsystem care delivery with the goal of changing practice dynamics to improve care quality. While many health systems have implemented CNL practice, with documentation of improved patient outcomes, there is a lack of generalizable evidence to guide CNL systematic implementation and practice. Policy and practice leaders increasingly understand the need to clearly delineate CNL-integrated care delivery to promote evidence-driven implementation across the healthcare spectrum. This understanding prompted the development of the national level CNL Research Collaborative (CNLRC).

**Symposium Content:** We will describe the development of the initial American Association of Colleges of Nursing (AACN) CNL initiative and the growth of the CNLP-RC from a policy, practice and education perspective. We will describe the current CNLP-RC infrastructure that connects healthcare innovators with care delivery researchers to leverage their combined wisdom and experience into CNL research that is feasible, scalable, and capable of translating this promising nursing innovation into reliable and usable care delivery implementation and effectiveness evidence. We will highlight the critical need for a translational approach that leverages complexity and team science to delineate the mechanisms of complex healthcare interventions, such as CNL-integrated care delivery. Finally, we will summarize the research products that have emerged from this fruitful collaborative and describe planned future projects.

**Implications:** This symposium delineates a mechanism to transform nurse led care delivery innovations, such as CNL-integrated care delivery, into evidence-based system interventions to improve patient care quality and safety. The CNLP-RC empowers stakeholders to prioritize research questions that genuinely reflect their concerns and needs to ensure the research produces findings that are usable and meaningful across the healthcare spectrum. The research collaborative provides impetus and infrastructure to promote and facilitate a paradigm shift from heterogeneous, primarily economics-driven deployment of nursing resources in care settings to evidence-based care delivery that results in consistent high quality care and patient outcomes.

# A NATIONAL CLINICAL NURSE LEADER STAKEHOLDER ENGAGED RESEARCH COLLABORATIVE

## The Clinical Nurse Leader History and Research from a Policy Perspective

*Joan Stanley, PhD, CRNP, FAAN, FAANP*
*Senior Director of Education Policy*
*American Association of Colleges of Nursing*
*Washington, DC*

**Purpose:** The purpose of this presentation is to describe the history and progress of the Clinical Nurse Leader (CNL) initiative that was launched in 1999 by the American Association of Colleges of Nursing (AACN).

**Evidence Gap:** Numerous policy bodies have determined that healthcare delivery redesign is essential for improving care quality and safety. The reality of current care delivery models is that they have been developed for the most part based on local culture and human and economic resource availability, rather than strong evidence.

**Policy-Education Innovation:** The CNL initiative grew out of a collaborative effort among nursing faculty, nursing practice leaders, and an array of other healthcare professionals to identify possible nursing solutions to address the numerous gaps in healthcare delivery. Participants included equal proportions of education and practice leaders, including the American Organization of Nurse Executives. The task force concluded that it was necessary to redesign nursing education and practice models, including master's prepared RNs, to have a focus on patient safety, quality improvement, care delivery redesign, interprofessional team leadership, communication, and implementation of practice evidence. The *Working Paper on the Clinical Nurse Leader* (2003) articulated the educational requirements and end-of-program competencies for this master's prepared nurse of the future, the Clinical Nurse Leader.

**Early Evaluation:** The early work of the CNL Task Force included the development of a standardized evaluation framework for CNL pilot site implementation that included financial, satisfaction, and quality outcomes. Through education-practice partnerships, required for participation in this early implementation phase, healthcare systems worked with the AACN and education partners to develop curricula and transform one or more practice settings into CNL-integrated care delivery sites. While early adopters were able to measure outcomes and did disseminate individual site outcomes, the task force realized that in addition to the standardized evaluation framework, a larger cohort of practicing CNLs, either regionally or nationally, was needed to create an appropriate basis for outcomes research.

**Future Goals:** What is exciting is that the CNL initiative is now at a threshold level of national innovative spread, and the possibility for scientific evaluation is at hand. For the past seven years, annual CNL Summits have created networking opportunities for clinicians, health system leaders and researchers to come together and share practice innovations and outcomes. The 2015 CNL Summit keynote session specifically addressed the need for the CNL initiative to move from innovative spread to evidence-driven integration across the healthcare spectrum.

**Implications:** The growth of the CNL initiative has always been driven by strong education-practice partnerships. The emergence of the CNL Practice-Research Collaborative (CNLP-RC) is an important and necessary next step to leverage multi-professional experience, expertise and resources to build a rigorous CNL evidence base and determine the extent to which the CNL initiative has been able to close the gaps in care delivery and quality.

# A NATIONAL CLINICAL NURSE LEADER STAKEHOLDER ENGAGED RESEARCH COLLABORATIVE

## CNLP-RC Research Products and Implications for the Future

*Miriam Bender, PhD, RN*
*Assistant Professor*
*Program in Nursing Science*
*University of California, Irvine*
*Irvine, CA*

**Purpose:** The purpose of this presentation is to describe the research products and proposed future efforts of a national level research collaborative linking research, policy, education and practice stakeholders into an ongoing partnership to advance conceptual and empirical knowledge of clinical nurse leader (CNL)-integrated care delivery and its influence on care quality and safety.

**Background:** The Clinical Nurse Leader Practice-Research Collaborative (CNLP-RC) is comprised of researchers, educators, practicing CNLs, and health system leaders and managers. The team coalesced more than two years ago through a process of networking and shared interest in better specifying the CNL role in practice. The team's first project reviewed and refined a preliminary CNL practice model developed via qualitative methods. The refined model became the basis for another project that included survey item writing, with the goal of developing a tool that could be nationally disseminated to validate the refined CNL practice model domains and components. CNL demographic, organization and implementation items were also developed to identify national-level certified CNL characteristics and roles, as well as organization and implementation factors associated with perceived success of CNL integration into microsystem care delivery.

**Results:** The research based on this extensive long-term effort found that certified CNLs are experienced, expert nurses increasingly enacting essential CNL competencies in formal CNL roles within diverse health systems across the country. Regression modeling identified organization and implementation factors influencing perceived CNL success. Confirmatory factor analysis and structural equation modeling showed good fit between survey data and the theorized CNL practice model.

**Implications:** We believe the good fit between national level survey data and the theoretical CNL model was the result of the extensive multi-professional, multi-perspective engagement in research that leveraged extensive practice-based knowledge to develop an explanatory theory for future research and practice. The credibility of the model across the nation provides common ground for implementation and effectiveness research measuring and comparing CNL structuring and practice across care settings, and more rigorously linking CNL practice to care quality and safety outcomes.

**Future Work:** Health systems have reacted positively to the validated model and are working with the CNLP-RC to begin research to further specify the model and generate reliable evidence for CNL integrated care delivery. The research will have scientific and practical implications, by advancing the CNL knowledge base as well as providing data for system improvement. The CNLP-RC is currently building infrastructure to support an initial focus on CNL integrated care delivery. The collaborative has the potential to transform into a formalized nursing care delivery research collaborative, which will expand capacity to integrate diverse health system community-stakeholder perspectives into care delivery research that will be meaningful and usable throughout the healthcare spectrum. A practice-research collaborative consisting of stakeholders empowered to prioritize care delivery research questions that genuinely reflect their concerns and needs has the capacity to change the nursing care delivery paradigm, from the current heterogeneous, economics-driven deployment in care settings to theory-based and evidence-informed care delivery models that can be consistently deployed to achieve high quality care and patient outcomes.

# A NATIONAL CLINICAL NURSE LEADER STAKEHOLDER ENGAGED RESEARCH COLLABORATIVE

## Importance of an Education/Practice Perspective for Developing CNL Evidence

*Linda Roussel, PhD, NEA-BC, CNL*
*Professor, School of Nursing*
*University of Alabama, Birmingham*
*Birmingham, AL*

*James L. Harris, PhD, RN, MBA, CNL, FAAN,*
*Professor, College of Nursing*
*University of South Alabama*
*Mobile, AL*

*Patricia Thomas, PhD, RN*
*Vice President of Clinical Quality and Transformation*
*Trinity Home Health Services*
*Livonia, MI*

*Nancy Hilton, MN, RN, NEA-BC*
*Chief Nursing Officer*
*St. Lucie Medical Center*
*Port St. Lucie, FL*

*Patricia Baker, MSN, RN-BC, CNL, ANOD,*
*Clinical Nurse Leader*
*Methodist Healthcare System*
*San Antonio, TX*

*Bobbie Shirley, MS, RN, CNL, OCN*
*Clinical Nurse Leader Association-President,*
*Maine Medical Center*
*Portland, ME*

*Alice Avolio, MS, RN*
*Manager, Portland VA*
*Portland, OR*

**Purpose:** The purpose of this presentation is to describe the importance of an education and practice perspective in the ongoing research efforts to build an evidence base for Clinical Nurse Leader (CNL) integrated care delivery, and to highlight insights achieved by participating in a CNL multi-stakeholder engaged research collaborative.

**Background:** The CNL originally started out as an education innovation. Healthcare policy boards called for new ways of educating future healthcare professionals. The Association of Colleges of Nursing responded by organizing a series of task forces, from 1999 to 2007, to develop models for future education and regulation. One outcome was the development of the CNL initiative. The CNL initiative was advanced through education-practice partnerships. These partnerships brought together pioneering health systems and universities that devoted resources and ongoing efforts to educating the CNL and redesigning care delivery to integrate CNLs into practice. This partnership is now in a renewed and forward-thinking stage of growth, with the addition of care delivery researchers to advance the science of CNL-integrated care delivery.

**Contributions and Lessons Learned:** What has become apparent through this expanded multi-disciplinary, education-practice-research collaborative (the Clinical Nurse Leader Practice-Research Collaborative: CNLP-RC) is that no one discipline has the capacity and resources to build a generalizable CNL evidence base, but together this has become a real possibility. The collaborative in effect has become a 'brain trust' with diverse but equally committed stakeholders interested in generating CNL knowledge that is rigorous and useable in practice. Educators provide in-depth knowledge of the didactic learning CNLs gain with their unique education, as well as the complex process of socializing the CNL within complex systems through student clinical immersion projects. Practice leaders from a variety of health systems contribute a wealth of CNL implementation knowledge, which can be synthesized to determine commonalities and diversity in approaches based on system contexts. Practicing CNLs contribute their front line knowledge of practice facilitators and barriers, and important insights into the challenges of CNL growth within healthcare systems. The CNLP-RC has created a space where this diverse knowledge can be discussed, analyzed, and synthesized to generate a comprehensive understanding of CNL practice as the basis for explicitly delineating gaps in CNL knowledge, and to build consensus on research priorities to advance CNL knowledge for education and practice.

**Conclusions:** The CNL initiative continues to grow and is responsive to both the 2010 Institute of Medicine challenge to the nursing profession to lead the redesign of care delivery and to the Institute for Healthcare Improvement's Triple Aim of improving the patient care experience, the health of populations, and reducing the cost of health. The CNLP-RC provides a mechanism to transcend education-practice-research boundaries and translate CNL education and practice innovation success into meaningful information to improve CNL education and practice, with the overarching goal of producing a generalizable evidence base for a nursing care delivery model can be deployed across the care spectrum to achieve consistent high quality care and patient outcomes.

# A NATIONAL CLINICAL NURSE LEADER STAKEHOLDER ENGAGED RESEARCH COLLABORATIVE

## Challenges of Building a Clinical Nurse Leader Evidence Base

*Marjory Williams, PhD, RN, NEA-BC*
*Associate Chief Nursing Research & Education*
*Central Texas Veterans Health Care System*
*Temple, TX*

*Miriam Bender, PhD, RN*
*Assistant Professor*
*Program in Nursing Science*
*University of California, Irvine*
*Irvine, CA*

**Purpose:** This presentation highlights challenges to building an evidence base for the clinical nurse leader (CNL) innovation as an effective model for nursing care delivery, and the significance of collaborative research efforts that incorporate diverse perspectives to address these challenges.

**Background:** It was recognized during the introduction of the CNL into the health care delivery landscape a decade ago that research would be an important part of the evolution of the CNL initiative. The CNL initiative has subsequently achieved a level of success with CNL roles and practice being implemented in health systems across the country. CNL innovation spread has been characterized by diversity as health systems and clinicians adapted components of the CNL White Paper based on their interpretation of the role, local needs and resource availability. This resulted in both site-specific successes and failures, but has not resulted in accumulation of standardized knowledge across settings. While much has been learned, much more remains to be explored and understood about the relationship between CNL practice integration and point of care outcomes.

**Challenges:** Integration of CNL practice into nursing care delivery at the point of care is a complex system intervention. Variations that have arisen during innovation spread have contributed knowledge about CNL practice integration, yet challenge efforts to simply capitalize on growing numbers of CNLs in practice to systematically evaluate effectiveness. Research efforts immediately confront issues pertaining to levels of analysis, meaningful/sensitive measures, confounding aspects of change, and limited strategies to infer causation in the context of the health care delivery environment. Study design is challenged by the need for robust assessment to specify the 'what' and 'how' of CNL practice without introducing unintended constraints on the responsive of the role to contextual factors. In addition to these methodological and analytical challenges, cross-professional dialogue has exposed added complexity introduced by variations across theoretical perspectives, language, and underlying assumptions.

**Strategies:** In health care delivery, different stakeholders require different information for different purposes. Similarly, scientists pursue knowledge consistent with differing philosophical frameworks, which reflect in the questions and approaches of their research efforts. While complexity and team science perspectives provide appropriate lenses for the pursuit of knowledge about complex health care interventions that can develop the CNL evidence base, diversity of perspectives may better inform our understanding. A multi-professional stakeholder collaborative provides opportunity to ensure and leverage diversity across different scientific, educational and professional perspectives to provide additional lenses for pursuing questions that reflect the concerns and needs of multiple stakeholders.

**Conclusions:** The nature and degree of complexity inherent in both the intent and current state of the CNL initiative necessitates a broad based multi-professional stakeholder collaborative approach to developing usable and meaningful knowledge for practice. By working together in collaboration, multiple stakeholders ensure their unique perspectives will inform the synthesis of existing knowledge and ongoing efforts to generate new knowledge.

# Abstracts of Poster Presentations

## NURSING EDUCATION

### STRESS RELIEF DURING FINALS: A BIO-ENERGY PILOT STUDY

*Alice Running, Brian King, Laura A. Hildreth*

---

### THE ELEPHANT IN OUR MIDST: TEACHING ABOUT RACISM AND POPULATION HEALTH

*Pamela Potter, Sally Rothacker-Peyton, Carol Craig*

---

### WHAT STUDENTS LEARN THROUGH SERVING VETERANS: AN EDUCATION PROJECT

*Kent D. Blad, Ron Ulberg, Jane H. Lassetter, Deven R. Jennings*

---

### CLINICAL COMPETENCE & CRITICAL THINKING IN SENIOR PRACTICUM: COHORT & PRECEPTED MODELS

*Kelly Marley, Kathryn Ogden*

## Stress Relief during Finals: A Bio-Energy Pilot Study

*Alice Running, PhD, RN, APRN*
*Professor*
*College of Nursing*
*Montana State University*
*Bozeman, MT*

*Brian King, MS*
*Associate Director CO-OP Program*
*College of Nursing*
*Montana State University*
*Bozeman, MT*

*Laura A. Hildreth, PhD*
*Assistant Professor*
*Mathematical Sciences*
*Montana State University*
*Bozeman, MT*

**Purpose:** To examine the effectiveness of a bio-energy intervention on self-reported stress for a convenience sample of University students, faculty and staff during finals week. We hypothesized that participants would report a decrease in stress after a 20 minute bio-energy intervention.

**Background:** Thirty years ago stressors on college campuses were identified as too many demands, not enough time and deadlines (Archer, 1985, p213). More recently, in a survey of college dormitories, 52% of students reported relatively high levels of stress during the course of a "typical semester". Recent studies are beginning to evaluate the impact of perceived stress on antibody synthesis in healthy college students (Sribanditomongkol, V., Neal, J., Patrick, T., Szalacha, L., McCarthy, D., 2015).

Nursing has long recognized the burden of stress on students (Torrop, 1939). Stress has been shown to lead to depression (Zeb, B., Beck, J, 1998) and increased drug and alcohol use (Timmins, F, Corroon, A., Mooney, B., 2011). Nursing faculty and leaders also discuss the impact of chronic stress on their ability to boost morale and reduce burnout (Tang, R., Tegeler, C., Larrimore, D., Cowgill, S., Kemper, K., 2009). Recently, students report "high levels of anxiety, worry and depression in response to stress, resulting in feelings of rejection and inadequacy" (Reeve, K., Shumaker, E., Yearwood, N., Crowell, N., Riley, J, 2013). These same authors identified heavy drinking (6 or more per week) as a coping mechanism by traditional students.

University employees' perceptions of work related stressors have also been studied. Employees with high stress and poor coping skills were more likely to use food as a coping mechanism and were less likely to exercise due to work-related stress (Khubchandani, J., Nagy, M., Watkins, C., Nagy, S., Bals, J., 2009, p. 306).

**Method:** A quasi-experimental, single group pretest-posttest design was used. Thirty nine faculty, staff and students participated and served as their own controls. Bio-energy practitioners spent 20 minutes with participants after they had completed a VAS identifying level of stress, and listing two positive and negative stress response behaviors.

**Results:** A one sample t-test indicates that bio-energy therapy significantly reduces stress t (35) =7.74, p<0.0001. A multiple regression analysis further indicates that the decrease in stress levels is significantly greater for higher initial stress levels (t (31) =4.748, p<0.0001), decreases in stress are significantly greater for faculty and staff compared to students (t (31) =-2.223, p=0.034), and decreases in stress levels are marginally significantly higher for older participants (t (31) =1.946, p=0.061). Positive responses to stress included exercise, and talking with family and friends. Negative responses to stress included alcohol, and eating.

**Implications:** Bio-energy therapy may have benefit in reducing stress for faculty, staff and students during final examination week**.**

# NURSING EDUCATION

## The Elephant in Our Midst: Teaching about Racism and Population Health

*Pamela Potter, DNSc, RN, CNS, Assistant Professor, potter@up.edu*
*Sally Rothaker-Peyton, MSN, PMH NP, Faculty*
*Carol Craig, PhD, RN, Professor*
*School of Nursing*
*University of Portland*
*Portland, OR*

**Purpose:** The three-fold purpose of this teaching innovation is (1) to develop a best teaching practice for introducing nursing students to the underlying cultural and structural factors associated with racism that lead to health disparities, (2) to encourage non-blaming introspection about how these factors might influence nursing interactions with patients and colleagues, and (3) to apply understanding to other exclusionary practices that impact the health of vulnerable populations. From a transformational learning perspective, we asked: how will our approach to teaching facilitate a higher level of awareness for nursing students that empowers them to identify the deeper complexities that affect individual and population health?

**Background:** As the United States American population demonstrates more diversity, this is reflected in our student nurse population and in the patient populations encountered in health care. National Institutes of Health data collection has identified vulnerable populations considered more susceptible to health disparities. With the goal of improving the health for the nation, the Healthy People initiative utilizes data to identify leading health indicators and to create health promotion objectives with measurable outcomes. The data and the objectives reflect population diversity. In order to understand health disparities and avoid stereotypical labeling of vulnerable people, students must acquire knowledge. Reflecting on their own values and experience, gaining experience with other cultures, and surveying population-related data supports transformational learning. Talking about racism makes students uncomfortable. They may express defensiveness through angry words and affect. Some students become quiet. Class discussion can fall into the void. Creating a safe space for learning allows for introspection, dialogue and application.

**Process:** Nursing students in the Multicultural Population Health Promotion course previously learned about health disparities and vulnerable populations after they learned about concepts of health promotion and prevention. The redesign of this course begins first with the students as members of various populations—racial, ethnic, socioeconomic—shaped by their life experiences. After reading the literature and submitting a personal reflection on racism and microagressions, students meet in the classroom with a twelve-inch wooden elephant placed in the midst of their desks. Some notice it; some do not. “We are here to talk about the elephant in our midst; sometimes it is called racism.”

O**utcomes:** Over 120 students completing the course offered qualitative feedback on the experience. They demonstrated informed application of course concepts.

**Implications:** Beginning the course with introspection through self-reflection assignments and subsequent classroom discussions created an opportunity for students to apply their learning to understanding about vulnerable populations and the health disparities they might experience. Teaching this course offered an opportunity for innovative curriculum development and afforded an opportunity for students and professor to meet on common compassionate ground. This data will be used to revise the course and to identify measures of learning for the next course offering.

# NURSING EDUCATION

## What Students Learn through Serving Veterans: An Education Project

*Kent D. Blad, DNP, FNP-c, FAANP*
*Associate Dean and Teaching Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Ron Ulberg, RN, MSN, CCRN*
*Associate Teaching Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Jane Lassetter, PhD, RN*
*Associate Professor*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

*Deven R. Jennings*
*Student Nurse*
*College of Nursing*
*Brigham Young University*
*Provo, UT*

**Purposes/Aims:** To know them is to care for them better. Nurses in the U.S. will care for a military Veteran at some point in their career. Nursing students need to know about the culture and diversity of the Veteran population. Understanding Veterans will lead to a higher standard of nursing care.

**Rationale/Background:** U.S. veterans comprise a unique and vulnerable population that have put their lives on the line to protect our country but who, too often, are forgotten after their service is rendered. According to the Department of Veterans Affairs, an estimated 1000 WWII Veterans die each day. Our time to express our thanks to these brave men and women and learn how to respectfully care for them is running out.

**Description of Process:** 13 undergraduate nursing students participated in a course focused on the unique cultural needs of veterans through clinical experiences in Utah and Washington D.C. and serving as guardians to veterans participating in a Utah Honor Flight. Students learned about the unique veteran culture through many experiences, mentored by two faculty members who are veterans themselves and have a unique view of this culture, through visits to veteran-related historic sites and memorials; meetings with congressional representatives on veteran issues; and by invitation to a meeting at the national headquarters of the Department of Veterans Affairs and the Pentagon. Emphasis was placed on professional development, clinical competence, and sensitivity while learning to better care for this distinct and diverse population. Nursing students interacted with many individual U.S. Veterans of military conflicts and learned of their unique and special history in order to safely and competently care for the varied personal health care needs of this population.

**Outcomes Achieved:** Students learned by teaching their classmates through various assignments, sharing their research and resources with each other. In addition, a culminating student assignment is creating an educational module about veterans for teaching students in other courses throughout our program curriculum. The modules created are tailored to be course specific to the content of that course, consultation is done with faculty within that course.

At the conclusion of this culture immersion, students and faculty served as guardians to WWII, Korean War, and Vietnam War veterans as they embarked on an Honor Flight to visit their respective memorials in Washington DC. This three day experience allowed the student to interact and provide one-on-one car to their veteran.

**Conclusion:** Students are positively impacted by learning how to better care for the Veteran patient through this course. since most nursing students will care for Veterans at some point in their career, a better understanding of this population leads to more effective nursing care. To know them is to care for them better.

# NURSING EDUCATION

## Clinical Competence & Critical Thinking in Senior Practicum: Two Models

*Kelly Marley, MSN, RN*
*Director for Clinical Education*
*School of Nursing*
*University of Washington*
*Seattle, WA*

*Kathryn Ogden, MN, RN-BC*
*Education Specialist, Academic Affiliations*
*Education Department*
*Swedish Medical Center*
*Seattle, WA*

**Purposes/Aims:** The purpose of this study is to explore and evaluate clinical competence and critical thinking outcomes related to two different models of senior practicum for nursing students in a baccalaureate (BSN) program.

**Background:** Senior practicum is designed by BSN programs as a capstone experience and means of initiating professional socialization of senior-level students. Goals of senior practicum include helping students to develop the critical thinking and clinical judgment essential to successful nursing practice. Two distinct models of senior practicum are currently employed by BSN programs: the *cohort* and *precepted* models. In the cohort model, faculty instructors direct and evaluate learning for a small group of students and function as clinical experts and supervisors. The precepted model involves a 1:1 learning relationship between a practicing nurse and a student. Nursing faculty provide broad oversight and act as a resource for the preceptor and student. The precepted model has demonstrated benefits in the areas of self-confidence and role socialization. The influence of the precepted model on the clinical competence of nursing students has generated considerable interest, but no consensus has been reached. Although use of the precepted model has increased in the practice setting, little is known about how critical thinking is being developed in that 1:1 relationship. An integrative review of the empirical literature does not support the use of the precepted model to promote critical thinking, clinical competence, or improvement in NCLEX-RN pass rates over the provision of a traditional clinical experience.

**Methods:** A quasi-experimental design utilizing two separate instruments and the National Council Licensure Examination (NCLEX) was used for the study. A convenience sample of 48 senior nursing students self-selected into a cohort or precepted model for their final quarter of clinical practice. Students completed 132 hours of clinical over 10 weeks. Students' clinical competence and critical thinking was evaluated using the Nurse Executive Critical Thinking Diagnostic Tool, Assessment Technologies Inc. (ATI) Critical Thinking Exam, and NCLEX first time pass rates.

**Results:** Preliminary review of the data indicate no significant difference in the mean scores between the two groups. Further analysis is needed accurately describe differences between specific questions. Preliminary NCLEX pass rates are identical between groups at 82%.

**Implications:** The Institute of Medicine report on the Future of Nursing recommended new and innovative models of clinical education to better prepare nursing students for practice in a changing healthcare environment. Dedicated Education Units as well as many senior practicums utilize a precepted model. The importance of critical thinking and clinical competence in nursing students, and the transfer of this knowledge to the work environment, cannot be overstated. The results of this study may support use of the precepted model for senior practicum to promote clinical competence and critical thinking.

# NURSING EDUCATION: ENGAGING STUDENTS AND COMMUNITY PARTNERS IN CURRICULUM INNOVATION AND RESEARCH

## OVERVIEW: NURSING EDUCATION: ENGAGING STUDENTS AND COMMUNITY IN CURRICULUM AND RESEARCH

*Katrina Einhellig*

## INVOLVING STAKEHOLDERS IN ASSESSING THE ONLINE LEARNING ENVIRONMENT

*Jeanette A. McNeill*

## ADAPTING MSN CURRICULA BASED ON COMMUNITY PARTNER CONSENSUS: A DELPHI STUDY

*Kathleen N. Dunemn*

## DUAL ENROLLMENT PARTNERSHIPS: STEPS TO SUCCESSFUL IMPLEMENTATION

*Katrina Einhellig*

## ENGAGING OUR COMMUNITY OF LEARNERS THROUGH ‘FLIPPED’ COURSE EXPECTATIONS

*Lory Clukey*

## ENGAGING PRACTICE PARTNERS THROUGH COLLABORATIVE RESEARCH TEAMS

*Lory Clukey*

# NURSING EDUCATION: ENGAGING STUDENTS AND COMMUNITY PARTNERS IN CURRICULUM AND RESEARCH

## Overview: Nursing Education: Engaging Students and Community Partners in Curriculum and Research

*Katrina Einhellig, PhD, RN, CNE*
*Assistant Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

*Jeanette McNeill, DrPH, RN, ANEF*
*Associate Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

*Kathleen N. Dunemn, PhD, APRN, CNM*
*Associate Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

*Lory Clukey, PhD, PsyD, RN, CNS*
*Associate Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

The education of professional nurses must continually evolve to meet the demands of the ever-changing health care landscape. Academicians cannot create innovative opportunities for students without evidence to support those experiences as well as input from nursing community leaders as to the needs of the local and national health care settings. The purpose of this symposium is to highlight the efforts of one institution of higher education to engage key community stakeholders, including students, in curriculum building and evaluation, development of new programs, and research endeavors aimed at advancing nursing science. At the individual student level, projects include research to identify incivility in the online learning environment, efforts to create positive distance education offerings as well as the use of the flipped classroom to maximize student involvement in their own learning. At the community level, engaging community partners has been accomplished through collaborations in Dual Enrollment programs resulting in increasing the number of baccalaureate nurses entering practice, as well as a Dephi study to enlist community leader perspectives on new advanced practice programs needed within the practice environment. Finally, an academic – clinical partnership was developed to connect nurse educators and nurse clinicians in research projects contributing to the science of the profession. Nursing education cannot occur in a vacuum. By engaging students fully in the classroom environment as well as evaluating the climate of the online milieu, nurse educators will be better positioned to understand the needs of students at both the undergraduate and graduate level. The collaboration of nurse clinicians and community stakeholders with academicians toward new curricular programs as well as establishing programs of research are imperative to the continued advancement of the profession.

**Keywords:** Academic-community partnerships, Nursing education research, Innovations in nursing curriculum.

# NURSING EDUCATION: ENGAGING STUDENTS AND COMMUNITY PARTNERS IN CURRICULUM AND RESEARCH

## Involving Stakeholders in Assessing the Online Learning Environment

*Jeanette McNeill, DrPH, RN, ANEF*
*Associate Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

*Kathleen N. Dunemn, PhD, APRN, CNM*
*Associate Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

*Katrina Einhellig, PhD, RN, CNE*
*Assistant Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

*Lory Clukey, PhD, PsyD, RN, CNS*
*Associate Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

**Purpose/Aims:** To engage student and faculty stakeholders in quality improvement for the learning environment in order to promote best practices in online learning, reduce incivility, and enhance online and hybrid learning environment for students and faculty.

**Rationale/Conceptual Basis/Background:** Online learning is an increasingly common experience for all students, involving about 1/3 of all college students. Academic leaders indicate that most (70%) foresee online learning as critical to their long term strategy (Allen & Seamen, 2013) and these trends are seen in nursing education as well. There has been little research regarding the characteristics of the online learning environment that contribute to, or inhibit, learning. The Incivility in Online Learning Environment (IOLE) survey, developed by Clark et al. (2012) was used to assess student and faculty perspectives regarding issues related to civility in the learning environment. Clark et al. (2012) report high reliability and content validity for the student and faculty subscales of the tool. Other authors have documented occurrence of incivility in traditional learning environments (class/clinical) in nursing as well as in the health setting workplace (Schaeffer, 2013; Clark & Springer, 2007) making it imperative to promote civility in all learning environments. .

**Methods:** Participants for this research were graduate and undergraduate nursing students enrolled in online (or hybrid) nursing courses and nursing faculty, full time and adjunct, who teach in online courses. IRB review and approval were obtained prior to contacting participants via email and inviting participation through an online link; additionally, the permission and licensing process for use of the IOLE was completed. Participation was voluntary, did not impact or jeopardize the students' grade or faculty standing. The convenience sample had a pool of approximately 90 students and 45 faculty members eligible to participate. Descriptive or ranked data was analyzed using descriptive and parametric or nonparametric statistical methods. Anonymity of participants was maintained; survey data was entered into SPSS, aggregated and reported as cohorts without identifiers.

**Results/Findings:** The study is in progress but data collection and analysis will be completed by March, 2016. The presentation will compare findings to the Clark et al. (2012) top items of incivility and discuss demographic and other characteristics that influence occurrence of uncivil behavior in the learning environment. The process of promoting quality improvement will be applied to educational processes.

**Implications for Education and Research:** The results of this project will guide quality improvement efforts in terms of student orientation and faculty development opportunities to ensure competencies related to civility in the online learning environment. Attention to the unique online learning environment is warranted as online offerings increase, and involvement of stakeholders in evaluation of course delivery helps promote investment in their own learning.

---

Funding: This study is being partially funded by a University of Northern Colorado Office of Assessment Project Mini-Grant.

# NURSING EDUCATION: ENGAGING STUDENTS AND COMMUNITY PARTNERS IN CURRICULUM AND RESEARCH

## Adapting MSN Curricula Based on Community Partner Consensus: A Delphi Study

*Kathleen N. Dunemn, PhD, APRN, CNM*
*Associate Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

*Carol Roehrs, RN, PhD*
*Associate Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

**Purpose:** To obtain information from a panel of community clinical nursing experts to advise the update and adaptation of the School of Nursing's non-advanced practice (non-APRN) Master's of Science (MSN) programs.

**Background:** In a recent report, the IOM stated that nursing curricula needed to be reexamined, updated, and adaptive enough to evolve with patients' changing needs and improvements in science and technology (IOM, 2010). Initiatives with the goal of updating and improving the relevance of the nursing curricula must be based not only on national organization guidance but also on current, credible information from community clinical nursing experts. Often curriculum updates and adaptations are based on anecdotal and incomplete information. Very few studies are done, a priori, seeking the expert opinions of community clinical nursing experts prior to curricula update and adaptations.

**Methods:** After a comprehensive literature review and item consolidation, an expert panel of clinical nurse experts defined the initial key items that were grouped into three areas of study focus. The three thematic areas of study were: 1) strengths that MSN prepared nurses bring to the clinical environment; 2) gaps in knowledge, skills and competencies among current MSN prepared nurses in clinical agencies; and 3) possible focus areas for a new MSN program (non-APRN). Subsequently, a three round Delphi study was conducted to validate and expand on these items. Participants were nurse leaders and clinical experts in the western region of the United States.

**Results:** Participation for Round 1 was 23 clinical nurse experts with 16 clinical nurse experts participating in Rounds 2 and 3. Consensus was reached (> than 75%) during Round 3 of the Delphi. Although 16 key strengths that MSN prepared nurses bring to the clinical environment were listed and discussed only nine (9) key strengths were developed and validated. Additionally, 12 gaps in knowledge, skills and competencies among current MSN prepared nurses were listed and discussed only seven (7) were developed and validated. Also from the list of four (4) possible MSN focus options (non-APRN), only three (3) areas of focus were developed and also validated.

**Discussion:** The Delphi study had a high rate of participation, demonstrating the great level of interest in the development and adapting of MSN curricula based on community partner needs. The School of Nursing's non-APRN curricula are currently under review. The identified strengths and gaps in knowledge are foundational to several proposed program improvements. Once changes are made, a follow-up needs assessment will be conducted seeking community partner consensus and further recommendations for curriculum modifications and updates.

---

**Funding:** The University of Northern Colorado Faculty Research and Publication Board Grant.

---

Reference:
IOM (Institute of Medicine). (2010). The Future of Nursing, Focus on Education.
Washington, DC: National Academy Press.

# NURSING EDUCATION: ENGAGING STUDENTS AND COMMUNITY PARTNERS IN CURRICULUM AND RESEARCH

## Dual Enrollment Partnerships: Steps to Successful Implementation

*Katrina Einhellig, PhD, RN, CNE*
*Assistant Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

**Rationale/Background:** The Institute of Medicine recommendation for 80% of nurses to achieve a Bachelor of Science in Nursing (BSN) is one that challenges nurse educators nationwide. This has led to an increased number of RN-BSN programs in the United States. A major limitation of these programs is the time it takes for an associate degree nurse to return to academia for their BSN. This presentation focuses on the collaboration between an associate degree and baccalaureate nursing program in the planning and implementation of a Dual Enrollment program.

**Process:** This Dual Enrollment partnership engages administrators and nurse educators at both an associate degree nursing program and a baccalaureate nursing program in the development of a system that allows for concurrent enrollment of students in both academic programs. Steps include: development of a contractual agreement, integration of nursing curriculum, a seamless admission process and coordination of services to ensure student support during programming (Financial Aid, Registrar, Housing, etc.)

**Outcomes Achieved:** This initiative offers an advantage to nursing students by allowing students to concurrently enroll in both academic programs. This program avoids the academic break that often occurs when associate degree nurses return for their BSN and creates a streamlined educational progression toward the baccalaureate degree. Students complete both their Associate of Applied Science and the Bachelor of Science in Nursing within three years of admission.

**Conclusions:** Dual enrollment programs are a transformational way to meet the IOM recommendations while strengthening the ties between associate degree and baccalaureate nursing programs. This type of collaboration emphasizes the ability of institutions of higher learning to be innovative in program development and addresses the need for increasing the number of baccalaureate prepared nurses throughout the United States.

**Keywords:** Dual enrollment nursing programs, Institute of Medicine report, nursing education, nursing educational program planning, academic partnerships

# NURSING EDUCATION: ENGAGING STUDENTS AND COMMUNITY PARTNERS IN CURRICULUM AND RESEARCH

## Engaging Our Community of Learners through 'Flipped' Course Expectations

*Lory Clukey, PhD, PsyD, RN, CNS*
*Associate Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

**Purpose/Aim:** In this presentation we will explore barriers and advantages to adopting 'flipped' classroom strategies as a means to increase student engagement. Advantages and barriers will be discussed as well as various methods of 'flipping' to increase student participation.

**Rationale/Background:** Active engagement of students in the learning process has always been a challenge for educators. Many of us have integrated interactive activities into the classroom as a means to engage students in their own learning. The culture shift that changes the learning environment where 'homework' and 'classwork' are 'flipped', can be intimidating and anxiety provoking for both educators and students.

**Description:** Ideas of how to incorporate activities that foster the 'flipped' course structure will be presented as well as mouse traps to avoid. An overview of the current reactions to this style of educating as well as some of the early research done on this pedagogy will be discussed. Some myths about what a 'flipped' course is will be debunked.

**Outcomes:** Student engagement and application of course content has increased and resulted in practical projects being produced as a result of a 'flipped' classroom design. Examples of projects will be presented and student feedback related to the strategy will be presented. The presenter will discuss celebrations and frustrations resulting from experiences where flipping led to landing on her head or landing on her feet.

**Conclusions:** While student engagement is the goal in using the 'flipped' classroom design, there are several barriers that can occur. The way the course structure is introduced can determine the acceptance or rejection of the 'flipped' teaching strategy. The workload for both students and faculty members influences how easily a course can be 'flipped'. The design of assignments and allocation of credit has an impact on student participation.

# NURSING EDUCATION: ENGAGING STUDENTS AND COMMUNITY PARTNERS IN CURRICULUM AND RESEARCH

## Engaging Practice Partners through Collaborative Research Teams

*Lory Clukey, PhD, PsyD, RN, CNS*
*Associate Professor*
*School of Nursing*
*University of Northern Colorado*
*Greeley, CO*

**Purposes/Aims:** Negotiating collaborative relationships between academic professionals and clinical practitioners can be a challenging and daunting endeavor. This presentation will address issues to be aware of and agency requirements to consider when developing partnerships between academic and clinical organizations. This presentation will bring attention to issues to be anticipated and addressed when considering an academic-clinical partnership for research purposes.

**Rationale/Background:** There is a demand for evidence based practice among healthcare professions to improve the delivery of nursing interventions and treatment. For many nursing faculty, the opportunity to collaborate with clinical partners, unless associated with a large medical center, can be challenging and daunting. Faculty are expected to be conducting clinically relevant research and many clinicians would like to participate in research, yet the workload of both parties makes this virtually impossible. This presents a unique situation where a symbiotic relationship can lead to relevant, evidence-based practice changes in nursing care and delivery. Evidenced based and clinically relevant new practices are likely to emerge from these academic-clinical partnerships.

**Best Practice:** An academic-clinical partnership was developed for the purpose of conducting a clinically relevant research project. Lessons were learned throughout this process about what was needed to create the partnership in a manner that respected both institutional requirements and facilitated the roles of the professionals involved. The lessons learned will be presented here. We will examine models of academic-clinical partnerships for smaller academic units and clinical agencies that do not have the research oriented resources large medical centers provide. The ethical and legal considerations for developing collaborative research endeavors will be examined. Considerations related to intra and interdisciplinary relations will be reviewed. Practical issues of data management, authorship, and team relations will be discussed with situation specific examples used to demonstrate potential problems and resolutions. Sources of conflict both individually and institutionally will be explored.

**Outcomes:** The academic-clinical partnership resulted in completion of a research project that led to practice change, published articles and presentations.

**Conclusions:** When involved in interagency and interdisciplinary collaborations, the multiplicity of stakeholders creates a quagmire that if not anticipated, can lead to many hours of frustration, lost work, lost revenue and incompletion of projects. New motivations for revenue generating products are putting pressure on organizations to be competitive rather than collaborative. Academic – clinical partnerships can provide an important opportunity for both faculty and clinicians not associated with large medical centers to participate in knowledge development and practice change.

## Abstracts of Poster Presentations

# NURSING WORKFORCE

### INTERGENERATIONAL RN WORKFORCE, THEIR WORK ENVIRONMENT AND PATIENT OUTCOMES

*William Chou, Janet C. Mentes, Linda R. Phillips*

### NURSES' PERCEPTIONS OF EMPOWERMENT AND THE PROFESSIONAL PRACTICE ENVIRONMENT

*Martha F. Zepeda*

### PTSD REGISTERED NURSES AND ITS RELATIONSHIP TO TURNOVER

*Kathy Lopez-Bushnell, Michael Chicarelli*

### ANALYSIS OF THE RN WORKFORCE AND THE RELATIONSHIP TO RETENTION: WHY NURSES STAY

*Anita C. Reinhardt, Pamela N. Schultz*

# NURSING WORKFORCE

## Intergenerational RN Workforce, Their Work Environment and Patient Outcomes

*William Chou, MSN, RN, PHN*
*Doctoral Student*
*UCLA School of Nursing*
*Los Angeles, CA*

*Janet Mentes, PhD, APRN, BC, FGSA, FAAN*
*Associate Professor*
*UCLA School of Nursing*
*Los Angeles, CA*

*Linda R. Phillips, PhD, RN, FAAN*
*Professor*
*UCLA School of Nursing*
*Los Angeles, CA*

**Purpose:** The purpose of this integrative literature review was to explore available research on the intergenerational nursing workforce's perceptions of their work environment and its relationship to patient and nurse outcomes, which can inform healthcare administrators and managers to create a work environment conducive to positive health outcomes for patients while also improving nurse outcomes such as retention, turnover, and work satisfaction.

**Background:** With over 3.1 million registered nurses in the United States, nursing is the largest healthcare profession, as well as one of the largest segments of the nation's workforce. Nurses are the largest component of hospital staff, and also have the most frequent patient contact. The average age of nurses in the America has increased from 42.7 years old in 2000 to an average of 44.6 years old in 2010, with over half of the nursing workforce age 50 or older. Not only is the RN workforce aging, but the composition is changing as well – growing at the younger and older ends of the spectrum. Currently, four generations (Veterans, Baby-Boomers, Gen-X, Millenials) of nurses work together to deliver patient care. Each generational cohort is shaped by the societal events of their time. These experiences influence their perspectives, expectations, strengths, and work styles. The nursing practice environment is a crucial component of quality healthcare. Research studies about the nursing practice environment has steadily grown in number, with the focus shifting in the past decade from nurse outcomes towards relationships to patient outcomes. Practice environments rated as healthy or very healthy have been shown to be associated with improved patient outcomes. A practice environment that's not adapted to the composition of the workforce can result in nurses' premature departure from the nursing workforce and sub-optimal health outcomes for patients.

**Methods:** Review of literature from: Cinahl, PubMed, Google Scholar, Bureau of Labor Statistics using the keywords: "nursing workforce", "practice environment", "healthy work environment", "Magnet", "multigenerational", "intergenerational", "occupational health", "aging", "patient outcomes". Sixty-two articles between 2000 and 2015 were reviewed. Inclusion was limited to 18 articles pertaining to the diverse and aging nursing workforce. Exclusion criteria included nursing workforce and practice environment research that did not emphasize generational cohort differences in the acute care setting.

**Results:** Understanding generational-cohort perceptions of the nurses' practice environment can inform healthcare administrators and managers to create healthier environments to improve nurse outcomes, as well as the health outcomes of the patient. Although generational cohort differences are well recognized, research about the nursing workforce is overwhelmingly focused on nurse outcomes such as turnover and retention. The literature surveyed lacked focus on the generational cohort mix of the nursing workforce, and its relationships with patient outcomes.

**Implications:** Opportunities exist to improve the practice environment of a diverse nursing workforce to improve both nurse and patient outcomes. Further research is needed to understand the generational-cohort differences within the diverse nursing workforce as well as its relationship to both nurse and patient outcomes. The results of this research could inform healthcare administrators and managers.

## Nurses' Perceptions of Empowerment and the Professional Practice Environment

*Martha Zepeda, DNP, RN-BC*
*Director, Professional Nursing*
*Nursing Education*
*Long Beach Memorial Medical Center*
*Long Beach, CA*

**Purpose/Aims:** The purpose of this study was to evaluate characteristics of professional practice reflected in a hospital's professional practice model, and then to compare those characteristics from the hospital model to nurses' perceptions of empowerment.

**Rationale/Conceptual Basis/Background:** Nurses' ability to provide patient- and family-centered care is based on organizational support and leadership that ensures adequate structures, resources, and processes are present.
Kanter's theory of structural empowerment provided the framework for this study, which describes characteristics of an empowered work environment and the behaviors supportive of that environment. A professional practice model reflects these structures, along with a professional and autonomous nursing practice.

**Methods:** A prospective, comparative descriptive design was used to assess the relationship between empowerment, nurse education level, and professional certification components of the professional practice model. A total of 286 clinical nurses completed the Conditions of Work Effectiveness Questionnaire-II. An ANOVA compared average scores for total structural empowerment across factor levels, and stepwise regression determined factors most influential on average total structural empowerment.

**Results:** The overall empowerment score suggested a moderate level of empowerment. Among nurses who obtained certification and/or had a Bachelor Degree or higher education, the average TSE was 2.90 points higher (95% CI [1.49 – 4.32]) than estimated for nurses who had obtained an Associate Degree or nursing diploma but had not yet received professional certification ( $p < .001$).

**Implications:** Results indicate that nurse leaders must develop strategies to increase opportunities for obtaining certification and education to help build an empowered work environment and further develop the knowledge and skills of nurses, creating structures for an empowered professional practice environment. Further data analysis will expand this study to compare findings of the structural empowerment scores to the hospital clinical nurse employee engagement survey categories for further validation of study results.

# NURSING WORKFORCE

## PTSD Registered Nurses and Its Relationship to Turnover

*Kathy Lopez-Bushnell, EdD, MPH,*
*MSN, CTSC, Nursing Research*
*University of NM Hospital*
*Albuquerque, NM*

*Michael Chicarelli*
*Director of ED*
*University of NM Hospital*
*Albuquerque, NM*

**Purpose/Aims:** The primary purpose of the study was to evaluate the prevalence of PTSD among ED nurses in one major academic, level-I trauma center. The secondary purpose was to identify a potential relationship between RN turnover in the ED setting and a PTSD diagnosis. In addition, a number of interventions designed to reduce the symptoms of PTSD were explored, with the goal of identifying those that could reduce potential PTSD-associated turnover

**Background:** The challenge of emergency nursing involves keen assessment, prioritization, critical thinking, and the ability to focus in an atmosphere where the pace and level of acuity change constantly. An additional, often underappreciated, challenge is the emotional stress that nurses must face relatively often in their day-to-day work. Post-traumatic stress disorder (PTSD) has been identified and studied among emergency workers in a variety of settings. A small number of studies have demonstrated the presence of PTSD in emergency nurses, with rates in excess of 20%. The aim of this study was to evaluate the rate of PTSD among a sample group of emergency nurses and determine whether a correlation exists between the presence of PTSD and the turnover intention among this group of emergency nurses.

**Methods:** This is an IRB approved study used two separate survey instruments to collect data from the emergency nurse sample group. All participants who returned the surveys met the inclusion criteria and were included in the final analysis. Nonparametric statistical tests were performed due to the small sample size and lack of normal distribution assumptions for some variables. Descriptive statistics were used to summarize basic demographic information within the sample from the categorical variables.

**Results:** There was a significant relationship between the PCL-C score and turnover intention. This indicates that individuals who scored higher on the PCL-C for having signs and symptoms of PTSD had a greater likelihood of leaving the ED care environment. The other significant finding was the lack of a relationship between years as a nurse and years as a nurse in the ED and the PCL-C rankings.

**Implications:** Given the results related to the occurrence of PTSD in the emergency nurse population, it is a reasonable assumption that PTSD is an intervention-worthy issue for emergency nurse leaders. Implementation of a PTSD mitigation intervention could potentially improve the rates of PTSD among the staff in the emergency setting, which in turn could improve turnover rates and may go as far as improving quality and overall moral.

# NURSING WORKFORCE

## Analysis of the RN Workforce and the Relationship to Retention: Why Nurses Stay

*Anita Reinhardt, PhD, RN*
*Associate Professor*
*School of Nursing*
*New Mexico State University*
*Las Cruces, NM*
*acrein@nmsu.edu*

*Pamela N. Schultz, PhD, RN*
*Enriquez Professor*
*Associate Dean and Director*
*School of Nursing*
*New Mexico State University*
*Las Cruces, NM*

**Aims:** There were two aims for this research project. The first aim was to examine how a sense of belonging to the nursing profession affected duration of employment in professional settings in New Mexico. The second aim was to identify factors in the work environment that encourage retention in workplaces in New Mexico.

**Background & Significance:** *Problem:* Forecasted shortages of qualified nurses loom related to the aging population. Baby Boomers are adding to the elderly and bringing with them an increase in chronic disease and resource utilization. Moreover, the nursing workforce is an aging workforce with the average age of a practicing registered nurse being >55 years old. New additions to the nursing workforce have shown rapid turn-over rates which escalate recruitment/orientation costs and lead to newly educated nurses leaving the profession. New nurses frequently encounter concerns developing a feeling of affiliation or belonging as they join a workplace as a new graduate. Researchers have suggested that affiliation and a sense of belonging (SOB) contribute to effective nursing practice. They also help to keep nurses in the profession. Research also shows that because uncertainty in new nurses, they often struggle to develop affiliation and this leads to a weak sense of belonging. A weak sense of belonging, in turn, has been related to marginal performance and job dissatisfaction—factors that frequently lead to a desire to leave the nursing profession altogether. Prior research on nursing work environments has identified organizational constructs that promote effective and positive work environments, and encourage the retention of nurses. These constructs include professional autonomy, control of practice, collegial communication, organizational support, and moderate/manageable stress levels. These components of a healthy work environment have been shown related to nurse retention, primarily by increasing employee engagement and connection to the workplace. With the looming tsunami of aging and retiring Baby Boomers, health care setting need to know how to retain both new and experienced nursing personnel. Besides the work setting, the development of affiliation and the sense of belonging are key to promoting retention and job satisfaction.

**Measures and Materials/Instruments:** 700 registered nurses were surveyed. Descriptive surveys were used to collect data on workplace environment, SOB, workplace violence, and demographics.

**Results:** 265 surveys were returned for a 38% return rate. Results indicated a significant relationship between retention and positive perceptions of the work environment related to autonomy, collegiality, and organizational support. Inverse relationship was found between belongingness and workplace violence/stress.

**Implications:** Health care settings that develop attractive environments that include collegial belonging and organizational support will have a better chance in retaining nurses in the future.

# Abstracts of Poster Presentations

# PAIN

## JOINT PAIN, WHY DO WE SUFFER?

*Ryan Escue*

---

## PAIN SCREENING IN THE DELIRIOUS GERIATRIC PATIENT

*Michelle Ferolito*

---

## BEYOND THE NUMBER: OPENING THE COMMUNICATION DOOR IN CHRONIC PAIN

*Alexa R. Meins, Sheryl E. Wyant, Ardith Z. Doorenbos*

---

## EMBEDDING PATIENT REPORTED OUTCOMES INTO CLINICAL CARE: LESSONS FROM A PRAGMATIC TRIAL

*Lindsay Lancaster, Lynn DeBar*

# PAIN

## Joint Pain: Why Do We Suffer?

*Ryan Escue, RN-BSN*
*Principle Investigator*
*Belmont University*
*Nashville, TN*

**Purpose:** The aim of this study is to determine the symptoms, limitations, activity level, emotional state, treatment, and beliefs of individuals 50 years or older effected by joint pain.

**Review:** Studies show that osteoarthritis is an under diagnosed chronic illness. Literature reviews on this subject point to many potential reasons to explain this phenomenon. This study looks into the under diagnosis of osteoarthritis from the perspective of the joint pain sufferer. This is accomplished through the modifying of the Centers for Disease Control and Prevention Arthritis Condition Health Effects Survey (ACHES). With the use of the modified ACHES survey a systematic approach will be taken to further understand the health beliefs that prevent persons with joint pain from seeking medical care. Using the Health Belief Model combined with the ACHES survey will allow healthcare works to better understand the patient living with joint pain. Understanding the patient will help health care providers to individualize their approach to treating patients with joint pain. Health care providers will be able to spend time and resource on areas that will have the greatest potential to yield positive outcomes.

**Methods:** A total of 500 names obtained from a local church directory will be used for the recipients of the modified ACHES survey. Only individuals 50 years or older and who have joint pain will be permitted to participate in the survey. The survey will first be distributed to potential participants in person. Once the principle investigator has exhausted this method, emails will be sent out to those whose name appears in the church directory but where unable to complete the survey in person. This will insure the highest possible response rate for this particular population.

**Implications:** The goal of the modified ACHES survey is to reveal commonalities in the way the elderly view joint pain. This information will be used to help increase the number of individuals that will seek care once joint pain symptoms begin through a deeper understanding of how these individuals view their disease.

**Results:** The study's conclusion has not been reached. The findings will be determined by January 2016.

# PAIN

## Pain Screening in the Delirious Patient

*Michelle Y. Ferolito, RN, DNPc*
*Geriatric Nurse Practitioner*
*Department of Geriatric Medicine, UCLA*
*Santa Monica, CA*

*Joy R. Goebel, RN, MN, PhD*
*Associate Professor*
*School of Nursing*
*California State University*
*Long Beach, CA*

*Nik Gorman, MPH, Ed.D.*
*Accreditation and Assessment*
*Coordinator School of Nursing*
*California State University*
*Fullerton, CA*

*Jeannette (Jeannie) Meyer, RN, MSN, CCRN, CCNS, PCCN, ACHPN*
*Clinical Nurse Specialist for Palliative Care*
*Assistant Clinical Professor, UCLA School of Nursing*
*Santa Monica UCLA Medical Center and Orthopaedic Hospital*
*Santa Monica, CA*

**Purpose/Aims:** The aim of this project is to evaluate psychometric properties of the Pain Assessment in Advanced Dementia (PAIN-AD) for pain screening in a population of delirious patients in an urban academic setting.

**Rationale/Conceptual Basis/Background:** Delirium is one of the most common hospital acquired diagnosis in the acute care geriatric setting and contributes to increased mortality rates, extended hospitalizations, and increased hospital expenditures. Pain screening in the delerious population is challenging and evidence is lacking related to best screening practices for this vulnerable population.

**Methods:** A case control design will address the study aims. Two trained nurses will independently assess 75 nonverbal, delirious acute care patients using the PAIN-AD and the Critical Care Pain Observation Tool (CPOT). Patients who score pain + will receive a pain intervention. All patients will be reassessed for pain after thirty minutes to evaluate intervention effectiveness (and provide evidence of the PAIN-AD's internal validity), and establish test-retest reliability for the PAIN-AD in the non-pain group. A 2x2 repeated measures ANOVA examining PAIN-AD scores (baseline versus 30 minutes post intervention) between the two conditions (intervention versus nonintervention) will be used for analysis.

**Results:** Statistics to be reported by the completion of this project include face validity, inter-rater reliability, test-retest reliability, internal consistency, concurrent validity, and internal validity.

**Implications:** DNP prepared nurses are called to transform bedside care through translational research. The evaluation of the PAIN-AD tool in delirious patients will add to the research completed on its validity and reliability in dementia patients.

# PAIN

## Beyond the Number: Opening the Communication Door in Chronic Pain

*Alexa R. Meins, PhD(c), BS, PhD Student*
*Sheryl E. Wyant, PhD(c), RN-BC, OCN, PhD Student*
*Ardith Z. Doorenbos, PhD, RN, FAAN, Professor*
*Biobehavioral Nursing and Health Systems*
*University of Washington*
*Seattle, WA*

**Aims:** The purpose of this project is to humanize the chronic pain experience. Specifically, we aim to (1) share a self-authored pain experience numerical rating scale (NRS) of a patient with chronic pain, (2) discuss the meaning and use of the patient's NRS, and (3) compare scientific evidence and standards of chronic pain assessment with a patient's NRS.

**Background:** Over 116 million Americans are burdened with chronic pain. Chronic pain assessment and management includes the patient's self-report. Accurate assessments are only obtained when health care providers accept the patient's pain experience, which includes both pain intensity and affect. A patient centered, flexible approach is particularly important because chronic pain is a multi-dimensional experience including physical, emotional, psychological, and personal circumstances. The Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT) has recommended the following six assessment domains: pain intensity, the physical functioning interference, mood and emotional disturbances, patient satisfaction with treatment and pain relief, other concurrent symptoms, and patient characteristics such as the economic impact. However, the trend in clinical settings is to screen and treat based on the single domain of pain intensity, using the valid NRS. A common understanding of the meaning of the NRS is essential to accurate pain assessment.

**Methods:** A patient with chronic pain who participated in a larger study on pain and symptom management presented the authors with a self-authored NRS scale. This NRS provides a framework to evaluate the evidence based chronic pain standards of care. The authors interviewed this patient about his pain story, development of his NRS, and experience with health care providers in the use of his scale. The transcribed phone interview and the patient's NRS was analyzed using content analysis, an iterative process of reading the transcripts and coding for substantive, *in vivo* themes.

**Outcomes:** This patient's NRS scale included multi-dimensional pain descriptors, which transformed the NRS into a pain experience scale rather than a single dimension pain intensity scale.

There was missed opportunity for mutual understanding between patient and provider. Specifically, two critical themes that arose from the patient interview were (1) the need to tell the provider what they wanted to hear vs the patient's reality and (2) that the numbers on the NRS scale are not equally spaced but exponential in nature, particularly at higher numbers.

The patient's NRS scale features are consistent with the scientific evidence of intensity cutoffs (mild, moderate, and severe) and the majority of IMMPACT domains. However, it was inconsistent with findings related to meaningful reduction of pain and the IMMPACT outcome of satisfaction.

**Clinical Implications:** A patient centered and flexible approach is particularly important to opening the communication door in the assessment of chronic pain. Providers need to be aware that patients may be reporting their pain experience and not just pain intensity when using the NRS scale. Assessment and treatment needs to include all dimensions of the patient's pain and go beyond just the pain intensity number.

---

**Funding:** This work was supported by the National Institute of Nursing Research of the National Institutes of Health under award numbers R01NR011179 and K24NR015340.

# PAIN

## Embedding Patient Reported Outcomes into Clinical Care: Lessons from a Pragmatic Trial

*Lindsay Lancaster, PhD, RN, CNS*
*Assistant Professor/Research Associate*
*University of Portland*
*Kaiser Permanente Center*
*for Health Research*

*Lynn DeBar, PhD*
*Senior Investigator*
*Kaiser Permanente Center*
*for Health Research*

Patient reported outcomes (PROs) represent the most direct link between the patient experience and the nurse's ability to understand that experience, therefore providing the most robust mechanism for achieving patient centered care. Despite the power of PROs to guide optimal clinical care, consistent use of these measures remains limited due to barriers related to PRO collection, interpretation, and seamless feedback to the clinician. This presentation will discuss strategies used by an NIH funded pragmatic trial to enhance the collection and utilization of PROs in one Health Maintenance Organization (HMO).

The Pain Program for Active Coping and Training (PPACT) is a pragmatic trial aimed at embedding integrative pain management resources within the primary care setting to support patients with complex chronic pain and their clinicians. The use of PROs to best understand the patient experience and assist the clinicians in providing patient centered care is an important component of the program, but not fully implemented into clinical care at the time of study launch. The PPACT team used the following strategies to enhance PRO collection and use of that information by clinicians.

Link PRO collection to an organizational need: To create buy-in for building a platform for PRO collection, one needs to ensure the collection of these outcomes serves a broader organizational initiative. The PPACT study was able to tap into the federal requirements for monitoring of pain-related outcomes as a result of opioid prescribing.

Build PRO collection into the clinical workflow: A major barrier to the routine collection of PROs is the perception of clinician burden. By working closely with the HMO's regional workflow team, the PPACT team utilized existing technology and practices to support the collection of these outcomes.

Ensure PRO collection is patient-centered: Gaining feedback directly from the patient will not be successful unless they are placed at the center of the design. To ensure PRO collection was based on the unique circumstances of each patient, the PPACT devised a three-tiered approach. These contingencies ensured that the modality most convenient to the patient was used to gain access to their voice.

Ensure PRO feedback is clinician-centered: To achieve the final step to ensuring PROs achieve their goal of informing optimal, patient centered care, the information must feedback to the clinician in a manner that facilitates its use for clinical decision making. In PPACT, this was accomplished by creating a PRO summary report using a dashboard design uploaded directly into the patient's electronic health record with an alert to the clinician. This allowed the clinician to efficiently pull forward the aspects of the patient experience most critical in guiding that patient's care.

PRO data has been shown to enhance patient-clinician communication, increase patient satisfaction, and play an integral role in achieving patient centered care. The strategies used in PPACT demonstrate successful modalities for enhancing the collection of PRO's in routine clinical care.

---

Funding: UH3NS088731 National Institutes of Health Common Fund.

# Abstracts of Poster Presentations

# PHYSIOLOGIC RESEARCH

## SYMPTOM BIOMARKERS IN MEXICAN AMERICAN WOMEN WITH DIABETES & HEART DISEASE

*Thaddeus Pace, Marylyn McEwen, Anne G. Rosenfeld*

## GUT MICROBIOME, INFLAMMATORY MARKERS AND ANXIETY AND DEPRESSION IN ANOREXIA NERVOSA

*Karen Hyden*

## MACROPHAGE CHARACTERISTICS IN THE PRESENCE OF REGENERATING MUSCLE FIBERS

*Marianne Bundalian Tejada, Barbara St. Pierre Schneider,*
*Hananeh Derakhshan*

# PHYSIOLOGIC RESEARCH

## Symptom Biomarkers in Mexican American Women with Diabetes & Heart Disease

*Thaddeus Pace, PhD*
*Assistant Professor*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Marylyn McEwen, PhD, PHCNS-BC, FAAN*
*Professor*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

*Anne G. Rosenfeld, PhD, RN, FAAN, FAHA*
*Professor*
*University of Arizona*
*College of Nursing*
*Tucson, AZ*

**Purposes/Aims:** The purpose of this pilot study was to explore associations of symptoms with biomarkers associated with Type 2 diabetes mellitus (T2DM) status (blood hemoglobin A1c [HbA1c]), inflammation (peripheral blood mononuclear cell [PBMC] nuclear factor-κB [NF-κB]), and oxidative stress (plasma 8-*iso* Prostoglandin $F_{2\alpha}$) in Mexican American (MA) women with both T2DM and ischemic heart disease (IHD).

Rationale/Conceptual Basis/Background: There is limited evidence of how the growing population of MA women with both T2DM and IHD manage the symptoms of these co-occurring illnesses. Inflammation, oxidative stress and endothelial dysfunction are common pathways of both illnesses and may play important mechanistic roles in symptom severity. Discovery of biomarkers of the symptoms of these co-occurring illnesses may increase understanding of symptom mechanisms and thus facilitate identification of novel intervention targets.

**Methods:** Blood was collected in the home setting using a finger stick for the HbA1C which was analyzed using the DCA 2000. Whole blood was also drawn by venipuncture and returned to the Biological Core Laboratory at the University of Arizona College of Nursing for isolation of plasma and PBMCs. Purified plasma was batch assayed for 8-iso Prostoglandin F2 alpha using an enzyme immunoassay kit (Caymen, Ann Arbor, MI). Nuclear extracts obtained from PBMCs were analyzed with a p65 TransAM Chemi assay kit (Active Motif, Carlsbad, CA) to determine NF-κB activity. Participants were contacted by phone starting the evening after blood collection and then again for the next 6 days for assessment of symptoms using the 20-item Diabetes & Cardiac Symptom Survey for Women (D&CSS-W). Association between combined symptom frequency as well as individual symptoms over 7 days and biomarkers were analyzed using Spearman or partial correlation coefficients controlling for medication usage (e.g. aspirin and metformin).

**Results:** Six MA women (mean age 61.26±10.73) were enrolled and completed the study. Statistically significant inverse correlations were found between HbA1c and frequency of the symptom of sadness. Inverse correlations were also found between NF-κB and the combined frequency of all symptoms assessed by the D&CSS-W, as well as the frequency of certain individual symptoms including vision changes, dizziness, thinking/ concentrating/ memory, and weakness. However, these correlations did not survive corrections for multiple comparisons or medication usage.

**Implications:** Although preliminary, these observations suggest that collection of blood in the home setting to analyze biomarkers of inflammation and oxidative stress is feasible. Future studies will determine the extent to which these biomarkers are associated with symptoms and symptom severity captured by the D&CSS-W.

---

**Funding:** A University of Arizona College of Nursing Laurence B. Emmons Award.

# PHYSIOLOGIC RESEARCH

## Intestinal Dysbiosis as It Relates to Inflammatory Markers and Anxiety and Depression in Anorexia Nervosa

*Karen Hyden, APN-BC, MSN, MEd*
*PhD Student*
*University of Colorado, Denver*
*Aurora, CO*

**Backgound:** Anorexia Nervosa (AN) is an eating disorder with a mortality rate 12 times higher than the death rate associated with all causes of death for females 15-24 years old. Intestinal dysbiosis as well as anxiety and depression have been findings in the AN population. Inflammatory markers such as interleukin-6 (IL-6), and tumor necrosis factor alpha (TNF-α) have been shown to be elevated in the AN population, and these markers are linked to increased symptoms of anxiety and depression.

**Specific Aims:**

1. To examine literature on the connection between intestinal dysbiosis, inflammatory markers, and symptoms of anxiety and depression in the AN population.
2. Compare non-eating disordered population's intestinal flora, inflammatory markers, and symptoms of anxiety and depression to those with AN.

**Theory:** This study is guided by the Psychoneuroimmunology (PNI) model. The PNI model is concerned with the bidirectional communication between the neuroendocrine system, the immune systems, and psychological processes.

**Design:** The literature review will be conducted using a systematic search focused on the key words within the databases of EMBASE, MEDLINE, Science Citation Index, PsycInfo, CENTRAL (The Cochrane Central Register of Controlled Trials, CINAHL and NHS EED)

**Procedure Search Terms:** The literature was searched using the following key terms; anorexia nervosa, candidiasis, Il6, TNF- α, anxiety, depression, gut-brain axis, gut microbiome, intestinal dysbiosis, inflammatory markers, eating disorders, and combinations of the key terms.

**Review:** The review of the existing studies show that there are very few controlled trials or descriptive studies on the association between Anorexia Nervosa, intestinal dysbiosis, and anxiety and depression. To date, the best investigations demonstrate an exploratory and correlational descriptive level of investigations

**Results:** There is minimal scientific evidence describing the impact of prolonged and maladaptive illness and the association with behavior. There is partial evidence demonstrating an association between inflammatory and neuro-immune responses. These responses are well documented in animal models but have not been effectively examine in humans. The current theory based on the existing evidence suggests that depression and anxiety are not maladaptive syndromes in response to chronic illness, but the result of a immunological and inflammatory process.

**Implications:** There is a need for effective treatment models for AN that include assessment of the gut micro biome, dysbiosis, the interrelationship to inflammatory markers and how they affect symptoms of anxiety and depression, and thus, food restricting behaviors.

# Macrophage Characteristics in the Presence of Regenerating Muscle Fibers

*Marianne Bundalian Tejada, DNP, MSN, RN, PHN*
*Assistant Professor*
*School of Nursing*
*University of Nevada, Las Vegas*
*Las Vegas, NV*

*Barbara St. Pierre Schneider, PhD, RN,*
*CNE Professor*
*School of Nursing*
*University of Nevada, Las Vegas*
*Las Vegas, NV*

*Hananeh Derakshan, MBA, BS*
*Graduate Assistant*
*School of Nursing*
*University of Nevada, Las Vegas*
*Las Vegas, NV*

**Purpose/Aims:** The aims of this research are to (a) describe the characteristics of CD206-positive macrophages in crush-injured and uninjured skeletal muscle and (b) examine the characteristics of macrophages in the presence of regenerating skeletal muscle fibers.

**Background:** The macrophage—one type of white blood cell—has a strong presence during muscle regeneration after muscle injury. To understand the roles of this cell during muscle regeneration, researchers need to characterize the proteins that the cell expresses during muscle regeneration. While specific protein profiles have been identified using flow cytometry, flow cytometry cannot easily associate specific profiles of macrophages with specific in vivo regenerating muscle fiber characteristics. Instead, immunolabeling and hematoxylin and eosin (H&E) staining need to be used to examine this association.

**Methods:** A closed crush injury was induced to mouse right gastrocnemius and/or quadriceps muscles. Muscles were harvested at four postinjury time points: 8, 24, 48, and 96 hours. Cross-sections of these muscles underwent immunolabeling to detect macrophage positive (F480, CD68, and/or CD206) cells. In serial cross-sections, patterns of regenerating fibers were detected using H&E staining and developmental myosin heavy chain (dMHC) immunolabeling. The analysis consisted of capturing digital images of areas of regenerating fibers in the H&E-stained sections. Then, the morphological patterns of these areas will be characterized. Digital images from the macrophage and dMHC-immunolabeled sections will be examined and patterns observed in the images will be described.

**Results:** A total of 39 regenerating areas were identified from 13 H&E-stained sections. In addition, the macrophage and dMHC patterns and the characteristics of CD206-positive macrophages in crush-injured and uninjured muscle will be presented.

**Implications:** These results may increase our understanding of the muscle recovery process so that persons who sustain a crush muscle injury receive appropriate nursing care.

---

Funding: This project is supported by UNLV School of Nursing Intramural Grant and The Department of Defense, Air Force (Grant # FA7014-10-2-0001). Disclaimer: Review of material does not imply Department of the Air Force endorsement of factual accuracy of opinion.

# PRE-LICENSURE NURSING EDUCATION

## MANDATED CPR & AUTOMATED EXTERNAL DEFIBRILLATOR INSTRUCTION IN WA STATE HIGH SCHOOLS

*Gail Salvatierra, Allison Emery, Steven J. Palazzo, Carrie Nass*

---

## PREPARING COLLABORATIVE READY HEALTH CARE GRADUATES: THE CSUS-CNU IPE MODEL

*Nassrine M. Noureddine, Darla Hagge, Debra Brady, Will Ofstad*

---

## SEEING THE BIG PICTURE: SITUATIONAL AWARENESS TOOLS TO IMPROVE CLINICAL REASONING

*Marla Jean Seacrist, Shokoufeh Jashnani, Mohsen Izadi,*
*Andrea M. Martinez, Krista McCullough, Wendy Matthew*

---

## THE USE OF A GAME-BASED LEARNING PLATFORM TO ENGAGE NURSING STUDENTS

*Abigail J. Lipschultz, Cara Gallegos, Kelley Connor, Kim Martz*

---

## USE OF SCENARIO REPETITION IN TRAINING PRE-LICENSURE NURSING STUDENTS

*Roschelle Fritz, Ellen Hinderlie*

---

## SENIOR BACCALAUREATE NURSING STUDENTS' CAREER PREFERENCES

*Claire P. Valderama-Wallace*

---

## THE INTERNALIZATION OF PROFESSIONAL NURSING VALUES IN BACCALAUREATE NURSING STUDENTS

*Tamara Rose, Mary Nies*

## DEPRESSION, ANXIETY, AND STRESS AMONG FIRST-YEAR AND THIRD-YEAR NURSING STUDENTS

*Simbella Gomez-Singh, William Scully, Christine Cabsag, Phyllis A. Heintz*

---

## IMPROVING PHARMACOLOGY EDUCATION OUTCOMES

*Charles J. Pfeiffer Jr, Michael J. Marinello, Denise Glenore-Green*

---

## READINESS FOR PRACTICE: A CONCEPT ANALYSIS

*Lisa S. Zenoni*

# PRE-LICENSURE NURSING EDUCATION

## Mandated CPR & Automated External Defibrillator Instruction in WA State High Schools

*Gail Salvatierra, RN, PhD*
*Assistant Professor*
*School of Nursing*
*California State University, San Marcos*
*San Marcos, CA*

*Allison Emery, MPH*
*Program Manager*
*Education*
*The Hope Heart Institute*
*Bellevue, WA*

*Steven J. Palazzo, PhD, RN, CNE*
*Assistant Professor*
*College of Nursing*
*Seattle University*
*Seattle, WA*

*Carrie Nass, MPH*
*Director of Prevention Programs*
*Education*
*The Hope Heart Institute*
*Bellevue, WA*

**Purpose:** The aim of this study was to determine the rates of cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) training in high schools in the state of Washington after passage of mandatory CPR and AED training legislation. Secondary objectives were to identify potential barriers to providing CPR training, describe common training practices for both CPR and AED education, and describe the presence and registration of AEDs within the high school setting.

**Background:** Out-of-hospital cardiac arrest affects more than 350,000 people in the U.S. each year. The demonstrated efficacy of CPR and AED use by bystanders has led to several states passing laws mandating CPR/AED training for all high school students. Research shows that teens are both eager and good consumers of CPR/AED education. Unknown is the degree to which training mandates are carried out, and what the barriers are to full implementation.

**Methods:** A web-based survey was sent to administrators at 660 identified public and private high schools in the state of Washington, which passed a mandatory training law in 2013. Self-reported responses were collected anonymously via closed questions with pre-selected variables and open-ended questions for clarification.

**Results:** One hundred forty eight (22%) of the 660 schools contacted completed the survey. Of the 148 respondents, 64% reported training their students in CPR and 54% in the use of an AED. One hundred twenty eight (87%) schools reported training their staff in CPR and AED use. Student CPR training rates were higher in public schools (70%) than in private schools (17%) and were similar between rural (62%) and urban (64%) schools.

**Implications:** Barriers identified included instructor availability, cost, and a lack of equipment. Future research should examine cost efficient strategies for increasing program implementation as well as methods of teaching CPR/AED evaluating success of CPR/AED mandated education.

# PRE-LICENSURE NURSING EDUCATION

## Preparing Collaborative Ready Health Care Graduates: The CSUS-CNU IPE Model

*Nassrine Noureddine, RN, MSN, Ed.D*
*Assistant Professor*
*Department of Nursing*
*California State University, Sacramento*
*Sacramento, CA*
*Noureddinen@csus.edu*

*Darla K. Hagge, PhD, CCC-SLP*
*Assistant Professor*
*Department of Speech-Language Pathology & Audiology*
*California State University, Sacramento*
*Sacramento, CA*

*Debra Brady, DNP, RN, CNS*
*Associate Professor*
*Department of Nursing*
*California State University, Sacramento*
*Sacramento, CA*

*William Ofstad, PharmD, BCPS*
*Assistant Professor*
*College of Pharmacy*
*California Northstate University*
*Sacramento, CA*

**Purpose/Aims:** Health professional students must learn how to work collaboratively. Today's global society is increasingly diverse and complex requiring teamwork to successfully navigate challenges in the workplace. Healthcare students learn core knowledge, skills, attitudes and values and are asked to quickly apply learning to a clinical setting. Their ability to move from receiving direct instruction to clinical practice is facilitated through supervised interprofessional training in simulation, experiential opportunities, and co-curricular settings that enhances the development of practitioners' teamwork and collaborative skills. This presentation will discuss two universities' best practice model of Interprofessional Education (IPE) involving: Nursing, Speech-Language Pathology and Pharmacy.

**Rationale/Background:** Students in health professions are educated in silos. Communication problems among health care personnel have been implicated as a cause of most patient errors (IOM, 2001, 2003; American Association of Critical Care Nurses [AACN], 2005; Joint Commission, 2005, 2007, 2008).

The Institute of Medicine strongly advocates that "health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team" (IOM, 2003, p. 20). IPE set in co-curricular, simulation, and active learning experiences creates opportunities for students to challenge their didactic knowledge, skills, attitudes, and values, and may be an ideal pedagogy to develop teamwork and collaborative skills. The primary purpose of the IPE curriculum developed by the authors is to prepare collaborative practice-ready health care professionals that have applied the essential skills of working in teams across a variety of clinical, educational and community settings.

**Methods:** A variety of required and voluntary IPE opportunities were integrated into each discipline's curriculum including: Cross-discipline didactic education and training, Integrated Simulation Experience, Community Engagement, and an Inter-University Research Team. This is a mixed method study, involving a convenience sample of 80 first semester nursing students, 16 third semester speech-language pathology graduate students, and 100 pharmacy students. The student attitudes towards IPE learning and professional stereotyping was measured using the Entry Level Interprofessional Questionnaire (ELIQ) survey (Street et al., 2007) along with qualitative data collected through simulation debriefing and coded for emerging themes.

**Results:** The qualitative and quantitative outcome data from two integrated IPE simulation experiences and community engagement activities involving pharmacy, nursing and speech-language pathology students will be presented demonstrating positive trends.

**Conclusion:** IPEC helps to prepare collaborative ready health care workforce.

# PRE-LICENSURE NURSING EDUCATION

## Seeing the Big Picture: Situational Awareness Tools to Improve Clinical Reasoning

*Marla J. Marek, RN, PhD, Associate Professor,*
*Jerri Ann Braley, RN, BSN, Master's Student*
*Shokoufeh Jashnani, RN, BSN, Master's Student*
*Mohsen Izadi, RN, BSN, Master's Student*
*Andrea M. Martinez, RN, BSN, OCN, Master's Student*
*Wendy Matthew, RN, MSN, Faculty*
*Krista McCullough, RN, BSN, Master's Student*
*School of Nursing*
*California State University, Stanislaus*
*Turlock, CA*

**Purpose:** The purpose of this study was to evaluate thematic differences in the progression of student situational awareness in a simulated environment from the start to completion of their first clinical rotation semester, with and without the introduction of specific situational awareness curriculum elements.

**Background:** Clinical reasoning involves the synthesis of knowledge and experience in a clinical setting and allows nurses to make complex decisions regarding safe patient care. Within clinical reasoning lies the ability of nurses to perceive, comprehend, and predict assessment findings, which can be specifically identified as situational awareness. In other words, situational awareness within clinical reasoning is the ability to notice, interpret, respond, and reflect. Situational awareness could also be seen as the ability to put all the puzzle pieces together in order to see the big picture.

**Methodology:** This was a qualitative study using grounded theory to analyze both narrative nursing documentation and video recordings of a simulation experience. Sample consisted of two groups of students at the beginning and end of their first clinical semester: Group one (n=24) received standard clinical experience with current curriculum. Group two (n=16) received an additional situational awareness curriculum element, introduced half way through their semester. The intervention consisted of three specific components: a 15 minute teach on SBAR reporting with an emphasis on communication and documentation, instruction on the use of a situational analysis tool (acronym ASSET), and an experiential learning opportunity using a simulated environment with built in errors.

**Results:** There were no thematic differences between group one and group two at the start of their first clinical semester. Both groups struggled with *Uncertainty* during their simulation experience. For group one (without intervention), *gaining competence* was the predominant theme that emerged at the end of the semester. For group two (with intervention), being *skillful and aware* was the final result. Themes in both groups transitioned from uncertainty to gaining competence, but only group two showed their ability to put all the puzzle pieces together.

**Implications:** The addition of the situational awareness curriculum elements improved student performance, documentation, and overall ability to see the big picture. Allowing students to practice their situational awareness in both clinical and the simulation environment were well received by the students. Future research should consider introduction of the situational awareness curriculum in the first semester of the six semester program.

# PRE-LICENSURE NURSING EDUCATION

## The Use of a Game-Based Learning Platform to Engage Nursing Students

*Abigail J. Lipschultz*
*Student Nurse*
*Undergraduate Research Assistant*
*School of Nursing*
*Boise State University*
*Boise, ID*

*Cara Gallegos, PhD, RN*
*Assistant Professor*
*School of Nursing*
*Boise State University*
*Boise, ID*

*Kelley Connor, MSN, RN, CNE, CHSE*
*Associate Professor*
*School of Nursing*
*Boise State University*
*Boise, ID*

*Kim Martz, PhD, RN*
*Assistant Professor*
*School of Nursing*
*Boise State University*
*Boise, ID*

**Purposes/Aims:** The purpose of this study was to describe undergraduate nursing students' reflections of their experiences with a game-based learning platform.

**Rationale/Conceptual Basis/Background:** Baccalaureate nursing programs typically require students to complete a course in research, and faculty find it challenging to engage students and foster a motivated learning environment because it is aimed toward a fun experience for the user with goals and rewards. However, though games have repeatedly had a favorable effect on learning, no research has been done on the use of a game-based learning platform with baccalaureate students in a nursing research course.

**Method:** A descriptive qualitative research design was used to elicit undergraduate nursing students' reflections on their experiences with 3D GameLab, a game-based learning platform. Students who were enrolled in a junior level nursing research class accessed their assignments and class activities through online learning tasks called quests. As students completed quests, they earned virtual badges, points, and awards. These rewards are created by the instructor through 3D GameLab to motivate students to engage with content and progress through activities. Students had access to a support person at the beginning of each class for the first three weeks and via email for the remainder to provide assistance with any technical difficulties. At the end of the semester, students were invited to give their feedback through a survey with open-ended questions. Data were analyzed using thematic analysis.

**Results:** Although use of the game-based learning platform was originally intended to last the duration of the course, continued technical difficulties and student feedback led to its removal after six weeks. Preliminary thematic analysis resulted in the following themes: no learning enhancement, difficulty navigating the platform, and game-based learning has potential to be helpful. Most students did not believe that 3D GameLab in their research course enhanced their learning or their motivation to engage in course materials. Primarily, students felt 3D GameLab was difficult to navigate, and many experienced confusion in using the platform in addition to the regular online portal utilized by the university. However, some students expressed that they believed game-based learning platforms could be helpful and they noted the gaming concept as a strength of the platform.

**Implications:** Game-based learning has the potential to help engage students in their courses. The use of gaming platforms for a baccalaureate nursing research course should be further explored with other platforms that are more user-friendly and in courses that do not employ any other online resources for assignment submission. Baccalaureate nursing students are receptive to the use of gaming in their courses, and educators have the opportunity to enhance their students' learning by implementing such tools.

# PRE-LICENSURE NURSING EDUCATION

## Use of Scenario Repetition in Training Pre-Licensure Nursing Students

*Ellen E. Hinderlie, MSN, RN*
*Associate Professor, Nursing*
*Centralia College*
*Pre-licensure Associate Program*
*Centralia, WA*

*Roschelle L. Fritz, PhD, RN*
*Assistant Professor, Nursing*
*Washington State University*
*College of Nursing*
*Spokane, WA*

**Purpose:** This preliminary study explored the effects of simulation scenario repetition on students' perceived self-confidence and subsequent simulation laboratory (Sim-lab) clinical decision-making skills. Aims were to: (1) explore a new pedagogy for simulation teaching and learning related to scenario repetition, (2) enhance students' learning as it relates to clinical performance.

**Background and Rationale:** Scenario repetition in a Sim-lab is used in training pilots and surgeons; however, it has not been employed in the training of nurses. Exit interviews from graduating pre-licensure students found that they desired to repeat scenarios "correctly" before leaving Sim-lab. The extant literature suggests that repetitive sequence-learning through scenario repetition is beneficial in preparing students to perform better in real-life situations yet there is a gap in the nursing literature regarding the use of scenario repetition for training nurses. This study focused on enhancing nursing students' learning through use of scenario repetition and explored whether self-confidence and self-reported Sim-lab clinical decision-making improved when students were allowed to repeat the same scenario.

**Methods:** This pilot pre and post-test study had a convenience sample of 24 student volunteers from a community college pre-licensure nursing program. Participating students were two quarters from graduation; in the 4th of 6 total quarters. A National League for Nursing simulation scenario was utilized. Students were placed in 6 randomized groups and received randomized assignment of scenario roles (primary, secondary, medication nurse). A survey using a Likert 1-5 scale with five constructs was administered. Constructs represented students' perceived self-confidence and Sim-lab clinical decision-making. The survey was administered twice: once after completion of the first scenario and a second time immediately upon completion of the repeated scenario. Non-parametric analysis was performed due to the small sample size.

**Results:** Results from a Wilcoxon Signed-Rank Test comparing pre and post-test survey results supported the hypothesis that using Sim-lab scenario repetition during simulation teaching and learning improved students' perceived self-confidence and Sim-Lab clinical decision-making. Results indicated that pre-licensure students' perceived self-confidence improved (pre $M = 4.0$ $SD = 0.83$; post $M = 4.80$ $SD = 0.41$) when given the opportunity to repeat the Sim-lab scenario ($p = 0.005$) and that students' perceptions of Sim-lab clinical decision-making also improved (pre $M = 3.92$ $SD = 0.65$; post $M = 4.46$ $SD = 0.88$) after repeating the scenario ($p = 0.001$).

**Implications:** This research is first to examine the use of scenario repetition as a new pedagogy for teaching student nurses in Sim-lab. The allocation of faculty-student time in simulation training must be carefully considered due to the high cost of this teaching environment and to determine ways to achieve maximum student benefit. Findings may inform a larger study to explore the use of repetitive sequence-learning through scenario repetition as a best practice in nursing education.

# PRE-LICENSURE NURSING EDUCATION

## Senior Baccalaureate Nursing Students' Career Preferences

*Claire P. Valderama-Wallace, MS, MPH, RN, PHN*
*Doctoral Student, Nursing Science and Health Care Leadership*
*The Betty Irene Moore School of Nursing, Sacramento, CA*
*Lecturer, Community Health Nursing*
*Department of Nursing and Health Sciences*
*California State University, East Bay*
*Hayward, CA*
*cvalderamawallace@ucdavis.edu*

**Purposes/Aims:** This presentation provides preliminary findings from a descriptive study exploring senior Baccalaureate nursing students' career preferences.

The aims of this project are to: 1) explore senior Baccalaureate nursing students' career goals, 2) identify nursing students' preferences with respect to practice setting and specialty, and 3) examine the factors that influence the development of career preferences.

**Rationale/Background:** Leadership, lifelong learning, and increased education were among the recommendations put forth by the landmark Institute of Medicine report entitled *The Future of Nursing: Leading Change, Advancing Health* in 2010. Baccalaureate nursing programs are in a unique position to foster thoughtful, evidence-based, and diverse career preferences and goals among enrolled students. There is limited research examining senior nursing students' career preferences with regard to specialty. The purpose of this research study is to explore senior nursing students' career goals during the final year of their nursing program. Findings have the potential to provide insight into the various factors that inform Baccalaureate nursing students' career preferences.

**Methods:** Senior Baccalaureate nursing students were recruited from their penultimate quarter in the program. Students enrolled in Principles of Community Health Nursing during their final year of the program, between June 2015 and March 2016, are recruited to participate. Upon providing informed consent, each student completes a demographic survey. Once final grades are submitted, several responses from course assignments are collected for analysis. These questions ask students to write about practice setting and patient population preferences, describe whether their preferences changed over the course of the program, identify a 5 year career goal, and describe various factors that influenced their career preferences. Additional questions also asked students to identify any practice settings or patient populations they were not interested in and to describe any reasons for this. Stata 14 will be utilized for descriptive analyses of the demographic survey while thematic analysis will allow for the emergence of prevailing themes among students' responses.

**Results:** Preliminary results indicate that senior nursing students want to establish themselves as medical-surgical nurses before pursuing a graduate degree or a specialty such as pediatrics or the NICU. Skilled nursing facilities, home health, hospice, and the operating room were practice settings students reported not having an interest in pursuing. Reasons included amount of patient contact and current volunteer experiences. Additional senior students will be recruited from subsequent Principles of Community Health Nursing courses during the 2015-2016 school year.

**Implications:** Career goals are motivated by internal and external factors and may be a reflection of clinical experiences in the program, theory course content, attitudes toward certain patient populations or settings, perceptions about work environments, or financial implications of employment upon graduation. Increased understanding of nursing students' career goals has implications for healthcare workforce pipeline, academic progression, diversity initiatives, curriculum improvement, and clinical site selection. Increased understanding can inform efforts of nursing programs to address the changing landscape of health care and to ensure that future generations of nurses are entering the field of nursing prepared and interested in specialties and practice settings in need of additional recruitment and strong nursing leadership.

# PRE-LICENSURE NURSING EDUCATION

## The Internalization of Professional Nursing Values in Baccalaureate Nursing Students

*Tamara Rose, MSN, RN*
*Doctoral Candidate*
*School of Nursing*
*Idaho State University*
*Pocatello, ID*

*Mary Nies, PhD, RN, FAAN, FAAHB*
*Director of Nursing Research, Professor*
*Division of Health Sciences*
*Idaho State University*
*Pocatello, ID*

**Purpose/Aims:** The individual's internalization of professional values is requisite for the development of professionalism. The purpose of this study was to measure the internalization of nursing professional values of nursing students in the first, second, and third year of the baccalaureate nursing program and investigate the factors that foster the development of these values.

**Rationale/Background:** Research suggests that a nurse's professional value system is linked to the delivery of safe and quality patient care as well as work satisfaction and retention (Dempsey, 2009). Educational preparation for baccalaureate prepared registered nurses incorporates didactic and experiential learning focused on the development of professional values (AACN, 2008) including, exposure to professional expectations, formalized learning, practical experience, and appropriate role modeling by practicing nurses (Nouri, Ebadi, Alhani, Rejeh, & Ahmadizadeh, 2013).

**Theoretical Framework:** Guided by the theoretical framework of Self-Determination Theory (SDT), a social cognitive theory (Ryan & Deci, 2000), the study aimed to measure nursing professional values in the first, second, and third year of baccalaureate nursing students and investigate the factors that foster this development. Recognized as psychological needs, SDT postulates that the need to feel and experience competence, to act autonomously, and to experience a sense of relatedness to something external to the self is essential for optimal functioning. Satisfying these innate needs in the developmental process of becoming a professional nurse leads to personal growth and allows for the integration of the expectations set forth by the profession.

**Design:** The study utilized a non-experimental descriptive design to measure the internalization of nursing professional values of baccalaureate nursing students in the first, second, and third year, and investigate the factors that foster the development of these values. Two research questions were posed: 1) Does the demonstration of value based behavior evident of caring, activism, trust, professionalism, and justice, increase between first, second, and third year baccalaureate nursing students? 2) What factors influence the internalization of nursing professional values?

The *Nurses Professional Values Scale –Revised (NPVS-R),* a 26-item scale including 5 factors, 1) caring, 2) activism, 3), trust, 4), professionalism, and 5), justice, in addition to a single item qualitative response was used for data collection. The following single item qualitative question was asked: What factors influenced the adoption of your nursing professional values?

ANOVA and pair-wise *t*-tests were performed to identify statistical differences between first, second, and third year students for each factor: caring, activism, trust, professionalism, and justice, as well as the differences in the average overall scores. Content analysis was used to analyze the participant's responses to the single qualitative item.

**Conclusion:** Results of this study will provide information on nursing professional value development in baccalaureate nursing students. Study outcomes will add insight for nurse educators on the student nurse experience in the internalization of professional values. Potential implications from the results of this study may lead to restructuring the timing, content, and delivery of value-laden specific curricula. Dissemination will be via presentations at local universities, national conferences, and submission to peer reviewed journals.

# PRE-LICENSURE NURSING EDUCATION

## Depression, Anxiety, and Stress among First-Year and Third-Year Nursing Students

*Christine Cabasag, BSN, RN*
*FNP Student*
*Department of Nursing*
*California State University, Bakersfield*
*Bakersfield, CA*

*William Scully, BSN, RN*
*FNP Student*
*Department of Nursing*
*California State University, Bakersfield*
*Bakersfield, CA*

*Simbella Gomez-Singh, BSN, RN*
*FNP Student*
*Department of Nursing*
*California State University, Bakersfield*
*Bakersfield, CA*

*Phyllis Heintz, PhD, MN, RN*
*Endowed Chair in Gerontology*
*Department of Nursing*
*California State University, Bakersfield*
*Bakersfield, CA*

**Purpose:** The aim of this quantitative, non-experimental, cross-sectional study was to assess depression, anxiety, and stress, among first- and third-year nursing students currently enrolled in a baccalaureate nursing program using the Depression Anxiety and Stress Scale (DASS-21). The intent was to determine differences in levels of depression, anxiety, and stress between the first-year and third-year cohorts.

**Background:** Previous investigations have shown that stress, anxiety, and depression are both detrimental to academic performance and student well-being. Nursing educators may not be aware of the extent of stress brought about by their nursing education programs, nor may they understand what role anxiety might play in student learning. Additionally, studies have shown that coping and resiliency were the two largest mediating factors in relieving this anxiety.

**Methods:** 112 first- and third-year nursing students at a university were asked to complete the DASS-21. The DASS-21 utilizes Likert-scale questions to assess cognitive opinions on a scale of zero to three. Five demographic questions were also included in the questionnaire. 67 participants responded, for a 59.8% return rate. Data from four students was discarded due to its incomplete nature. Responses from the questionnaire were scored as an aggregate, with only the most prevalent response included in the scoring process.

**Results:** Results demonstrated that students in both the first and third year of the program were within normal limits for stress, anxiety, and depression. Notably, the third-year students, when scored as an aggregate, had scores that were twice as high in all three categories: depression, anxiety, and stress. The modal scores for first-year respondents in depression, anxiety, and stress were three, three, and seven, respectively, whereas for third-years they were six, six, and fourteen, indicating that third-year students were reporting more signs of depression, anxiety, and stress than their first-year counterparts.

These findings conflict with previous research, which showed that third-year students had lower levels of depression, anxiety, and stress than first-years. This discrepancy may be due to a number of factors, such as the time of the school year that this survey was administered (Spring Quarter), which at this school is the last quarter of study. This is concurrent with the time that third-year students are traditionally applying for jobs, studying for the licensure exam (NCLEX), and also facing the prospect of leaving academia.

**Implications:** While students in the program test within normal limits, it may not be the curriculum that is promoting depression, anxiety, and stress, but the prospect of transitioning from the student role to the working world. Nursing educators would do well to conduct further studies to test this hypothesis and, if proven, to provide more support to the nursing students as they navigate this transition. A smooth transition from student to professional nurse may decrease levels of depression, anxiety, and stress, and improve care.

# PRE-LICENSURE NURSING EDUCATION

## Improving Pharmacology Education Outcomes

*Charles J. Pfeiffer Jr., BS*
*Family Nurse Practitioner Student*
*California Baptist University*
*Riverside, CA*

*Michael J. Marinello, BM, RN*
*Family Nurse Practitioner Student*

*Denise Glenore-Green, MSN, RN*
*Assistant Professor*

**Purpose:** To develop a comprehensive pharmacology and medication education content based curriculum through collaboration between teaching assistants and faculty. To improve students' knowledge base of pharmacology and medication education hence, increase in the pass rate for the Kaplan pharmacology integrated exam.

**Background:** Pharmacology knowledge is a significant contributor in the nurse's scope of practice and directly correlates with patient safety and minimizes medication errors. Studies showed nursing students and nurses perceive themselves as inadequately prepared in pharmacology knowledge (Manias & Bullock, 2002). Research has shown that nursing students are deficient in the knowledge and lack of confidence to safely administer medications (Simonsen et. al., 2014, Dilles et. al., 2011). The vast amount of pharmacology content required for nursing students is often overwhelming. An integrative review suggested there are several areas of competency for nurses to be safe in medication administration (Sulosaari et. al., 2010). Based on these recommendations we have chosen to focus on two areas: pharmacology and medication education.

**Methods:** Faculty and teaching assistant (T.A.): (1) Review course content using NCLEX-RN test plan blueprint; (2) share lecture responsibilities; (3) create weekly case studies. Faculty develops quizzes and examinations based upon lectured content. T.A.: (1) create study guides based upon faculty prepared quizzes and examinations, (2) held bimonthly study session , and (3) developed/held a comprehensive content review of course material one week prior to Kaplan examination administration.

**Outcomes:** Kaplan pharmacology examination results of two Entry Level Master student cohorts were used to compare student's pre and post intervention. Findings showed the mean Kaplan score for percent correct increased by 15.6% (58.3 vs. 73.9). The percent of students passing the Kaplan pharmacology exam on the first attempt increase by 54.3%. As students progressed through the nursing program faculty expressed, "this new cohort has a better understand of pharmacology like no other cohort before." Students remarked, "I feel I have a better understanding of pharmacology."

**Key Findings:** There was a benefit in nursing education when the faculty and the T.A. collaborated in teaching pharmacology content. This created more opportunities for students to ask questions thus improving learning outcomes. Students found review sessions helpful, allowing more time to comprehend difficult content through further explanation.

**Conclusions:** Based upon this project outcome it is beneficial for faculty members and teaching assistants to collaborate in improving nursing education. The course content review session was useful in assisting students in further comprehension of course content. Case studies and group discussion were utilized to promote critical thinking and student engagement. Further research should utilize a larger cohort while expanding beyond the scope of pharmacology courses. Additionally, students should be given a pretest and posttest to determine knowledge retention.

---

References:

Dilles, T., Vander Stichele, R., Van Bortel, L., & Elseviers, M. (2011). Nursing students' pharmacological knowledge and calculation skills. *Nurse Education Today, 31*(5), 499-505.

Manias, E., & Bullock, S. (2002). The educational preparation of undergraduate nursing students in pharmacology: Clinical nurses' perceptions and experiences of graduate nurses' medication knowledge. *International Journal of Nursing Studies, 39*(8), 773-784.

Simonsen, B., Daehlin, G., Johansson, I., & Farup, P. (2014). Differences in medication knowledge and risk of errors between graduating nursing students and working registered nurses: Comparative study. *BMC Health Serv Res, 15*, 580-580.

Sulosaari, V., Suhonen, R., and Leino-Kilpi, H. (2010). An integrative review of the literature on registered nurses' medication competence. *Journal of Clinical Nursing. 20,* 464-478.

## PRE-LICENSURE NURSING EDUCATION

## Readiness for Practice: A Concept Analysis

*Lisa S. Zenoni, MS, RN, CRRN*
*Assistant Professor*
*Loretto Heights School of Nursing*
*Regis University*
*Denver, CO*
*PhD Student*
*University of Northern Colorado*
*Greeley, CO*

**Purpose:** The purpose of analyzing the concept of readiness for practice is to acquire a better understanding of the concept to identify and implement best practices to prepare new graduate nurses for transition to professional practice in the complex practice environment.

**Description of Concept:** Readiness for practice is the new graduate nurses' ability to apply knowledge, skills, and attitudes from their educational preparation; exhibit problem solving and critical thinking skills; identify with the nursing profession; and understand the nurse's role.

**Concept Analysis Approach Used:** The eight steps of the Walker and Avant (2011) method was used to guide this concept analysis. To gather information about the current view of the topic, a search of literature from 1995 to 2005 was conducted using EBSCO (Academic Search Premier, America: History and Life, ATLA Religion Database with ATLASerials, Business Source Complete, CINAHL with Full Text, Communication & Mass Media Complete, ERIC, GreenFILE, MEDLINE, MLA, International Bibliography, Philosopher's Index, and PsycINFO). The descriptors "readiness for practice" and "preparedness for practice" were used in the search, and articles using the terms in the title or abstract chosen for review. A selection of additional articles influencing current authors about transition to practice, an outcome of readiness for practice, was also reviewed. Only English language and full text articles and dissertations were included in the review.

**Concept Link to Nursing Practice:** Nursing students must be ready to transition to being new graduate nurses as they begin their professional practice. Many new graduates nurses leave or change jobs feeling unprepared for the challenges of the complex practice environment. They lack confidence and competence in caring for acutely ill patients. Nursing school curricula and new graduate orientation programs must help prepare students and new graduate nurses for professional practice. Readiness for practice can increase patient safety, retention, and role satisfaction.

**Conclusion:** Learning more about the complex concept of readiness for practice will enable academic nurse educators to revise clinical and simulation experiences to better prepare graduates for entry into practice, and for practice nurse educators to modify their new graduate orientation programs to assist new graduates in the transition to professional practice and to retain new nurses capable of providing safe patient care.

# RESEARCH METHODS/ INSTRUMENT DEVELOPMENT

## RELIABILITY AND VALIDITY OF MEASURES TO ASSESS PARENTAL PERCEPTION OF CHILD WEIGHT

*Kristine I. Gauthier, Paula Meek*

---

## FEASIBILITY OF INTERNATIONAL RESEARCH ON THE EFFECTS OF SUPER TYPHOON EXPOSURE

*M. Danet Lapiz-Bluhm, Carrie Jo Braden*

---

## DEVELOPING AND IMPLEMENTING AN OBJECTIVE STRUCTURED CLINICAL ASSESSMENT

*Angie Docherty, Nick Miehl, Rana Halabi Najjar*

---

## COMMUNITY MEMBERS ENGAGED AS TEAM TEACHERS TO CONDUCT RESEARCH

*Connie Kim Yen Nguyen-Truong, Chiao-Yun Hsiao, Joannie Tang*

---

## BEYOND BENCH TO BEDSIDE: INTEGRATING BUSINESS AND RESEARCH

*Jessica Stahl, Patricia Daly*

---

## RELEASE YOUR INNER AUTHOR: A SUCCESSFUL WRITING WORKSHOP FOR NURSES

*Laura J. Tivis, Diana Meyer*

---

## HUMAN SUBJECTS ISSUES: RESEARCH IN HOSPITALIZED PATIENTS WITH TRAUMATIC BRAIN INJURY

*Ellita T. Williams*

# RESEARCH METHODS/INSTRUMENT DEVELOPMENT

## Reliability and Validity of Measures to Assess Parental Perception of Child Weight

*Kristine I. Gauthier, PhD, MPH, PNP*
*Assistant Professor*
*College of Nursing*
*University of Colorado*
*Aurora, CO*

*Paula Meek, PhD, RN, FAAN*
*Professor*
*College of Nursing*
*University of Colorado*
*Aurora, CO*

**Purpose/Aim:** This study examines the reliability and validity of visual scales and a word descriptors designed to measure parental perception of their child's weight status.
**Rationale/Background:** Childhood overweight and obesity rates have increased over the last few decades. These increases have prompted research examining whether parents are able to correctly identify their child's weight status using a variety of assessment methods. Several instruments have been developed to ascertain parental perception of child weight status including questionnaires, silhouettes, and scales. Previous studies have used a variety of body size perception measures including drawn silhouettes, pictures of children, and word perception measures. The majority of these measures have been developed with minimal psychometric testing, with the majority being used as one-time measures in cross-sectional designs. A more robust evaluation of parental perceptions requires valid and reliable measures designed to assess child weight status for use in future studies, intervention development, and clinical practice.
**Methods:** Three perception measures, one word and two silhouette (linear/circular), were assessed with parents of preschool aged-children (2-5 years) in the Midwest (n=101). A sub sample of parents (n=20, non-intervention) were administered initial perception measures (three measures), with a repeat measure occurring one week after the first without intervening weight related education. Reliability was evaluated via test-retest (n=20) using the Intra-class Correlation Coefficient (ICC). The remaining parents (n=81) were administered the three perception measures pre and post a weight related educational intervention. To evaluate validity, Kruskal-Wallis test was used to examine patterns of known difference between groups using pre-intervention sample. McNemar's test was used evaluate the measures responsiveness, in parents (n=81) using pre & post-data.
**Results:** Results are summarized in the table below.

| Measure | ICC [95% CI] | Kruskal-Wallis test | McNemar's test [95% CI] |
|---|---|---|---|
| Word | .775 [.515, .905] | c 2=7.93, p= .019 | OR: 5.0; [1.1, 22.8] p= 0.04 |
| Linear Silhouette | .835 [.629, .931] | c 2 =7.21, p= .027 | OR: 3.0 [0.31, 28.2] p= 0.63 |
| Circular Silhouette | .775 [.512, .905] | c 2 =24.39, p< .001 | OR: 1.2;[0.36, 3.93] p = 1 |

**Conclusions:** All three perception measures demonstrated reliability and validity in parents of predominately Hispanic preschoolers. Both the visual scales and the word descriptor demonstrated stability across measures in the non-intervention group. All measures were able to detect differences between weight categories in the pre-intervention group. Only the word descriptors measure demonstrated responsiveness following the intervention.
**Implications:** Findings suggest visual scale measures may be useful for assessing initial parental perception, while word descriptors may be useful for assessing changes in perception. Findings suggest these measures are suitable for assessing parental perceptions of child weight status, and may be useful for future research and intervention developments.

# RESEARCH METHODS/INSTRUMENT DEVELOPMENT

## Feasibility of International Research on the Effects of Super Typhoon Exposure

*M. Danet Lapiz-Bluhm, PhD, RN*
*School of Nursing*
*The University of Texas Health Science Center (UTHSCSA)*
*San Antonio, TX*

*Carrie Jo Braden, PhD, RN, FAAN*
*School of Nursing, UTHSCSA*
*San Antonio, TX*

*College of Nursing Faculty*
*Filamer Christian University*
*Roxas City, Capiz, Philippines*

**Purpose:** The aim of this feasibility study was to determine whether an international research on the effects of prenatal maternal stress exposure to the 2013 Super Typhoon Haiyan in the Philippines can be conducted by United States (US)-based researchers. This paper aims to describe the process of initiating and creating an international research infrastructure. Lessons learned may provide basis for other health-related researchers who may be interested in international research.

**Background:** Stress to a pregnant woman can have serious negative consequences to the mother and her unborn child. The biopsychosocial mechanisms associated with long-term negative health consequences of prenatal maternal stress exposure is not well understood. Understanding these mechanisms could potentially inform the development of interventions to optimize the development of the unborn child and the health of the mother. However, experimental research exposing pregnant women to stress is prevented by ethical and logistical issues. Natural disasters may offer an alternative means to conduct studies to determine the health consequences of exposure to a natural disaster of pregnant women and their offspring.

**Methods:** US-based researchers initially utilized existing network of contacts and presentations at an international conference in the region of interest in the Philippines to identify collaborators in the academia and community. Following establishment of a collaborative research infrastructure, a feasibility study was conducted using a mixed method convergent design to interview 6 women who were pregnant at the time of the Haiyan typhoon and had subsequent successful delivery. Maternal and child demographics and health data were collected as well as the experience and thoughts of mothers before, during and after Haiyan. Both quantitative and qualitative data were merged and interpreted.

**Results:** US-based researchers had to overcome challenges related to the research infrastructure and the research process. The women interviewed shared the horrific experiences they had during Haiyan, and reported symptoms associated with posttraumatic stress disorder and depression. Weather inclement often reminds them of the terrifying experience. All but one child seems to be developing within normal range.

**Implications:** Despite inherent challenges due to the international nature of the research collaboration, a bigger study is feasible. Even with a small number of participants, mental health has emerged as a key health issue reported by women who experienced Haiyan during their pregnancy. Identification of these health issues in mothers is key towards identification of relevant community-based intervention research to improve resilience following exposure to natural disaster.

---

**Funding:** Dr. Lapiz-Bluhm receives funding from the Robert Wood Johnson Foundation Nurse Faculty Scholars Program. Funding from the Nursing Advisory Council, School of Nursing, University of Texas Health Science Center at San Antonio supported this study.

# RESEARCH METHODS/INSTRUMENT DEVELOPMENT

## Developing and Implementing an Objective Structured Clinical Assessment

*Rana Halabi Najjar, PhD, RN, CPNP, Assistant Professor*
*Angie Docherty, NursD, MPH, RN, Assistant Professor*
*Nick Miehl, MSN, RN, Clinical Instructor & Simulation Specialist*
*School of Nursing*
*Oregon Health & Science University - Monmouth Campus*
*Monmouth, OR*

**Aims:**

1. To develop and implement an Objective Structured Clinical Assessment.
2. To examine the psychometric properties of a rubric to evaluate students in a simulation testing environment.

**Background:** Evidence suggests that student evaluation, particularly in the clinical setting, is open to bias and uncertainty. Evidence also suggests that simulation can be an effective alternate to traditional clinical placement. Together, these bodies of research illustrate the need for rigorous mechanisms for assessing clinical performance in simulated environments. The development of a robust, valid and reliable rubric for assessing aspects of clinical performance is important in the changing climate of clinical education. Objective Structured Clinical Examination (OSCE) and Objective Structured Clinical Assessment (OSCA) strategies can effectively support simulation based testing. To support and contribute to the evidence base, this paper describes the background to the development of an 'acute care' OSCA and the quantitative evaluation of the psychometric properties of the rubric.

**Methods:** A process for simulation based testing using an OSCA was developed and implemented. Rubrics were designed and validated to assess students participating in the OSCA. Content validity was determined using a panel of experts. Two raters used an evaluation rubric to score the performance of 33 students taking part in an OSCA and inter-rater reliability statistics were calculated.

**Results:** The OSCA as a whole demonstrated excellent content validity and acceptable inter-reliability was obtained on the evaluation rubric. The expert panel agreed that the content of the scenario ($M$ = 3.43, SD =0.53), the constructs being measured in the OSCA ($M$ = 3.57, SD =0.53), and the skills being tested align well with the course outcomes ($M$ = 3.71, SD =0.49). The expert panel agreed that each item should be included in the AC OSCA rubric ($M$ = 3.90, SD =0.09), in that specific subsection of the rubric ($M$ = 3.83, SD =0.13), and is easy to understand ($M$ = 3.77, SD =0.14). In addition, results for the evaluation of the rubric as a whole were positive ($M$ = 3.47, SD =0.60). The percent rater agreement on the expected behaviors on the communication subscale ranged from 85% to 100% and on the patient education subscale ranged from 76% to 97%. The subscales of six rights of medication administration and performance of a skill ranged from 94% to 100%.

**Implications:** Given the right process, structure and support, our results indicate that the OSCA is a robust and reliable approach to evaluate student clinical performance. Lessons learned during this study confirm previous research that faculty need proper and adequate training in assessing students in simulation. Moving forward, it is important that we establish meaningful and reliable approaches that are responsive to student concerns. The first step in this process is to determine and incorporate student perceptions as we progress with OSCE/A development. Future research should focus on multi-site nursing programs in order to further explore the OSCE/A process and rubrics across diverse student groups.

## Community Members Engaged as Team Teachers to Conduct Research

*Connie Kim Yen Nguyen-Truong, PhD, RN, PCCN*
*Assistant Professor*
*College of Nursing*
*Washington State University Vancouver*
*Vancouver, WA*

*Chiao-Yun Hsiao, BS*
*Community Advisor*
*Asian American Community*
*Portland, OR*

*Joannie Tang, BS*
*Community Advisor*
*Asian American Community*
*Portland, OR*

**Purposes/Aims:** To describe how community members developed and co-taught alongside a nurse scientist, and were also participants in the community interactive research workshop series as part of the Vietnamese Women's Health Project III, a community-based participatory research.
**Rationale/Background:** Vietnamese community members in the Portland, OR metropolitan area have identified cervical cancer screening as a priority health concern. Vietnamese women (16.8 per 100,000) were diagnosed with cervical cancer twice that of non-Hispanic White women (8.1 per 100,000) and the highest among Asian subgroups (Chinese, Filipino, Korean, Japanese). The Vietnamese Women's Health Project partnership was developed to address this concern. Minkler and Wallerstein asserted that community-based participatory research is an empowering process through which participants can increase control over their lives. In the Vietnamese Women's Health Projects I and II, scientists provided research training for community members to build team capacity. Although community members acquired research skills, they were not actively involved in the development of the learning goals and activities. This gap was addressed by actively involving community members in their learning process.
**Undertaking/Best Practice/Approach/Methods/Process:** A community interactive research workshop series was developed by community members and a nurse scientist. Popular education principles, including creating an atmosphere of trust and allowing community members to openly share their ideas and experiences, were used to guide team teaching. Knowledge gained through life experience is as important as knowledge gained through formal education. Community members and a nurse scientist co-constructed knowledge with each other and with other workshop participants through the participatory nature of the methods, which included: dialogue, sociodrama (i.e., role playing scenarios), mock interviewing, live coding (e.g., oversized visual display of strips of mock interview statements), and use of artistic teaching modalities (e.g., qualitative Zumba where dance movements represented qualitative research terms). Topics, learning goals, lesson plans for diverse learners, and an evaluation were developed together. Three, four-hour workshops were hosted. Prioritized topics included: *'Workshop I: Qualitative Research, the Art of Hearing Data, & Reflexivity'; 'Workshop II: Analyzing Interviews as Data & Validity of Findings'; and 'Workshop III: Dissemination - Challenges and Strategies'.* The plus/delta evaluation of the strengths, utility, and improvement on how learning can be facilitated was conducted. The series was carried out concurrent to the study timeline to inform community members' research activities.
**Outcomes Achieved/Documented:** A range from 6 to 19 participants attended the workshops, of which six were involved in teaching. Team teachers reported that strengths of the workshops included the creation of an empathetic and trusting learning environment where it felt safe to be vulnerable. They felt a sense of ownership in the learning process; were able to apply that sense of ownership to study roles; and did not feel intimidated to conduct research with nurse scientists. An improvement included having one individual mentoring meeting with a nurse scientist.
**Conclusions:** Nurse scientists need to be aware that co-constructing knowledge is foundational to long-term sustainability of community-based participatory research partnerships, but requires building team capacity to conduct research collaboratively.

---

**Funding:** National Institutes of Nursing Research (T32#5T32NR007061); Beta Psi Chapter of Sigma Theta Tau.

## Beyond Bench to Bedside: Integrating Business and Research

*Jessica Stahl, DBH*
*Assistant Dean for Strategic Initiatives and Quality Advancement*
*Clinical Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*
jstahl1@email.arizona.edu

*Patricia Daly, PhD, FNP*
*Clinical Assistant Professor*
*College of Nursing*
*University of Arizona*
*Tucson, AZ*
pdaly@email.arizona.edu

**Purpose:** The purpose of this poster is to present best practices for integrating research and business with an innovative, academic nursing science research driven mindful eating program delivered to promote the health of city workers.
**Rationale:** Academic nursing are well-suited to develop, implement, and evaluate innovative models for healthcare delivery. The combined expertise of clinical and research oriented nursing faculty is a synergistic combination that can expand the typical boundaries of translational research and foster partnering with business. The practice models developed by academic nursing faculty can be financially valuable and also generate high quality research. Given that most businesses are driven by profit margins and not explicitly supportive of research, best practices for integrating business and research are presented to maximize the potential for success.
**Best Practices:** A case study of a mindful eating health promotion program is presented to demonstrate the integration of a university based nursing research with meeting the health care needs of city workers. The topics covered include: defining the scope of program delivery with business principles in mind, the benefits and challenges of recruitment, and streamlining institutional review board protocols to meet the demanding pace of delivering health care in a fast paced outcome driven market. A well-designed program, including a clearly defined scope and details of each party's responsibilities, promotes partnership and an effective working relationship with team members from a variety of disciplines to deliver a health promotion intervention.
**Outcomes:** The case study explores problems encountered during the course of the program along with areas of strength. Emphasis is placed on the process of designing an intervention program within the context of a business partnership rather than on the outcomes of the intervention for the participants. The outcomes for participants were positive, but challenges with institutional review board approval, communication among partners, and perceived conflicts between business and research interests are discussed.
**Conclusions:** Academic nursing practices are uniquely positioned to form partnerships with businesses and increase access to care while generating scholarly research that advances the field of nursing science. Successful integration of business and research also creates a sustainable foundation for novel educational, research, and clinical practice experiences for nursing students.

# RESEARCH METHODS/INSTRUMENT DEVELOPMENT

## Release Your Inner Author: A Successful Writing Workshop for Nurses

*Laura J. Tivis, PhD, CCRP, Nursing Research Director*
*Diana Meyer, DNP, RN, NEA-BC, FAEN, Senior Director*
*Center for Nursing Excellence*
*St. Luke's Hospital*
*Boise, ID*

**Purposes/Aims:** At St. Luke's nurses are encouraged and supported to engage in research and evidence-based practice (EBP), and to disseminate findings through presentation and publication. The work of writing for publication can feel daunting and unattainable without structured step-by-step support, as writing is not always focused upon during academic preparation. The purpose of this educational endeavor was to launch a writing workshop for clinical nurses. The aim of the workshop was for nurses to have manuscripts ready, or nearly ready, to submit to peer-review journals at the end.
**Rationale/Background:** Nurses have stories to tell and important information to share. In Magnet organizations, nurses regularly engage in research and conduct EBP projects intending to disseminate results. However, momentum for publication often wanes once oral or poster presentations are complete. The desire to inspire nurses to move their data from production to influence was the motivation to develop a writing workshop.
**Approach:** Several models for teaching nurses to publish are represented in the literature, ranging from a single session, to multiple classes with built in "support groups." Our approach included 12 bi-weekly didactic sessions (six months). Sessions covered writing each component of a research or EBP-based paper, journal choice, submission tips, and writing ethics. Nurses received continuing education credits for attending the didactic sessions and completing writing assignments. Attendees also served as peer reviewers for other workshop attendees. While the goal was to have manuscripts fully drafted at the end of the workshop, expectations included 1:1 post-workshop refining prior to submission.
**Outcomes Achieved/Documented:** Using a 5-point Likert-style scale (strongly agree to strongly disagree), participants rated their agreement with statements regarding their own knowledge of, and confidence in, writing various parts of a manuscript. The scale was administered at baseline and monthly thereafter. Scores for both knowledge and confidence improved (Knowledge: 2.48 to 4.50; Confidence: 2.87 to 4.48; $F=13.5608$, $p<.0001$). At the end of the workshop five papers were developed and all subsequently submitted for publication. To date, three are published, and one is undergoing revision.
**Conclusions/Recommendations:** The skill of writing for publication is developed over time and is more likely to result in a successful outcome with instruction, practice, and mentoring. Our bi-weekly model validated our initial assumptions that: (1) mentorship is crucial, and requires post-workshop commitment from faculty for ongoing guidance and feedback; (2) best intentions for writing are not enough to motivate, but a structured workshop with peer-support does the job; (3) small chunks of time over several weeks as opposed to one or two full- or half-day workshops is manageable and allows time for homework completion, and (4) having a good draft at the end of the workshop, not a perfect paper, is a realistic goal. Evaluation of our second year data validated our first year findings with steady improvements in both knowledge and confidence, and five good drafts ready or nearly ready for submission. Recommendations include a qualitative research study to address recidivism, and including interprofessional colleagues on manuscript development.

# RESEARCH METHODS/INSTRUMENT DEVELOPMENT

## Human Subjects Issues: Research in Hospitalized Patients with Traumatic Brain Injury

*E.T. Williams, BSN, RN*
*Doctoral Candidate*
*Biobehavioral Nursing Health Systems*
*University of Washington*
*Seattle, WA*

**Background:** Patients with traumatic brain injury (TBI) present a unique recruitment challenge for researchers looking to enroll them in studies because of their altered and/or changing levels of consciousness (LOC). LOC is especially labile during the acute hospitalization phase in patients with TBI.

**Rationale:** Though characteristic among patients with moderate-to-severe TBI, altered LOC can heighten the intensity of oversight by research ethics committees because of the patients' *cognitive* vulnerability. This heightened intensity may impede the feasibility of the study and may lead the investigator to defer recruitment and enrollment of these patients. However, doing so can hinder the progress of care improvement—an important initiative in the understudied population of hospitalized patients with TBI.

**Purpose:** The purpose of this project is to identify and describe the pertinent human subject's issues of hospitalized patients with moderate-to-severe TBI. This project will also evaluate how the identified issues have implications for nursing researchers considering enrolling these patients.

**Methods:** Review and synthesis of pertinent policy, white-papers, literature, and case reports concerning hospitalized patients with moderate-to-severe TBI.

**Results:** Important considerations include neuro-ethics, the role of the patient's legally authorized representative, competence vs. decision-making capacity, waiver of consent, and consent from the community.

**Nursing Implications:** Investigators will be aware of recent developments in the protection of human rights as it relates to hospitalized patients whose injuries make them cognitively vulnerable. These developments should be considered not only in the recruitment and enrollment stages of clinical studies, but also in the design stage. Further, these results may have applicability to research with other cognitively vulnerable populations such as those with stroke and dementia.

---

**Funding:** This research was funded in part by a grant awarded to the University of Washington Institute of Translational Health Sciences (ITHS) TL1TR000422.

# Abstracts of Poster Presentations

# SLEEP

## APPLYING EVIDENCE BASED PRACTICE USING A SLEEP SCREENING TOOL

*Kathy Lopez-Bushnell*

---

## SSHH (SUPPORTING SLEEP FOR HEALTH AND HEALING)

*Theresa Kirkpatrick, Jennifer Armstrong*

---

## FACTORS AFFECTING ADHERENCE AND RESPONSE TO TREATMENT FOR OBSTRUCTIVE SLEEP APNEA

*Kristianna B. Weymann, Yvonne Barsalou, Miranda M. Lim*

---

## OBSTRUCTIVE SLEEP APNEA: EMPHASIS ON DISCHARGE EDUCATION AFTER SURGERY

*Arbert Nazareno, Joseph F. Burkard, Cresilda Newsom*

# SLEEP

## Applying Evidence Based Practices Changes Using a Sleep Screening Tool

*Connie Hardy Tabet, MSN, RN,*
*CPAN, CAPA*
*Nurse Researcher, UNMH*

*Kathy Lopez-Bushnell, APRN, EdD*
*Nurse Researcher, UNMH*

**Purpose/Aims:** The purpose of this IRB approved research was to measure and identify Obstructive Sleep Apnea (OSA) utilizing a reliable and valid screening tool for pre-operative patients in an ambulatory care center. The second aim was to isolate patients with OSA scores of five or high using the STOPBang screening tool. Thirdly, evaluate effects on surgical or procedural risk factors including mortality, length of stay in the recovery room, hospital admissions, and chronic illness complications.

**Background:** Beneficial sleep diverted by anesthesia, conscious sedation procedures, sedating medication, alcohol, and existing health illnesses remain a potential concern for maintaining airway patency. Once beneficial sleep habits are disturbed, the influences negatively extend to other body systems. OSA poses considerable risks for other ailments, along, with disturbing one's quality of sleep by obstructing the airway passage. Obstructive sleep apnea is noteworthy and a potential problem in ambulatory care centers for patients receiving surgical or procedural interventions then sent home the same day. Literature denotes unrecognized OSA risks are escalating in the healthcare community. Merging study recommendations into clinical practice remains indispensable to avoid unnecessary harm to individuals. It is unfortunate that relevant sleep habits, pain medication management and noncompliance of sleeping devices may be routinely unsolicited in history evaluations. Therefore, perianesthesia nursing interventions and screening for sleep habits would be beneficial in minimizing untoward health related problems for ambulatory surgery.

**Methods:** This study was a nurse initiated study with IRB approval. The perianesthesia nurses identified a reliable and valid *STOPBang tool* to measure OSA. Nurses also created a paper document that was accepted by the institutions EMR committee. Nurses then extracted information from the EMR records using de-identified aggregated data from questions containing age, gender, body mass index, neck size, sleeping habits and daytime fatigue, from the Obstructive Sleep Apnea Worksheet (OSAW). STOPBang scores and adverse events such as, direct admission to UNMH from outpatient surgery shared from the Informational Technology (IT) department.

**Results:** There were 1,439 pre-operative patients screened using the STOPBang survey, 762 female and 677 male patients, 10% of population were detected as having probable undiagnosed OSA. Moreover, only 10% of the screened OSA patients reported using prescribed devices to support safe and healthy sleep habits. Furthermore, there was a rate of 16% pre-surgical screening cancellations attributable to potentially associated risks of OSA. There were no adverse events reported.

**Implications:** Perianesthesia nurses asking STOPBang questions to adult patients prior to surgery proved to be a valuable tool for screening individuals at risk of OSA complications in the ambulatory setting. This screening tool championed best nursing practices, safer patient care, diminished potential surgical complications and reduced same day surgery cancellations.

# SLEEP

## Sshh (Supporting Sleep for Health and Healing)

*Theresa Kirkpatrick, RN, CCRN, CPNP, CNS*
*Jennifer Armstrong, RN*

*PICU/PCTU*
*UCLA Health*
*Los Angeles, CA*

**Purposes/Aims:** Children who are critically ill and require highly specialized and focused care to ensure that they have every opportunity to recover quickly and completely, are admitted to the intensive care unit.. In addition, their families deal with a high level of stress while their young family member is hospitalized. Our aim would be to improve the patient *and family*experience in the PICU by optimizing sleep time and quality during a child's stay.

**Rationale/Background:** Despite, and often secondary to, the highly technical and advanced care provided in the PICU, it is exceedingly difficult for patients and their families to achieve the amount and quality of sleep needed during this period of illness and stress. It has been known that critically ill patients experience poor sleep quality with severe sleep fragmentation and disruption of sleep architecture. Poor sleep while in the intensive care unit is one of the most common complaints of patients who survive critical illness. (*Weinhouse et al Critical Care 2009*) We believe sleep disruptions are even a bigger problem with sick children in the PICU and it is a continuing source of dissatisfaction for families.

**Undertaking/Best Practice/Approach/Methods/Process:** We propose a unit wide sleep initiative to promote better sleep for both our patients and their families, titled **S**upporting **S**leep for **H**ealth and **H**ealing (SSHH).

1. We will educate our PICU staff (nurses and physicians) on the value of sleep during illness.
2. We will obtain baseline surveys from nurses and families to understand the current practice for 2-4 weeks before implementation of SSHH. (Duration of uninterrupted sleep, barriers to sleep, sedative use).
3. We will implement the following unit-wide sleep initiative: Decrease nighttime environmental noise and disruptions. Encourage daytime activity and appropriate napping. Encourage use of non-pharmacologic sleep aids. Develop guidelines for appropriate use of pharmacologic sleep aids.

**Outcomes Achieved/Documented:** We will obtain baseline surveys completed by physicians, nurses and patients and/or their families regarding sleep, sleep interruptions, sedative use and barriers to sleep in the PICU. These surveys will provide baseline data and also focus our efforts to address the main perceived barriers. After we have implemented our broad-based sleep initiative, we will repeat the surveys and see if there is any measurable difference in sleep duration and quality, sedative use and satisfaction as reported by nurses and patients and/or families.

**Conclusions:** We are still in the process of evaluation.

## Factors Affecting Adherence and Response to Treatment for Obstructive Sleep Apnea

*Kris Weymann, PhD, RN*
*Assistant Clinical Professor & Postdoctoral Nursing Research Fellow*
*Oregon Health & Science University School of Nursing &*
*Portland VA Sleep Disorders Clinic*
*Portland, OR*
*weymannk@ohsu.edu*

*Yvonne Barsalou*
*Portland VA Student Intern &*
*Undergraduate Nursing Student*
*Oregon Health & Science University &*
*Portland VA-Sleep Disorders Clinic*
*Portland, OR*

*Miranda Lim, MD, PhD*
*Staff Physician Sleep Disorders &*
*Assistant Professor OHSU*
*Oregon Health & Science University &*
*Portland VA-Sleep Disorders Clinic*
*Portland, OR*

**Aims:** The first aim of this pragmatic study is to determine if wireless modem use with positive airway pressure (PAP) therapy and telephone follow-up improves adherence and response to therapy in the first 3 months among those with obstructive sleep apnea (OSA). A second aim is to determine how factors such as other comorbid illnesses that disrupt sleep (insomnia, depression, traumatic brain injury (TBI), and/or post-traumatic stress disorder (PTSD)), and rural versus urban living impact the effective use of PAP therapy.

**Background:** OSA is characterized by repeated episodes of absent or insufficient breathing resulting from obstruction of the upper airway during sleep. This health problem affects roughly 20% of adults, associated in part with aging and increased body weight. Chronic sleep fragmentation and frequent arousals from sleep are associated with daytime sleepiness and long term cardiovascular, endocrine, and neurologic health concerns. PAP therapy improves health outcomes, increases daytime wakefulness, decreases automobile crashes, and decreases nightmares associated with PTSD. Greater benefit is seen with at least 4 hours of PAP for at least 70% of nights, recommendations often not achieved due to mask discomfort, pressure intolerance, or lack of perceived benefit. These causes of discontinuation or underuse of therapy can often be resolved with early intervention. A few small studies suggest that modems for monitoring PAP adherence may increase PAP use. Modem technology and telehealth offer opportunities for timely intervention, especially in rural areas where access to a sleep provider is limited. It is not currently known if this approach will be as effective as usual in-person clinic visits.

**Methods:** This is a prospective, pragmatic study with 600 participants diagnosed with OSA and prescribed PAP therapy. 300 participants were enrolled with PAP without modems and had in-person clinic visits at 6 weeks and 3 months after the start of therapy prior to the use of modems in our clinic. The remaining 300 participants were provided PAP therapy with modems and received telephone follow-up at 1 and 4 weeks and 3 months after the start of PAP therapy. Adherence to PAP therapy at 6 weeks and 3 months was obtained by the memory card or modem in the PAP machine. Symptom data related to sleep and quality of life was collected at baseline and at 3 months after the start of therapy.

**Results:** Adherence to PAP therapy and outcomes of quality of life, sleep, PTSD symptoms and depression are currently being analyzed and will be presented.

**Implications:** Nurses across a variety of situations and patient populations encounter and address sleep problems. In addition, since nurses are at the forefront of management of many chronic health conditions in both clinic and telehealth delivery of care, nursing has opportunities to integrate sleep health as part of overall assessment and management of health risks. PAP with modem monitoring and telehealth may allow for improved delivery of sleep-related care and improved health outcomes, especially for those living in rural areas. Findings from this research will contribute to development of targeted interventions to improve sleep outcomes.

---

**Funding:** Funding to K.W. as a nursing postdoctoral fellow was provided by the Veterans Administration Office of Academic Affiliations. Funding to Y.B. as a summer intern was provided by the Portland VA Research Foundation.

# SLEEP

## Obstructive Sleep Apnea: Emphasis on Discharge Education after Surgery

*Arbert Nazareno, BSN, RN, DNP Student*
*University of San Diego*
*UC San Diego Health*
*San Diego, CA*

*Cresilda Newsom, DNP, RN, CPAN*
*Clinical Mentor*
*UC San Diego Health*
*San Diego, CA*
*Joseph Burkard, DNSc, CRNA*
*Associate Professor*
*University of San Diego*
*San Diego, CA*

**Purpose:** The purpose of this evidence-based practice project is to evaluate the effectiveness of discharge education (DCE) on obstructive sleep apnea (OSA) for increasing CPAP compliance and self-care behaviors after surgery among adult surgical patients diagnosed with OSA, who use continuous positive airway pressure (CPAP).
**Background & Evidence for Problem:** In the United States, the prevalence of OSA in the adult population is approximately 20%. Over half of the surgical patients with OSA are predisposed to increased incidence of perioperative complications. Based on recent evidence, obstructive events are at the highest on the third day after surgery, which predisposes them for postoperative complications. The American Society of Perianesthesia Nurses recommends that a DCE on OSA should be provided after surgery to patients diagnosed with OSA to promote CPAP compliance and self-care behaviors at home.
**Project Plan:** Adult surgical patients over 18 years old diagnosed with OSA, who use CPAP were identified at their preoperative clinic evaluation before their surgery. Phase one testing of the DCE on OSA was completed using the Apnea Knowledge Test to measure patients' knowledge on OSA. Phase two included a second set of surgical patients that were contacted and provided DCE on OSA using the teach-back method by telephone, five to seven days before surgery. On the day of surgery, DCE on OSA was reinforced, and the DCE on OSA handout was given to the patient prior to discharge. CPAP usage and the Epworth Sleepiness Scale score was determined prior to surgery, on the day of surgery, and 7-10 days after surgery to evaluate effectiveness of the DCE on OSA project.
**Outcomes/Results:** In progress. In phase one testing, a total of 16 patients were provided DCE on OSA from July to September 2015. The mean patients' knowledge demonstrated an increase by 24% from pretest to three days after DCE on OSA was provided. Phase two is ongoing, and data analysis is ongoing.
**Conclusions:** To be determined following review and analysis of phase two results. It is expected that providing DCE on OSA among adult surgical patients diagnosed with OSA, who use CPAP, will show success in CPAP compliance and self-care behaviors to prevent postoperative complications after being discharged to home. If successful, a DCE on OSA program should be initiated in the UC San Diego Health as a routine element of care.

# Abstracts of Poster Presentations

# TECHNOLOGY

### UTILIZING AN EHR PROMPT TO IMPROVE ROUTINE TOBACCO INTERVENTION IN STUDENT HEALTH

*Molly P. Hurda, Karen A. Macauley, Kimberly Woodruff*

---

### OPPORTUNITIES FOR MONITORING IN CARDIOVASCULAR CARE

*Alexandra Richards, Heather M. Ross*

---

### A STRUCTURED TELEPHONIC TRANSITION PROGRAM FOR HEART FAILURE PATIENTS

*Julia Elizabeth Robinson, Shelley Hawkins, Robert M. Stein*

---

### INNOVATION IN TEACHING THROUGH ACTIVE ENGAGEMENT: THE FLIPPED CLASSROOM

*Alecia Cosgrove Nye, GG Salvatierra*

---

### HIGH FIDELITY SIMULATION FOR DEVELOPMENT OF CRITICAL THINKING SKILLS

*Carrie Woods, Phyllis A. Heintz, DeVaughn Bell, Keith Jabonillo*

---

### INCREASING THE USE OF AN EMR WEANING ASSESSMENT TOOL WITHIN AN INTENSIVE CARE UNIT

*Melinda R. Catubig-Espiritu, Mary Lawanson-Nichols*

---

### "DO YOU HEAR ME NOW?": AN INTERPROFESSIONAL MODEL FOR DELIVERY OF DIGITAL HEARING AIDS

*Adelita G. Cantu, Robert Novak, Amanda Zappler*

## MAKING MOVIES: USING TECHNOLOGY IN A COMMUNITY HEALTH COURSE

*Cheryl L. Cooke, Devyn Nixon, Charlotte Jordan, Ana Burcheci, Gagandeep Kaur, Katrina Carpenter*

---

## ADAPTING AN EVIDENCE-BASED SEXUAL HEALTH INTERVENTION INTO TEXT MESSAGES

*Tiffany M. Montgomery, Deborah Koniak-Griffin*

---

## EFFECT OF SIMULATION ON KNOWLEDGE AND SKILL IN PEDIATRIC ADVANCED LIFE SUPPORT COURSES

STACY M. STELLFLUG

---

## ACCESS AND USE OF INFORMATION TECHNOLOGIES AMONG HYPERTENSIVE OLDER ADULTS

*Ayman K. Tailakh, Jan Warren-Findlow, Cinthya Vasquez*

---

## NURSES' PERCEPTION OF AN INTERACTIVE PATIENT TECHNOLOGY SYSTEM

*Frances L. Patmon, Perry M. Gee, Tina L. Smith*

# TECHNOLOGY

## Utilizing an EHR Prompt to Improve Routine Tobacco Intervention in Student Health

*Karen Macauley, PhD, DNP, FNP-BC, GNP-BC,*
*Associate Professor*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

*Kimberly Woodruff, MD, MPH*
*Supervising Physician*
*Student Health Center*
*University of San Diego*
*San Diego, CA*

*Molly Hurda, DNP Student*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

**Purpose:** The aim of this evidence-based practice (EBP) project was to improve the use of routine tobacco screening and intervention by utilizing an electronic health record (EHR) prompt in a university student health clinic.

**Background:** It is well known that the leading cause of preventable morbidity and mortality in the United States (U.S.) is the use of tobacco products. Tobacco use accounts for $289 billion in direct health care costs and loss of productivity annually. Nearly all smokers (98 percent) start before 26 years of age making college campuses an important area for tobacco intervention. A southern California university recently adopted a comprehensive tobacco-free campus policy that prohibits the use of smoking and tobacco use on all property both indoors and outdoors. In conjunction with a comprehensive policy, offering cessation assistance to tobacco users maximizes the impact of the policy. The Centers for Disease Control and Prevention's (CDC) Best Practices for Comprehensive Tobacco Control Programs recommend system changes that make tobacco intervention a part of every patient encounter by integrating this into the clinic workflow.

**Process:** In a university student health clinic the EHR was utilized to incorporate routine tobacco screening and intervention. A tobacco intervention prompt was created in the EHR for all students who screened positive for tobacco use. This prompt alerts the provider to advise the student to quit, assess readiness for change, and refer to cessation resources. Tobacco status screening was also made a mandatory field. This practice change occurred in September 2015. The tobacco screening and interventions will be measured before the EHR change and 4 months post-implementation. The Iowa Model of EBP was used as the implementation guide.

**Outcomes Achieved:** Results pending.

**Conclusions:** The data analysis is in progress.

# TECHNOLOGY

## Opportunities for Monitoring in Cardiovascular Care

*Alexandra Richards, RN, BSN*
*Doctor of Nursing Practice Student*
*Center for Sustainable Design*
*Arizona State University Biodesign Institute*
*Phoenix, AZ*

*Heather M. Ross, DNP, ANP-BC*
*Arizona State University Instructor & PhD Candidate*
*Center for Sustainable Design*
*Arizona State University Biodesign Institute*
*Phoenix, AZ*

Congestive heart failure (CHF) is a chronic condition, affecting an estimated 5.1 million adults in the United States with approximately 825,000 new cases annually, at a cost of $30.7 Billion in 2012. CHF is typically managed with medications to avoid adverse symptoms requiring hospitalization. Implanted devices may be used as adjunctive therapies for people with moderate-to-severe CHF. Although CHF can be managed successfully in the ambulatory setting, small changes in diet, activity, or other health conditions can cause fluid overload and CHF exacerbation, requiring additional therapies including clinic visits and hospitalization for medication adjustment and other invasive therapies. Intrathoracic impedance monitoring has been shown to correlate with CHF status, and to predict clinical fluid overload and CHF exacerbation by an average of 15 days prior to the onset of symptoms or other external signs such as weight gain (Yu et al., 2005). This technology is presently available in implanted cardiac devices from multiple manufacturers, but the data are not available directly to patients. Therefore, patients cannot use these predictive data to make diet and/or medication adjustments to avoid CHF exacerbation before outpatient or inpatient therapy is required. Emerging ambulatory monitors that track a variety of indicators may allow patients to externally monitor a set of signs that correlates to intrathoracic impedance in order to predict and manage CHF exacerbations early, avoiding adverse symptoms and costly interventions. In this observational clinical trial, patients wore a variance in heart rate throughout the day. This data is being validated against the data from the implanted intrathoracic device. The data is currently being analyzed to help understand if wearable biosensors can provide the same information as implanted cardiac devices and allow patient's insight into their own heart failure and fluid status. The significance is allowing patients increased self-efficacy in heart failure monitoring.

---

**Funding:** ASU Center for Sustainable Health- $22,775 in 2014-2015 for observational clinical trial. Grant designated for "Project Honeybee".

---

**Reference:** Yu, C. M., Wang, L. I., Chau, E., Chan, R. H. W., Kong, S. L., Tang, M. O., ... & Lau, C. P. (2005). Intrathoracic impedance monitoring in patients with heart failure correlation with fluid status and feasibility of early warning preceding hospitalization. *Circulation*, *112*(6), 841-848.

# TECHNOLOGY

## A Structured Telephonic Transition Program for Heart Failure Patients

*Julia Robinson, MSN, APRN, FNP-C, GCNS-BC, PHN*
*Doctor of Nursing Practice Student*
*Hahn School of Nursing & Health Science*
*University of San Diego*
*San Diego, CA*

*Robert Stein, MD*
*Palomar Medical Group*
*Escondido, CA*

*Shelley Hawkins, PhD, FNP-BC, GNP, FAANP,*
*Director, DNP Programs*
*& Associate Professor*
*Hahn School of Nursing & Health Science*
*University of San Diego*
*San Diego, CA*

**Purpose:** The purpose of this evidence-based practice is to incorporate a structured telephonic self-care management transition program for heart failure (HF) patients to improve patient care and reduce hospital readmissions.

**Background:** HF is a fatal condition affecting more than 5 million Americans that follows a specific illness trajectory associated with severe debilitating symptoms, frequent hospitalizations, poor quality of life and eventually death. There are approximately 500,000 new HF cases annually, nearing epidemic proportions in the United States, with a 50% risk of mortality within the first year of diagnosis. The annual cost to the healthcare system is approximately $38 billion, ranking HF as one of the most costly conditions to manage. Significant evidence exists that HF self-care management programs can improve patient self-care and decrease HF-related readmissions. Due to recent legislation afforded through the Affordable Care Act, financial penalties are now imposed on healthcare organizations for HF 30-day readmissions. Current guidelines recommend health professionals provide comprehensive HF education focused on knowledge, skills of management, and self-care behaviors. In the project facility, there is no educational HF self-care transitional program.

**Practice Change:** The purpose of this evidence-based project is to incorporate a structured telephonic HF self-care management transition program to reduce readmissions by providing knowledge and promoting patient self-care management skills. The Iowa Model of Evidence Based Practice and Bandura's Self- Efficacy behavior theory will provide the foundation for the practice change. Structured telephonic support visits will be delivered by a nurse practitioner and consist of education to include self-care management skills, along with a risk assessment for early intervention. Education will be initiated prior to discharge followed by post-discharge structured telephonic support visits scheduled weekly for 6 weeks. The Minnesota Living with Heart Failure Questionnaire (MLHFQ), a validated quality of life questionnaire tool, will be administered prior to discharge and again at 30 days to measure quality of life score improvement. Using the project facility's past HF readmission data as a baseline, data collection points will include enrollment, 24 hours post discharge, weekly for 6 weeks, and at 60 and 90 days to determine behavior sustainability.

**Outcomes:** In progress. It is anticipated that there will be a 10% reduction in readmissions and 10% improvement in MLHFQ scores.

**Conclusions:** Evidence-based HF self-care transition programs can potentially assist HF patients in making a successful transition from the hospital to their home setting promoting a reduction in readmissions and improved quality of life. The advanced education, knowledge base and skill of an advanced practice nurse can provide to these HF patients by incorporating a program designed to specifically meet the individual patient needs. By successfully establishing a sustainable HF self-care transition program, the financial implications can be significant for the healthcare system.

# TECHNOLOGY

## Innovation in Teaching through Active Engagement: The Flipped Classroom

*Gail Salvatierra, RN, PhD*
*Assistant Professor*
*School of Nursing*
*California State University, San Marcos*
*San Marcos, CA*

*Alecia Cosgrove Nye, RN, MN*
*Instructor*
*College of Nursing*
*Seattle University*
*Seattle, WA*

**Purposes:** The purpose of this project was to appeal to all types of learners through the creation of a learner-centered, experiential environment for undergraduate BSN students across two campuses and in two separate states. Using innovative pedagogical methods that combine technology, clinical scenarios, case studies, guided studies, podcasts and peer teaching under the facilitation of the nursing educator.

**Background:** Over the past 20 years, there have been profound changes within our healthcare system driven by technology, knowledge explosion and increased severity of illness. The challenges of caring for more complex patients and populations in an evolving healthcare environment places nurse educators at the forefront of preparing new nurses for nursing practice. There has also been a call to *radically* reform nursing education in an effort to produce nurses who are ready to meet these changes and challenges within our healthcare system today.

The traditional nursing classroom consists of delivering content-heavy material in a lecture format. The instructor is the sole source of information, and the student is a passive receptacle. This method does not allow for robust use of many new modalities, nor does it recognize that today's students come to the classroom with different learning histories and styles. If nursing is to keep up with the changing healthcare environment, nursing education must also change in ways that create a more, participatory, active learning environment with the goal of preparing nurses for the future. Finally, nurse educators have been summoned to use creative and innovative pedagogies to foster deeper situated learning and enhanced critical thinking in the next generation of nurses.

*Flipping* the classroom changes the emphasis from instructor-focused unilateral communication and learning to student-focused multilateral communication and learning that encourages active participation and the acquisition of critical thinking and process skills as well as the accumulation of applicable knowledge. While flipping the classroom is not a new pedagogy, it is fairly new to nursing.

**Methods:** Students in both nursing programs are put into self-selected groups of four during the first class. They sign a student contract that relates to their unique group and their commitment towards working together. These groups will work together in each class, and they are encouraged to work together outside of class as well. As part of their study time outside of class, they are required to view short content specific podcasts prior to coming to class. They are also assigned an electronic guided study containing questions that need to be answered prior to coming to class. These multiple choice and alternative item questions from the course material, may be answered using any available resources and they are provided immediate rationales on all answers (correct and incorrect).

Class time includes a brief discussion aimed at clarifying concepts on previous topics or the topic of the day. Students then break into their groups and the remaining class time is used for creating dynamic, engaging and interactive environment that is facilitated by the instructor. Assigned case studies or student created case studies are some of the methods utilized. Working with their peers encourages them to engage in higher level thinking rather than just listening to the instructor lecture on the topic and it promotes critical thinking skills.

Students may use any resource that they choose (iphone, ipad, laptop, book, etc.) to enhance their learning and understanding. Students are also afforded the opportunity to leave anonymous feedback in a book titled "Your voice counts" that circulates among the students during class and if necessary, comments are addressed at the start of the next class.

**Outcomes:** The format of the major assignments (exams, quizzes and graded assignments) has not changed; and they are referred to as High-Stakes Assignments (HSA): comprising 65% of student grade. However, Low-Stakes Assignments (LSA) are also implemented and comprise 30% of their grade. These assignments are designed to direct students to explore their understanding of course material prior to class in order to be more active during class. The LSA assignments include pre-class guided studies and in class graded group case studies and other in-class activities. LSA, afford students an opportunity to practice applying their acquired knowledge The results have been positively reflected in test scores as well as student evaluations.

**Implications:** *Flipping* the classroom offers a more contemporary pedagogical method of teaching course content in nursing education. It is also one method of creating a learner-centered, experiential environment; one that facilitates interaction and collaboration between everyone in the course, while reaching multiple types of learners. This approach sets the stage for a stimulating learning environment that promotes intellectual curiosity, self-responsibility for knowledge, and preparation for nursing practice.

# Evaluating the Benefits of High Fidelity Simulation for Development of Critical Thinking in Undergraduate Nursing Students

*DeVaughn Bell, BSN, RN*
*Family Nurse Practitioner Student*

*Keith Jabonillo, BSN, RN, CCRN, PHN*
*Family Nurse Practitioner Student*

*Carrie Woods, BS, BSN, RN*
*Family Nurse Practitioner Student*

*Department of Nursing*
*California State University, Bakersfield*
*Bakersfield, CA*

**Purpose:** The purpose of this study was to evaluate the benefits of high fidelity simulation (HFS) to develop critical thinking skills in undergraduate nursing students and quantify improvement in critical thinking skills.

**Background:** Simulation has become a mainstay in nursing education, yet nursing faculty continue to struggle to evaluate student performance in this medium to determine whether critical thinking skills are evolving appropriately. Blum et al. found that students engaged in HFS showed improved self-confidence and were deemed more competent by instructors than students exposed to traditional approaches, such as paper case studies. Gantt and Ashcraft et al. both proposed grading rubrics to assist in evaluating performance of nursing students in HFS; however, both concluded that further research and refinement of the rubrics was required. Skills checklists are sufficient to determine whether a student is capable of basic skills, but a reliable tool for measuring critical thinking and clinical judgment in the simulation environment has yet to be developed.

**Methods:** An exploratory, quantitative, quasi-experimental, time-series design was employed to evaluate one class of sophomore nursing students in the spring quarter of their first year of nursing school. All participants were enrolled in the required simulation class and engaged in HFS activities that were pre-determined by faculty. A modified Sweeney Clark Simulation Performance Rubric was used to evaluate the videotaped simulation performances of the participants. The students also took a pre-test and post-test of NCLEX-style questions as another means of evaluating clinical knowledge. Students were aware of enrollment in the study, and consented to participate, but the researchers did not actively observe students during live simulation scenarios.

**Results:** Of the 52 sophomore nursing students enrolled in the simulation class, 50 students were evaluated with the modified grading rubric. The average score during Week 1 of evaluation was 70.3%, and the average score during Week 2 of evaluation was 72.8%. While overall scores did not change significantly, the researchers did note improved quality and efficiency of nursing care between Week 1 and Week 2.

Of the 50 participants, 31 took the pre-test and 19 took the post-test. The average score on the pre-test was 85.2%, and the average score on the post-test was 85.3%.

**Implications:** *Practice:* HFS is an effective method to develop and gauge critical thinking skills in the absence of live clinical observation. It is difficult to measure critical thinking based solely on submitted assignments and examinations. A similar type of HFS could be developed to train family nurse practitioner students in management of ambulatory care patients and to evaluate their skills and clinical judgment.

*Nursing Research:* Additional studies are needed to further enhance the grading rubric as a tool that effectively evaluates critical thinking. The researchers feel that the current rubric gives too much weight to basic nursing skills compared to clinical judgment and critical thinking skills, so some adjustment of point values is needed. It would also be beneficial to initiate the study earlier in the students' careers and conduct it over a longer period of time.

# TECHNOLOGY

## Increasing the Use of an EMR Weaning Assessment Tool within an Intensive Care Unit

*Mary Lawanson-Nichols, RN, MSN, NP, CCRN, Clinical Nurse Specialist, Critical Care Services*

*Melinda R. Catubig-Espiritu, BSN, RN, CCRN, Clinical Nurse III*

*Adult Intensive Care Unit*
*Santa Monica UCLA Medical Center and Orthopaedic Hospital*
*Santa Monica, CA*

**Clinical Issue/Current Practice:** On a 22-bed adult ICU, there was inconsistent utilization of available standard protocols for ventilator weaning. Intensive Care Unit (ICU) nurses were challenged in assessing their intubated patients for spontaneous breathing trial (SBT) readiness. SBT assessments are the first step towards evaluating a patient's readiness for weaning. Unit based respiratory therapist indicated that assessments were not consistently completed resulting in delays in the initiation of breathing trials. Furthermore, SBT protocols were not consistently ordered by physician.

**Literature Review/Evidence:** The use of a standardized protocol assists with an objective assessment of the patient's respiratory status. These protocols are particularly useful when assessing an intubated patient's readiness for weaning and extubating. There is evidence of reduced duration of mechanical ventilation, weaning duration and ICU length of stay with use of standardized weaning protocols (Blackwood, B., Burns, K., Cardwell, C., & O'Halloran, P. 2014)

**Purpose:** The purpose of this multi-disciplinary EBP project was to evaluate the effect of focused education on compliance in the utilization of the nurse-driven ventilator weaning tools and failed extubation rates.

**Intervention:** Prospective and retrospective chart review occurred over a six month period. Educational intervention was implemented during a two month period to improve compliance with utilization of protocol. Focused education was provided to clinical nurses through staff meeting presentations, huddle messages and face to face education. Education was also provided to physicians regarding the need for standardizing SBT orders for every ventilated patient.

**Outcomes Measured:** Three outcomes of interested were examined before and after the educational intervention: the proportion of intubated patients with SBT orders place by the physician, nurses compliance rate with protocol driven assessments and the number of failed extubations.

**Results:** Before the educational initiative, out of 212 intubated patients only 22.6% (48) tools were completed. After the intervention of 96 intubated patients had 88% (85) of tools completed. Physicians had higher rates of ordering SBT from 40% to 70%. There was also a slight increase in patients that failed extubation from 17% to 20%. While there was a slight increase in failed weaning, the number of failed weaning due to respiratory instability actually decreased. Additionally, it was noted that there were slight decrease in the number of patients that were extubated before 11% vs. 19% after the intervention.

**Conclusion/Implications:** Weaning protocol was only effective in increasing the number of patients with SBT orders when RNs are compliant in the utilization of such tool. Nurses were the driving force in achieving timely ventilator weaning, and they were more receptive to change after understanding its rationale behind it. More avenues of teaching should be utilized in implementing any change in practice in order for it to be successful and sustainable. Since this study was conducted in a short period of time, a follow-up study is imperative to further investigate the usefulness of the protocol in decreasing ICU and hospital length of stay and ventilator days.

---

Reference: Blackwood, B., Burns, K., Cardwell, C., & O'Halloran, P. (2014). Protocolized versus non-protocolized weaning for reducing the duration of mechanical ventilation in critically ill adult patients. The Cochrane Library. doi:10.1002/14651858.CD006904.pub3.

# TECHNOLOGY

## “Do You Hear Me Now?” An Interprofessional Model for Delivery of Digital Hearing Aids

*Adelita G. Cantu, PhD, RN*
*Robert E. Novak, PhD*
*Amanda Zappler, PhD*

Over 35 million people in the US have significant hearing loss; with only approximately 20% receiving audiology services and hearing aids. The number of individuals with hearing loss is growing, largely related to compounded effects of noise exposure and longer life expectancy. It has become increasingly difficult to prepare adequate numbers of audiologists to meet the need for hearing health care services using the current delivery model of care.

Digital signal processing hearing aids could potentially provide significant benefit to the majority with hearing loss. Barriers to patient access include: the high cost of hearing aids in the current delivery system and an absence of geographically convenient audiology services. Teleaudiology delivery of hearing aid services expands the “reach” of existing audiologists, using remote audiologist-computer control of digital hearing test equipment and hearing aids. This model has been successfully pilot tested in the VA Health Care System but not in a public health care system.

Teleaudiology in the public health care system is not widely available due to lack of third party reimbursement; familiarity with necessary digitally-based teleaudiology equipment; IT support to facilitate network connectivity between the audiologists and their remotely-located patients; and coordinated training of the audiologist and teleaudiology support personnel.

This pilot project, funded by a CMS and Texas System STARS grants involves: 1) creation of the IPE teleaudiology team; 2) creation and initial delivery of an innovative IPE Teleaudiology Certificate Course involving UT-Austin Doctor of Audiology students & their faculty, UTHSCSA nursing students with their faculty member and an ENT faculty member; 3) delivery of teleaudiology services including digital signal processing hearing aids to patients, and 4) development of a new EPIC EMR teleaudiology “department” for patient scheduling, data entry, and data analytics required for current health care delivery.

IPE student preparation and IPP patient teleaudiology service delivery outcomes over the first year of this project will be discussed along with plans for future development based on challenges and successes.

# TECHNOLOGY

## Making Movies: Using Technology in a Community Health Course

*Cheryl L. Cooke, PhD, RN, Associate Professor*
*Ana Burcheci, BSN, RN*
*Katrina Carpenter, BSN, RN*
*Charlotte Jordan, BSN, RN*
*Gagandeep Kaur, BSN, RN*
*Devyn Nixon, BSN, RN*
*School of Nursing and Health Studies*
*University of Washington Bothell*
*Bothell, WA*

**Purpose:** This goal of this presentation is to describe how movie making was employed in a RN-BSN community health course during the completion of a community-based activity. In our course, we were charged by a community partner to help assess how rural cities and smaller populations in Snohomish County, Washington described health and healthy communities.

**Background:** A local hospital system/community partner requested that we bring back community voices to the larger county health assessment. The challenges involved in this included 1) developing a strategy to collect as many voices as possible in an 8-week period, 2) reaching rural areas so that the voices of their community members could be heard, 3) working with students and learning technology colleagues to quickly develop student skills in movie making and editing, and 4) completing the project and teaching students basic community health concepts and engagement skills.

**Approach:** We used a number of organizing techniques to help students get started. These included 1) meeting with the community partner and developing a rough draft of the goals for the activity; 2) meeting with the instructional technology department and learning what resources were available to bring students up to speed regarding the use of the technology; and 3) working with the community partner to prioritize specific communities and populations whose voices were missing from the larger community assessment.

**Outcomes:** Students gained confidence in their presentation and technology skills, as well as improved their knowledge of community health and engagement. Additional outcomes of this project included 1) a poster that students' developed to be displayed at the course poster session; 2) a 5-minute film written, produced, and directed by students that has been presented in class, online, and at 2 local conferences, and 3) a collaborative presentation with community partners and academics presented at a state-wide public health conference.

**Discussion:** For many faculty members, bringing new technology into the classroom can be a challenging, and often, frustrating experience. Yet, students now come to nursing schools with a wide range of technological skills, and it is imperative that nursing faculty are able to keep up with their students' knowledge in these areas. Technology in the classroom can offer new perspectives on health and help us begin to explore and interpret the experiences of the health of vulnerable populations.

# TECHNOLOGY

## Adapting an Evidence-Based Sexual Health Intervention into Text Messages

*Tiffany M. Montgomery, MSN*
*PhD Candidate*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

*Deborah Koniak-Griffin, EdD*
*Professor and Endowed Chair*
*School of Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Purpose:** To discuss the mobile phone adaptation of Sister to Sister, a brief, evidence-based intervention (EBI).

**Background:** For many years, young adult Black women have had the highest rates of chlamydia, gonorrhea, syphilis, and HIV among all women. While there are several EBIs targeted toward this population, they each require travel to a healthcare facility or other location outside of the home. Sister to Sister is one such intervention.

With the increased use of mobile devices, it has become less necessary to require in-person delivery of EBIs. Text-messaging is one form of mobile technology that has been cited as an effective mode of delivery for health interventions. When considering the use of text-messaging as an intervention, adaptation of EBIs should take precedence over the creation of entirely new interventions.

**Methods:** A modified version of the ADAPT-ITT model was used to guide the two distinct study phases of this study. "ADAPT-ITT" is an acronym for the eight steps of intervention adaptation: assessment, decision, adaptation, production, topical experts, integration, training, and testing. During phase one, the first seven steps of the model were implemented. In phase two, the newly adapted intervention will be pilot tested and evaluated for acceptability, feasibility, and preliminary changes in condom use.

A Research Advisory Board (RAB) was recruited to assist with intervention adaptation, and to provide feedback on phase two recruitment and data collection strategies. A graphic designer was hired to produce the multimedia components of the text message intervention. Next, the text messages were presented to topical experts on the primary investigator's dissertation committee. Once the recommendations were integrated, the intervention was presented to members of a focus group of young adult Black women and a community advisory board (CAB) of topical experts. Lastly, the recommendations of the focus group and CAB were integrated into the intervention. Intervention training, which includes a test run of the intervention, is currently underway.

**Results:** Phase one results provide evidence for the successful adaptation a face-to-face EBI into a text message intervention. Twelve young women were recruited for this phase (RAB, n = 7; focus group, n = 5). Findings were analyzed during qualitative content analysis meeting transcripts. Five categories emerged: general text messages, automated text messages, message content, message type, and message timing. Based on these findings and recommendations from topical experts, Sister to Sister was adapted into an 8-week text message intervention. It is believed that the core components of the original Sister to Sister intervention were maintained. There is no anticipated threat to its fidelity.

**Implications:** There are many EBIs that can be implemented among high-risk and vulnerable populations. As innovative technologies continue surface, researchers may desire to use these technologies to implement new interventions. However, the use of innovative delivery modes should not supersede the use of highly effective EBIs. This study provides a process that is important for the successful adaptation of EBIs. Researchers can use this modified ADAPT-ITT model to guide the adaptation of these interventions.

---

Funding: This study was supported, in part, by the National Institute of Mental Health (Grant #: P30MH58107).

# TECHNOLOGY

## Effect of Simulation on Knowledge and Skill in Pediatric Advanced Life Support Courses

*Stacy M. Stellflug, MN, APRN-BC, FNP*
*Assistant Teaching Professor and PhD Candidate*
*Montana State University and University of Colorado*
*Bozeman, MT and Denver, CO*

Pediatric Advanced Life Support (PALS) is an American Heart Association (AHA) course designed to enhance the skills and knowledge of health care providers who care for pediatric patients who are critically ill or are in need of resuscitation (American Heart Association, 1992a, 1992b, 2005b, 2010; American Heart Association & International Liaison Committee on Resuscitation, 2000). Research has demonstrated that knowledge taught in resuscitation courses like PALS has a tendency to wane as soon as participants leave the classroom (Curry & Gass, 1987; Kaye & Mancini, 1986; Mancini & Kaye, 1985; Moule & Knight, 1997). After just two months, the knowledge learned in resuscitation courses has significantly decreased, and by six months it is essentially non-existent (Curry & Gass, 1987; Kaye & Mancini, 1986; Mancini & Kaye, 1985; Moule & Knight, 1997). This problem becomes a critical clinical reality when health care providers educated in PALS encounter a child in need of life saving intervention, especially if it has been more than six months since the healthcare provider took the PALS course. This problem is further amplified in the rural health care setting by low frequency exposure to children and high acuity levels on presentation.

Through certification courses like the American Heart Association's (AHA) Pediatric Advanced Life Support (PALS), health care providers are trained in assessment and interventions for critically ill and/or injured pediatric patients (American Heart Association, 2010). The purpose of this study was to determine if there were benefits to integration of simulation technology (ST) into PALS curriculum. Participants were randomized to control or experimental classes. Experimental classes received PALS courses with ST while the control classes received PALS courses with static manikins.

Multilevel modeling was used to examine the differences between control and experimental classes at course end and 6 months later. In addition, participants completed assessment of Kolb's Learning Style Inventory to determine if preferred learning style moderated knowledge retention and skill self efficacy at 6 month follow up.

I hypothesized that healthcare providers who participated in a PALS course with ST would have higher skill self-efficacy (SEI), skill performance, and exam scores at the end of training compared to healthcare providers who participated in a course without ST. There experimental group did not have higher SEI or exam scores at the end of the course however there skill performance was better when compared to the control group.

Hypothesis 2 stated health care providers who participated in a PALS course with ST would have higher SEI and exam scores at six months post training compared to healthcare providers in a course without ST. Both control and experimental groups experienced a decrease in SEI scores and exam scores over time however the control group experienced a much faster rate of decrease.

Finally, hypothesis three, did learning style moderate the effect of ST in the PALS course on knowledge retention and skill self-efficacy at six months? There was no statistically significant effect of learning style on knowledge and skill self-efficacy at the 6 month follow up.

# TECHNOLOGY

## Access and Use of Information Technologies among Hypertensive Older Adults

*Ayman K. Tailakh, RN, PhD*
*Assistant Professor*
*School of Nursing*
*California State University, Los Angeles*
*Los Angeles, CA*

*Jan Warren-Findlow, PhD, MBA*
*Associate Professor*
*Department of Public Health Sciences*
*University of North Carolina at Charlotte*
*Charlotte, NC*

*Cinthya Vasquez, DNP, FNP-C*
*Assistant Professor*
*School of Nursing*
*California State University, Los Angeles*
*Los Angeles, CA*

**Purpose:** The purpose of this study is to examine hypertension self-care activities and explore the influence of blood pressure knowledge and access and use of information technologies on self-care activities and blood pressure control in hypertensive older adults.

**Background:** Information technology could play a crucial role in enhancing hypertension self-care and reduction of stroke risk, but little is known of older adults' access and use of information technology and its relationship with blood pressure.

**Methods:** In this cross-sectional study, 151 participants completed a survey to assess hypertension self-care activities, technology utilization, and blood pressure knowledge. Clinical measures were obtained by trained assistants (height, weight and blood pressure). A Pearson product-moment correlation coefficient was calculated to assess the relationship between information technologies and self-care activities and systolic and diastolic blood pressure.

**Results:** Participants were predominantly women (61.7%) who were retired (80.8%), mean age 75 years. Many owned cellular phones (76.5%); however, most did not have internet access at home (59.7%). In bivariate analyses, having a cellular phone was positively associated with a preference for receiving text or email reminders ($r = .22$, $p < .05$). Computer use was significantly associated with Diastolic blood pressure ($r = .17$, $p < .05$), blood pressure knowledge ($r = .17$, $p < .05$), seeking health information online ($r = .49$, $p < .01$), and belief that internet can be helpful to manage blood pressure ($r = .45$, $p < .01$). Internet use was significantly associated with diastolic blood pressure ($r = .17$, $p < .05$) and blood pressure knowledge ($r = .17$, $p < .05$). After controlling for age and sex, the relationship between technology use and blood pressure was no longer significant.

**Implications:** The use of electronic technology was significantly correlated with better blood pressure knowledge, and with higher diastolic blood pressure, suggesting that participants with high diastolic blood pressure may be using the internet to search for health information to self-manage blood pressure. Internet-based hypertension self-care interventions could promote patient involvement and self-management leading to better adherence and blood pressure control to reduce the risk for stroke. Electronic technologies may facilitate clinical data transmission and communication between patients and providers so providers can modify treatment regimens between visits. However, our results suggest that lack of internet access could limit the feasibility of internet-based interventions to reduce blood pressure in this population.

## Nurses' Perception of an Interactive Patient Technology System

*Frances L. Patmon, PhD, RN*
*Nurse Scientist*

*Perry M. Gee, PhD, RN*
*Nurse Scientist*

*Tina L. Smith, BA*
*Research Assistant*

*Nursing Research and Clinical Informatics*
*Dignity Health*
*Phoenix, AZ*

**Purpose:** The study examined the perception of clinical nurses using an interactive patient technology system in the emergency department and inpatient units.

**Background:** Patient engagement was recently defined by a research team in Australia as "a co-constructed process and state. It incorporates a process of gradually connecting with each other and/or a therapeutic program, which enables the individual to become an active, committed and invested collaborator in healthcare." Healthcare organizations across the United States have deployed numerous initiatives to improve patient engagement and outcomes. There are numerous vendors purporting increased patient satisfaction with interactive patient technology systems. User acceptance of such technology has been identified as a significant barrier to successful implementation. Little is known from the nurses' perspective about the impact that such technology plays on clinical practice.

**Methods:** Data were collected by individual interviews and observations that occurred during the interview process. Twenty six registered nurses working in a large tertiary care center in Southern California and a community–based hospital in Northern California were recruited for interviews. The sampling of the nurses was driven by experiences derived in the previous interviews. The analysis of the data began immediately following the first interview and the researchers used a constant comparative methodology throughout the study. As different findings and experiences were identified through the research process, new hypothesis were developed and the interviews were re-focused to include the additional factors. The sampling and interviews continued at each facility until data saturation was achieved. Immediately following each day's interviews the research team met to review and analyze the data and evaluate the any changes to the working hypothesis. Discussions were held with a convenient sample of informants involved in the initial research to verify the key findings.

**Findings:** A thorough analysis of the data revealed that overall *interactive patient technologies (IPT) may enhance clinical practice*. We identified three key findings that will support the use of ITC in clinical practice: distraction therapy, specific functionalities and adequate training for both nurses and patients. We identified additional factors under each of the key findings that should facilitate the adoption and clinical use of these technologies.

**Implications:** It has been purported that IPT will increase patient engagement resulting in better patient outcomes. Similar to the Chronic Care Model patients who are more engaged in their care are more likely to have better outcomes. However there is an identified gap on nursing perception on the impact of IPT on clinical nursing practice. Nurses are at the forefront of many IPT initiatives and it is imperative that we understand this area more clearly. This study provides a thorough analysis of key findings that will support the use of IPT to enhance clinical nursing practice while increasing patient engagement.

# TIME AND MOTION STUDY OF NURSE ACTIVITY AND LOCATION

## OVERVIEW: TIME AND MOTION STUDY OF NURSE ACTIVITY AND LOCATION

*Kenneth B. Daratha*

## OMAHA SYSTEM BASED HANDHELD DIGITAL INTERFACE FOR NURSING TIME-MOTION STUDY

*Ruth Schleyer, Beth Schenk, Cami Jones, Sarah Fincham,*
*Kenneth B. Daratha, Karen A. Monsen*

## INTER-RATER RELIABILITY IN DATA COLLECTION FOR OBSERVATIONAL NURSING STUDY

*Cami Jones, Sarah Fincham, Ruth Schleyer, Elizabeth Schenk,*
*Kenneth B. Daratha, Karen A. Monsen*

## WHAT DO NURSES DO? TIME-MOTION STUDY COMPARING ACTIVITIES IN THREE UNITS

*Elizabeth Schenk, Ruth Schleyer, Cami Jones, Sarah Fincham,*
*Kenneth B. Daratha, Karen A. Monsen*

# TIME AND MOTION STUDY OF NURSE ACTIVITY AND LOCATION

## Overview: Time and Motion Study of Nurse Activity and Location

*Kenn B. Daratha, PhD*
*Associate Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

**Purpose/Aims:** The purpose of this symposium is to disseminate methods and findings of contemporary research in a time and motion study of nursing activities and locations in an acute care setting.

**Rationale:** Nurses working in the acute care setting are at the front line of patient care. Nurses who work at the bedside are in a position to advocate for their patients to the rest of the healthcare team, intercept medical errors, impact health care costs, and prevent harm to patients. Understanding how nurses use their time and where nurses are located when engaged in certain activities is important for determining how to improve work efficiency and, ultimately, quality of care. Tracking activities performed, length of time spent on activities, and location of nurses has become easier with the advent of computerized programs to collect data in time and motion observational studies. With the use of computerized programs, an observer is easily able to record the type and duration of activities, as well as the location of the nurse when engaged in that activity.

**Method:** The three papers included in the symposium: 1) establish the need for developing standardized terminology to capture accurate information related to measuring activities and locations of acute care nurses; 2) explain why consistent observational measurement is required in time and motion studies and 3) summarize activities and locations of nurses in multiple nursing units in an acute care setting.

**Results:** Each paper presents interesting and novel findings from studies in this relatively new and very important area of research. The first paper presents the use of the Omaha System in the development of a handheld digital interface for conducting nursing time and motion studies. The second paper presents how inter-rater reliability was established to ensure consistency among observers collecting data observing nurses. The final paper describes what nurses do in a time and motion study in which activities and locations of nurses are compared in three nursing units of an acute care hospital.

**Implications:** Methods and results for the studies presented in this research symposium allowed for determination of how much time nurses spend performing a set of defined activities and the duration of time spent in various locations. It is important to establish the type, amount and timing of the work nurses do in the acute care setting as a foundation for understanding many aspects of the greater picture of health care delivery.

# TIME AND MOTION STUDY OF NURSE ACTIVITY AND LOCATION

## Omaha System Based Handheld Digital Interface for Nursing Time-Motion Study

*Ruth Schleyer, MSN, RN-BC*
*Clinical Director, Informatics, Academics & Education*
*Providence Health & Services*
*Portland, OR*

*Cami Jones, PhD*
*Research Assistant*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Sarah Fincham, RN, MSN, NP-C*
*Clinical Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Beth Schenk, PhD, MHI, RN*
*Research Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Kenn B. Daratha, PhD*
*Associate Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Karen Monsen, PhD, RN, FAAN*
*Associate Professor*
*Co-Director Center for Nursing Informatics*
*University of Minnesota*
*Minneapolis, MN*

**Purpose/Aims:** As part of a larger study to measure nurses activities in three acute care unit types, the user interface of a digital observation tool, TimeCaT, was adapted. The data collection tool was designed to use the nomenclature of the Omaha System. Use of standardized terminology allowed for the capture of accurate and descriptive activities and behaviors of medical-surgical (MS) and intensive care (ICU) registered nurses (RNs).

**Rationale:** Observational time-motion studies are one mechanism to quantify discrete actions and behaviors comprising activities of acute care nurses. Challenges with this approach include technical limitations (e.g., data collection tools), the occurrence of simultaneous activities (e.g., multi-tasking), frequent nurse location changes, and standardized representation of what constitutes nursing care in the inpatient setting. TimeCaT is a freely available, web-based time capture tool designed specifically for workflow studies that provides a method to address several of these challenges. The Omaha System is a research-based, American Nurses' Association-approved, standardized interface terminology that exists in the public domain. Use of the Omaha System to describe acute care nursing provided an opportunity for its standardized representation in time-motion studies.

**Method:** For this study, "nursing care" was defined as those standardized nursing activities classified by the Omaha System. Applicability of the Omaha System for MS and ICU nursing processes was first established using a multi-step mapping and content validation procedure. The most commonly occurring nursing activities, referred to as 'care descriptions' were represented in the data collection tool. TimeCaT's structure included three dimensions: Communication, Tasks and Location. Omaha System dimensional hierarchies were visualized on the data collection tool through the use of icons that provided an additional cue for observers to discriminate among items and represented Omaha System Categories.

**Results:** The TimeCaT user interface was successfully adapted to present Omaha System terms commonly used to describe RN activities and behaviors in MS and ICU settings. Time-motion study observers used the TimeCaT tool for the three phases of the study: training, assessment of inter-observer reliability and direct observation of nursing activities and locations.

**Implications:** The TimeCaT tool adapted for use with the Omaha System provides a data collection tool for time and motion studies of nursing activities. The adapted tool can be used to support time and motion studies of nursing activities and behaviors in care settings within and beyond acute care.

# TIME AND MOTION STUDY OF NURSE ACTIVITY AND LOCATION

## Inter-Rater Reliability in Data Collection for Observational Nursing Study

*Cami Jones, PhD*
*Research Assistant*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Sarah Fincham, DNP, ARNP, NP-C*
*Clinical Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Ruth Schleyer, MSN, RN-BC*
*Clinical Director, Informatics,*
*Academics & Education*
*Providence Health & Services*
*Portland, OR*

*Beth Schenk, PhD, MHI, RN*
*Research Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Kenn B. Daratha, PhD*
*Associate Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Karen Monsen, PhD, RN, FAAN*
*Associate Professor*
*Co-Director Center for Nursing Informatics*
*University of Minnesota*
*Minneapolis, MN*

**Purpose/Aims:** To prepare for use of a handheld, web-based, time motion observation tool in measuring nursing locations and activities in an acute care setting, the reliability of the designed data collected tool was demonstrated. The purpose of this study was to examine the inter-rater reliability of nurse observers using the TimeCaT data collection tool.

**Rationale:** Inter-rater reliability is a required criterion when multiple observers are intended to record data in a similar manner. For this observational study, the average of Cohen's Kappa is an accepted statistical approach to measure inter-rater reliability for multiple observers.

**Method:** Observers (n = 7 nurses) were trained on the TimeCaT observation tool by watching a set of videos, and recording all nursing activities that occurred. Training videos were approximately 2 – 4 minutes in length. Cohen's Kappa was calculated for all paired combinations of observers who watched the same set of training videos. For each video the average of Cohen's Kappa was calculated from each observer pair, resulting in a single measurement per video of the overall agreement.

**Results:** The lowest average Kappa calculated was 0.12 for video number five, denoting slight agreement among observers. The highest average Kappa calculated was 0.82 for video number four, which indicates almost perfect agreement among observers. Moderate to substantial agreement among observers was observed for all of the videos scored (cutoff values from 0.41 – 0.80).

**Implications:** Methodology for determining inter-rater reliability with complex observational data is challenging. The method used in this study was effective and can be used in future studies.

# TIME AND MOTION STUDY OF NURSE ACTIVITY AND LOCATION

## What Do Nurses Do? Time-Motion Study Comparing Activities in Three Units

*Beth Schenk, PhD, MHI, RN*
*Research Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Sarah Fincham, RN, MSN, NP-C*
*Clinical Assistant Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Ruth Schleyer, MSN, RN-BC*
*Clinical Director, Informatics, Academics & Education*
*Providence Health & Services*
*Portland, OR*

*Cami Jones, PhD*
*Research Assistant*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Kenn B. Daratha, PhD*
*Associate Professor*
*College of Nursing*
*Washington State University*
*Spokane, WA*

*Karen Monsen, PhD, RN, FAAN*
*Associate Professor*
*Co-Director Center for Nursing Informatics*
*University of Minnesota*
*Minneapolis, MN*

**Purpose/Aims:** The purpose of this study was to examine hypothesized nursing unit differences (Medical/Surgical vs. Telemetry vs. Intensive Care) in the locations and activities of nursing staff, as mapped to the Omaha System standardized terminology for nursing.

**Rationale:** Time and motion studies conducted to observe nurses have found varying results in what nurses do and how much time is allocated to a specific activity. Our research is the first study to use the Omaha System standardized nomenclature to assess nursing activities and locations, and to examine unit differences within an acute care setting. The study arose from the desire to understand nurse's work in acute care from the perspective of observed activities and locations, overlaid on this historical system for standardized terminology.

**Method:** The Omaha System of standardized nursing terminology was devised in the 1970's, and has been used primarily in public health. It is attractive as a basis of measurement because it serves as a nursing ontology, while being translatable to common nomenclature systems, including SNOMED-CT. A validated handheld digital observational tool linking Omaha System terms to common nursing activities in three unit types was used to track location and activity of Registered Nurses (RNs). RN observers were trained to use the tool, and deployed to collect 30 hours of observational data on each of three nursing units. Differences between units were compared by location, activity, multi-tasking, and Omaha System dimensional hierarchies.

**Results:** Differences were noted between the nursing units in all elements that were compared. Regarding location, more time was spent in the patient room in ICU; ICU nurses were in more locations per hour than the other two unit types. Regarding activity; activities in ICU were shorter in time, but more done per hour; more time was spent in documentation on the telemetry unit; more patient-family teaching occurred on the medical-surgical unit.

**Implications:** It is important for nurse managers and administrators to understand differences in nursing activities and locations among units within an acute care setting. With this knowledge, nursing managers can project need, acuity, staffing, education, workload, workforce and other elements important in the management of high acuity, complex nursing care.

# VETERANS

## HEALING TOUCH AS SELF-CARE FOR VETERANS' WITH HYPERTENSION

*Ann Schloss, Diana Lynn Woods, Gwenevere Anderson, Teresita Corvera-Tindel*

---

## ACCESS AND BARRIERS TO CARE UPON TRANSITION TO VETERAN STATUS IN VETERANS WITH DIABETES

*Mark R. Malebranche, Joseph F. Burkard, Jane M. Georges, David B. Bittleman*

---

## CARDIOVASCULAR HEALTH IN MOTHERS AND WIVES CARING FOR VETERANS WITH TBI

*Judy McKelvy*

---

## BEYOND FRIENDSHIP: EXPLORING THE HUMAN-ANIMAL BOND TO SUPPORT MILITARY CHILDREN

*Lorri Marie Phipps, Cheryl A. Krause-Parello,*
*Heidi Baldwin-Kirchhoff, Sophie S. Hall, Daniel S. Mills*

---

## MODEL FOR REDUCING UTILIZATION OF EMERGENCY DEPARTMENTS BY HOMELESS VETERANS

*LeeAnne J. Taylor*

# VETERANS

## Healing Touch as Self-Care for Veterans' with Hypertension

*Ann Schloss, DNP©, RN-BC,*
*ACNS-BC, MHA*
*Doctorate of Nursing Practice Student*
*Azusa Pacific University*
*Azusa, CA*

*Diana Lynn Woods, PhD, APRN-BC, FAAN,*
*Associate Professor*
*School of Nursing*
*Azusa Pacific University*
*Azusa, CA*

*Teresita Corvera-Tindel, PhD, RN*
*Nurse Educator/Researcher*
*Nursing Education and Informatics*
*VA Greater Los Angeles Healthcare System*
*Los Angeles, CA*

*Gwen Anderson, PhD, RN*
*Adjunct Professor, School of Nursing*
*Azusa Pacific University*
*Azusa, CA*

**Purpose:** The purpose of this pilot study is to examine if the use of self-care healing touch, can reduce stress and anxiety in older veterans who are diagnosed with hypertension. **Background:** Stress has been implicated as one of the contributors to hypertension (HTN). There are 78 million Americans who suffer from hypertension, the leading factor in the cause of cardiovascular diseases nationally & worldwide. One out of every three veterans are diagnosed with high blood pressure.

**Research Question:** For veterans 60 years and above diagnosed with hypertension in an outpatient ambulatory clinic setting, how does healing touch compared to usual care, affect the veterans stress and anxiety?

**Methods:** This pilot study is a two group randomized pre-intervention, post-intervention experimental study. Twenty-four veterans over 60 years or older who have been diagnosed with hypertension will be recruited from the ambulatory clinics of the VA Greater Los Angeles Healthcare System. After informed consent, participants will be randomized into 2 groups (intervention and control). Outcome measures include self-reported stress using the Daily Stress Inventory (DSI) and anxiety measured using the Geriatric Anxiety Inventory (GAI) Hypotheses include: 1. There will be a reduction in the stress level among veteran HTN patients after receiving an 8 week self-care HT intervention compared to the same patient population receiving the usual care as measured by DSI; 2. There will be a reduction in the anxiety level among veteran HTN patients after receiving an 8 week self-care HT intervention compared to the same patient population receiving the usual care as measured by the GAI, and 3. There will be a reduction in blood pressure among veteran HTN patients after receiving an 8-week self -care HT intervention compared to the same patient population receiving the usual care as measured by the Philips Sure Sign VS4.The intervention group will receive coaching about self-care HT to be completed at home over an 8-week period, while the control group will receive usual care, which includes blood pressure checks and educational materials.

**Implications for Nursing Practice:** This study will add to the knowledge about the use of non-pharmacological interventions for self–care management to decrease stress and anxiety for veterans diagnosed with hypertension, potentially lowering blood pressure. Once mastered, HT can be applied in many settings, requires no special equipment, and can be used as a tool for relaxation.

# VETERANS

## Access and Barriers to Care during Transition from Active Duty to Veteran Status in Veterans with Diabetes

*Mark Malebranche, PhD(c), RN*
*University of San Diego*
*Hahn School of Nursing and Health Science*
*San Diego, CA*

*Jane E. Georges, PhD, RN*
*University of San Diego*
*Hahn School of Nursing and Health Science*
*San Diego, CA*

*Joseph Burkard, DNSc, CRNA*
*University of San Diego*
*Hahn School of Nursing and Health Science*
*San Diego, CA*

*David Bittleman, MD, Internal Medicine*
*VA Mission Valley Primary Care Clinic*
*San Diego, CA*

**Purposes/Aims:** The purpose of this study is to determine the factors, including health literacy that act as barriers and facilitators to diabetes care and diabetes self-care management during the transition from active duty to veteran status in a sample of veterans with diabetes. Specific aims of this study are to describe the: (a) lived experience of veterans with diabetes during the time of transition from active duty to veteran status, (b) health literacy level of a sample of veterans with diabetes, (c) barriers and facilitators of access to care and diabetes self-management during the transition from active duty to veteran status, and (d) veterans with diabetes' knowledge of traditional and online self-management education.

**Rationale/Conceptual Basis/Background:** Transition from active duty to veteran status may be a challenging time. Veterans with diabetes face multiple changes that can cause distress. These changes include a new provider, a new place of care, and a new form of health coverage. There is a potential for changes in domicile, employer, priority for care in the military/VA system, and income. The prevalence of diabetes in VA patients is estimated to be twice that of other Americans. More than half of hospitalizations and deaths among patients in the VA health system are due to complications of diabetes. Diabetes self-management includes technology use including online patient portals to efficiently and effectively assist patients. Also, health literacy levels correlate with diabetic self-management knowledge levels. Few studies have evaluated health literacy in veterans, and only two among veterans with diabetes. No studies have evaluated healthcare transitions in veterans with diabetes.

**Methods:** A descriptive study is planned to describe the lived transition experience of veterans with diabetes regarding access to care and use of diabetes self-management resources as measured by a qualitative questionnaire and the relationship between health literacy level, as measured by the Short form of the Test of Functional Health Literacy in Adults (S-TOFHLA), and diabetes distress during transition as measured by the Diabetes Distress Scale (DDS). The sample will include 12-20 veterans with diabetes. Inclusion criteria will be status as a veteran with diabetes. Exclusion criteria will include being unable to communicate orally or in written form in English, being physically unable (i.e. having a prior CVA) at a level which prevents oral communication and/or movement required to complete a health literacy instrument. Data will be collected by the study author at the VA Primary Care Clinic Mission Valley. Analysis of qualitative data is planned to be through coding and categorizing responses and use of a computer program for analysis. Analysis of quantitative measures is planned to be descriptive and the Chi-square test.

**Results:** Pending

**Implications:** The anticipated significance of the study is that it will describe veterans' health literacy, barriers and facilitators to care and traditional and online patient education resources at the time of transition from active duty to veteran status.

# VETERANS

## Cardiovascular Health in Mothers and Wives Caring for Veterans with TBI

*Judy McKelvy, RN, MN*
*Doctoral Candidate, Nursing*
*University of California, Los Angeles*
*Los Angeles, CA*

**Background:** Family caregivers are the cornerstone of support for our nation's wounded. While caregiver burden has been studied extensively in caregivers of patients with dementia, stroke,and cancer, little is known about the burden of caregiving in the context of service related injuries like traumatic brain injury(TBI). Studies have shown that depression, anxiety, and caregiver strain are associated with lifestyle risk factors for coronary heart disease (CHD).

**Purpose:** The purpose of this descriptive, exploratory and correlational study of female caregivers of veterans with mild traumatic brain injury (mTBI) is to identify corrrelates of cardiovascular health. Specific aims of the study include: 1) Describe the severity of emotional burden and practical burden in female caregivers of veterans with mTBI, 2) Evaluate the relationship of caregiver burden to the type of postconcussive symptoms (somatic, affective, or cognitive) in veterans with mTBI, 3) Identify psychobehavioral caregiver variables that are independently associated with cardiovascular health in female caregivers of veterans with mTBI.

**Methods:** A sample of 115 mothers and wives who self-identify as primary caregiver for a veteran with MTBI will be recruited. Eligible participants will complete an online survey composed of eight instruments: the Neurobehavioral Symptom Inventory, The Oberst Caregiver Burden Scale, the Involvement Evaluation Questionnaire, the Perceived Stress Scale, the Patient Health Questionnaire, the Generalized Anxietyt Disorder Screener, the Medical Outcome Study Social Support Survey, and the American Heart Association Life's Simple 7. Multiple linear regression analysis will be used to identify psychobehavioral correlates of cardiovascular health.

**Conclusion:** Results of this study will be utilized to design interventional studies that foster cardiovascular health and support caregivers in their role.

# VETERANS

## Beyond Friendship: Exploring the Human-Animal Bond to Support Military Children

*Lorri M. Phipps, DNP, RN, CPNP-PC*
*Assistant Professor*
*College of Nursing*
*University of Colorado*
*Aurora, CO*

*Cheryl Krause-Parello, PhD, RN*
*Associate Professor, Director, C-P.A.W.W.*
*Canines Providing Assistance*
*to Wounded Warriors*
*Health Research Initiative for Veterans*
*College of Nursing*
*University of Colorado*
*Aurora, CO*

*Heidi A. E. Baldwin-Kirchhoff, BA*
*Professional Research Asst., C-P.A.W.W.*
*Canines Providing Assistance*
*to Wounded Warriors*
*Health Research Initiative for Veterans*
*College of Nursing*
*University of Colorado*
*Aurora, CO*

*Sophie S. Hall, PhD, BSc*
*Research Fellow, School of Life Sciences*
*University of Lincoln*
*Joseph Bank Laboratories*
*Lincoln, Lincolnshire, UK*

*Daniel S. Mills, BVSc, PhD, CBiol, FSB,*
*FHEA, CCAB, Dip ECAWBM (BM), MRCVS*
*Professor of Veterinary Behavioral*
*Medicine, School of Life Sciences*
*University of Lincoln*
*Joseph Bank Laboratories*
*Lincoln, Lincolnshire, UK*

**Background and Significance:** Both before and after military children confront the deployment of a parent, they are vulnerable to numerous mental health challenges including difficulties in school, behavioral problems and an increased likelihood of alcohol and drug abuse, major depressive disorder and suicidal ideation and action. More than a decade of military action has exposed hundreds of thousands of children to the ongoing struggle of coping with dramatic changes in their family dynamic, from the pre-deployment parental absence to the return of a parent who may be physically and/or emotionally harmed by combat. While military children have access to resources to cope with acute emotional challenges, long-term supportive care is inadequate.

**Aims and Future Implications:** Given continuing global threats to security in Syria and Iraq, more research is needed to explore beneficial long-term coping therapies. For millions of youth, research examining how pet-attachment helps military children and families with the long-term challenges of military deployment is needed. Our international team is poised to begin this research through an exploratory study to examine the effects of pet attachment on self-identity, suicidal ideation, depression, and intentions to self-harm in British and American military family adolescents and characterize the relationship between pet attachment and psychosocial development in military adolescents. The expected outcome is that attachment to a pet will protect against an identity crisis, depression, self-harm, and suicidal ideation and support wellness in MFA. This discovery will enable the development of human-animal interventions to safeguard the mental health of these at-risk adolescents, as well as and inform the development of a future large scale randomized control trial.

# VETERANS

## Model for Reducing Utilization of Emergency Departments by Homeless Veterans

*LeeAnne J. Taylor, MSN, APRN, FNP-BC, NP-C*
*Kimberly Falco, DNP, RN*
*Primary Care Department*
*Department of Veteran Affairs*
*Las Vegas NV*
*Leeanne.Taylor@VA.gov*

The healthcare needs of homeless veterans are complex. The Veterans Health Administration (VHA) is a nationwide health care system with a variety of clinical microsystems that varies in available services from state to state. At the Department of Veteran Affairs (DVA), providing care to homeless veterans is three times the cost of non-homeless veterans (O'Toole, 2011). Recent federally mandated initiatives have called for services to end homelessness among veterans. Such initiatives recognize the change that is necessary to prevent health disparities within this high-risk population. Utilization of emergency departments (EDs) coupled with episodic care contributes to the increasing health care cost due to the fractioned treatment of chronic conditions that require continuity of care. Traditional primary care model approaches have shown to perform poorly when compared with homeless specific clinics (Short et al., 2008). It is important that primary care to homeless veterans is tailored in a manner that will encourage utilization of services at the lowest level. The purpose of this project is to propose a redesign of traditional primary care approaches, which is tailored to meet the needs of homelessness by providing open access, to prevent unnecessary utilization of EDs. The intervention proposed involves the movement of a primary care team from the traditional structure of primary care to an on-demand model of access. The clinic will also encompass being co-located within the CRRC that is targeted to serve the homeless veteran population for rapid re-housing and other social services to address the barriers of homelessness (e.g., vocational services, social work, veteran justice officials, and post-incarceration services). The project involves comparing options of care between patients who did not have homeless-tailored access and those who were provided open access after the relocation of a primary are team to an area of which homeless services are available. This will look at two sets of homeless veterans for a pre and post implementation evaluation of ED use. The expected outcome is a decline in use of ED services by homeless veterans who are provided open access or drop in appointments. For homeless veteran participants who were enrolled in traditional primary care model, it is expected that ED utilization will reflect a higher use of ED services due to the inability to be seen the same day or in a timely manner.

# Abstracts of Poster Presentations

# WOMEN’S HEALTH

## UNDERSTANDING A COMMUNITY-BASED HOME VISITING PROGRAM: MOMS ORANGE COUNTY

*Yuqing Guo, Julie Rousseau, Jung-Ah Lee, Ellen Olshansky*

---

## EDUCATING DOMINICAN HEALTH PROMOTERS ON BREAST HEALTH AND BREAST SELF-EXAM

*Robin M. White*

---

## MOTHERS WITH CANCER: GAINS FROM THE ENHANCING CONNECTIONS TELEPHONE PROGRAM

*Zainab Alzawad, Hebah Al Mulla, Nai-Ching Chi,*
*Amy Walker, Frances Marcus Lewis*

---

## WHAT HOSPITAL FACTORS PROMOTE USE OF FORMULA AMONG ‘EXCLUSIVELY’ BREASTFED INFANTS?

*Jodi K. O’Brien, Mary K. Barger*

---

## SYMPTOMS OF WOMEN WITH IRRITABLE BOWEL SYNDROME: ASIAN-AMERICANS AND WHITES

*Claire Jungyoun Han, Chaoqun Dong, Monica Jarrett, Margaret Heitkemper*

---

## CAN ED DIAGNOSES IDENTIFY WOMEN AT RISK FOR UNHEALTHY SEXUAL BEHAVIOR?

*Shana M. Judge, Elizabeth Holguin*

---

## MEASURING MIDWIFERY PRACTICE CLIMATE: DRIVING OUTCOMES THROUGH ENGAGEMENT

*E. Brie Thumm*

## DISJOINTED LABOR: INDUCING WOMEN ON A MEDICAL TIMELINE

*Janelle F. Palacios, Kathryn Lee*

---

## THE MEANING OF PATIENT-NURSE INTERACTION FOR OLDER HOSPITALIZED WOMEN

*Darcy Mize*

---

## VITAMIN D STATUS AMONG HEALTHY PREGNANT WOMEN IN THE PACIFIC NORTHWEST

*Doria Thiele, Elise Erickson, Jonathan Snowden*

---

## COMPARING GROUP VS. STANDARD PRENATAL CARE IN SAFELY DECREASING CESAREAN DELIVERY

*Ellen L. Tilden*

---

## PSYCHOLOGICAL PERSPECTIVES ON CERVICAL HEALTH BEHAVIORS AMONG ASIAN AMERICAN WOMEN

*Jongwon Lee, Mauricio Carvallo*

---

## MOTHER-INFANT INTERACTIONAL OBSERVATIONAL ASSESSMENT TOOLS DURING FEEDING

*Madalynn Neu, Zeynep Biringen, Karen Fehringer*

---

## EXPECTATIONS AND QUALITY OF LIFE IN THE ANTEPARTUM AND POSTPARTUM PERIOD

*Mary K. Adams, Sue Penckofer*

---

## FACILITY-BASED DELIVERY PREFERENCES OF WOMEN AND MEN IN ETHIOPIA

*Nancy K. Beam*

# RESILIENCE IN FEMALE STREET PROSTITUTES

*Rene Love*

---

# LOW ADHERENCE TO MEDICATION AND HIGH VIRAL LOAD AMONG TRANSGENDER WOMEN LIVING WITH HIV

*Glenda N. Baguso, Caryl Gay, Kathryn Lee*

---

# APPROPRIATE WEIGHT GAIN DURING PREGNANCY

*Eugelyn Opalec Santos, Susan Instone, Kristin A. Spivey*

---

# IMPROVING IMMUNIZATION RATES AMONG PREGNANT WOMEN

*Lacey Eden, Karlen E. (Beth) Luthy, Janelle L. B. Macintosh, Gaye Ray, Renea Beckstrand, Halie Fellows, Brooke Stacey, Annie Tyler*

# WOMEN'S HEALTH

## Understanding a Community-Based Home Visiting Program: MOMS Orange County

*Yuqing Guo, PhD, RN*
*Assistant Professor*
*Nursing Science*
*University California, Irvine (UCI)*

*Julie Rousseau, PhD, CNM, RN*
*Assistant Clinical Professor*
*Nursing Science, UCI*

*Jung-Ah Lee, PhD, RN*
*Assistant Professor,*
*Nursing Science, UCI*

*Ellen Olshansky, PhD, RN, FAAN*
*Professor, Director*
*Nursing Science, UCI*

**Purpose:** The purpose of the proposed study was to provide the evidence describing the implementation process of the MOMS program.

**Background:** MOMS Orange County (MOMS) is a community-based home visitation program. Each year MOMS provides access to prenatal care, health screenings, health education, and referral services to more than 3,100 low-income, at-risk pregnant women in underserved communities. MOMS has established a coordinated model of home visitation services that is characterized by two essential elements: (1) highly trained paraprofessionals serve as home visitors (HVs) and are closely supervised by registered nurses (RNs); and (2) pregnant women who need higher levels of service are referred promptly to public health nurses. Although the MOMS program is a promising new model of home visitation, to date there is a lack of rigorous research investigating this model.

**Methods:** This study adopted a mixed qualitative and quantitative design. Qualitative methods included interviewing one administrator, three RNs and 20 HVs, and reviewing documents relevant to the implementation of the MOMS home visiting program. Three focus groups and six individual interviews were completed. Twelve HVs' client assessments and twelve RNs' care plans were randomly selected for review. A survey was utilized as a quantitative method to describe the characteristics of RNs, HVs, and the quality of communication between RNs and HVs.

**Results:** Of 20 HVs, 10% of HVs had high school diploma, and 85% of HVs completed some college or above; 20% worked at MOMS for 1-2 years, 35% of HVs for 3-5 years, and 40% of HVs for more than 6 years. Of three RNs, 67% of RNs had associate degrees, and they all worked at MOMS for more than 6 years. HVs and RNs reported open communication and a good understanding of each other. When they encountered disagreements, both groups contributed to reach resolution. With the input of these RNs and HVs, we developed a logic model of the MOMS home visitation program which is composed of goals, home visit content and frequency, short-term and long-term outcomes, HVs' and RNs' roles, communication strategies between RNs and HVs, MOMS health education and support system, and client referral system.

**Implications:** This model could guide future studies in implementing and evaluating the effectiveness of the MOMS home visitation program on pregnancy, birth, and infant outcomes.

---

**Funding:** The project described was supported by Sigma Theta Tau International Honor Society of Nursing.

# WOMEN'S HEALTH

## Educating Dominican Health Promoters on Breast Health and Breast Self-Exam

*Robin M. White, PhD, MSN, RN*
*Assistant Professor, Interim Director/Interim Chair*
*Nursing Department*
*Ohio Northern University*
*Ada, OH*
r-white.5@onu.edu

**Purposes/Aims:** The purpose of this study was to assess current knowledge of breast health and breast self-examination (BSE) techniques in 14 Dominican health promoters and to provide breast health education that could then be disseminated to women in remote barrios in the Dominican Republic.

**Rationale/Background:** The global incidence of breast cancer increased from 641,000 in 1980 to 1.64 million in 2010, making it the leading type of cancer and also the leading type of cancer mortality. With this increased incidence of breast cancer internationally and the burden of breast cancer deaths in low-income countries, it is challenging to develop effective strategies to lower mortality rates in these regions. Early detection of breast cancer may be a promising long-term intervention requiring less extensive treatment to prevent cancer deaths, although the economic investment required to provide screening programs may not be feasible in developing countries. Inexpensive screening methods are more practical for developing countries and must be utilized to overcome this financial barrier. Effective methods to improve early diagnosis include breast cancer screening through BSE and Clinical Breast Examination (CBE). More specifically, women in the Dominican Republic have limited exposure to education on breast health and breast self-examination (BSE) techniques and health promoters can fill this gap by educating women in their rural barrios.

**Methods:** This descriptive, feasibility study surveyed rural Dominican health promoters (N=14) to determine BSE knowledge and provided breast health education and BSE demonstration during a 4-hour health education program. Pre- and post-education surveys were taken by participants in Spanish and a Spanish-speaking translator was also available to assist with the education session. The health promoters were given the following resources during the course in order to teach women in their individual barrios BSE: a binder with breast health teaching curriculum in Spanish and a toolkit with a breast model, bags, and beads corresponding to breast lump sizes. Objectives included: to collect data on breast cancer knowledge and BSE techniques in Dominican health promoters; to provide education and demonstrate proper BSE to Dominican health promoters; to encourage Dominican health promoters to return-demonstrate SBE on a model; and to determine the need for larger-scale breast health programs in a developing country such as the Dominican Republic.

**Outcomes:** Prior to education on breast health and BSE, 7% of the health promoters had no knowledge of breast cancer, 86% had some knowledge, and 7% had significant knowledge of the disease. In addition, 7% of the health promoters had no knowledge about performing a monthly BSE, 79% reported some knowledge, and 14% a great amount of knowledge. After instruction, 100% of women reported knowledge of breast cancer, BSE, and confidence in educating other women.

**Conclusions:** By providing Dominican rural health promoters with education and resources, it significantly increased their knowledge of breast cancer, BSE procedure, and confidence to teach other women in their barrios. Providing culturally-appropriate education with health promoters can increase health promotion education and resources in these remote areas.

## Mothers with Cancer: Gains from the Enhancing Connections Telephone Program

*Zainab Alzawad, MANP, PhD Student*
*Hebah Al-Mulla, MSN, PhD Student*
*Nai-Ching Chi, CNS, RN, PhD Candidate*
*Amy J. Walker, PhD, RN, Assistant Professor*
*Frances M. Lewis, PhD, RN, FAAN, Professor*
*Department of Family & Child Nursing*
*University of Washington*
*Seattle, WA*

**Purpose/Aims:** Describe the self-reported gains mothers with breast cancer attributed to their participation in the Enhancing Connections Telephone Program (EC-T), a cancer parenting education program.

**Background:** Thousands of children each year are impacted by a mother's breast cancer diagnosis. Negative effects for children include regression, withdrawal, anxiety, and fear that their mother will die, even with early disease. Mothers are in survival mode, trying to manage their own anxiety and concerns and claim they do not know how to communicate with their children about the cancer or best ways to support them. The EC-T Program is a 5-session, fully scripted psycho-educational parenting intervention designed to address the communication and parenting issues faced by mothers with breast cancer.

**Methods:** Mothers were interviewed 4 weeks after exiting the EC-T Program by a trained interviewer masked on the content of the EC-T Program. Mothers were asked two questions: 1) Thinking back on the program overall, what part, if any, was most helpful for you? 2) What, if anything, have you learned about helping your child from this program? Each interview was digitally audio-recorded, transcribed verbatim, and 100% verified. Inductive content analysis was used to analyze the data following five steps: 1) unitizing data, 2) open coding and identifying initial categories, 3) refining and defining categories, 4) identifying and defining higher order domains to organize the categories; and 5) peer debriefing. Constant comparative analysis was carried out throughout all steps of analysis.

**Results:** The sample consisted of 32 mothers, with a mean age of 42.6 years (SD 4.8); 81% were White. Most of the mothers were within five months of diagnosis (79%) and receiving chemotherapy or radiation (78%) at time of the study. Mothers reported gains or changes in their own behavior that they attributed to their participation in the EC-T program. Four domains were identified. *Being fully present for their child:* Mothers reported learning how to be there for their child, to really listen, and help them express their child's thoughts and feelings. They learned to take things from their child's developmental level and provide space for the child to express her/himself. *Refining their interactional parenting skills:* Mothers reported their greatest gains were in acquiring and practicing interactional parenting skills to assist their children in opening up. These skills included asking open-ended questions, initiating and sustaining the dialogue with their child. Practice was also important. Other skills were staying calm when talking to their child, being able to isolate their feelings from their child's, and carving out time for their own reflection. *Putting away their assumptions:* Prior to the program, mothers held several assumptions about how and what they should communicate with their children. They learned that communicating with their child did not require them to teach, problem solve, or fix anything, but simply to empathize.

**Implications:** A brief, nurse-delivered educational program delivered by telephone has potential to positively enhance mothers' attributed gains to their communication and parenting skills. Future research is warranted.

---

Funding: Research reported in this study was supported by grants from the NCI, NIH under award number R03 CA 178 488, and by a scholarship from the government of Saudi Arabia, Saudi Arabian Cultural Mission (SACM). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

## What Hospital Factors Promote Use of Formula among 'Exclusively' Breastfed Infants?

*Jodi O'Brien, MSN, RNC, PhD Student and Mary Barger, PhD, MPH,*
*Associate Professor*
*Hahn School of Nursing and Health Science, Beyster Institute of Nursing Research*
*University of San Diego*
*San Diego, CA*

*jodikobrien@sandiego.edu*

**Purpose/Aims:** The purpose of this study is to better understand the breastfeeding practices (time of first breastfeed after birth, number of feeds, and LATCH scores), hospital factors, and nursing interventions associated with supplementation during the hospital stay. Gaining a better understanding, is crucial in closing the gap between those that intend to exclusively breastfeed and those that are doing so at time of discharge from the hospital. The aim of this study is to examine how infant breastfeeding patterns, hospital factors, and individual nurses are associated with hospital formula supplementation of healthy, term, mother-infant dyads where exclusive breastfeeding has been stated as the intention on admission. A secondary aim is to assess for differences in feeding patterns between primiparous and multiparous mothers.

**Background:** Only 19% of all mothers are exclusively breastfeeding at 6 months, well below the Healthy People 2020 goal of 60.6%. The World Health Organization and UNICEF's *Ten Steps to Successful Breastfeeding* have helped hospitals improve breastfeeding initiation, yet increases in breastfeeding duration have lagged. Hospital factors that contribute to in-hospital supplementation remain largely unexplored except for two studies that examined time of birth's effect on formula supplementation. No one has examined if individual nurses have different supplementation rates accounting for known confounders and time of birth or if individual nurses employ different strategies among dyads with low LATCH scores. Also, although parity has been identified as a factor associated with in-hospital exclusive breastfeeding, it is not known if this is due to differences in infant breastfeeding patterns between multiparous and primiparous mothers.

**Methods:** A retrospective analysis of six months of data from the electronic medical record from a culturally diverse, hospital in Southern California with over 9,500 births annually. Around 400 eligible mother-infant dyads will meet study eligibility criteria, adequate to study. Descriptive statistics will be used to identify characteristics of infants, their feeding patterns and observations of first supplementation. Predictors of supplementation such as breastfeeding pattern, hospital factors, and individual nurse interventions will be identified using multiple logistic regression adjusting for identified confounders. Survival analysis will determine time to first supplementation using Cox non-proportional hazard modeling.

**Results:** Results pending, data to be analyzed.

**Implications:** Study results will provide insight for those caring for breastfeeding women and infants. This study's results will assist hospitals in targeting breastfeeding education, processes, and potentially modifiable factors that can promote exclusive breastfeeding. Lastly, the over-all health of mothers and their breastfeeding infants may be improved, while reducing costs associated with formula supplementation for these families and their communities.

## Symptoms of Women with Irritable Bowel Syndrome: Asian-Americans and Whites

*Claire J. Han, PhD Candidate, RN*
*Chouching Dong, PhD, RN*
*Monica E. Jarrett, PhD, RN*
*Margaret M. Heitkemper, PhD, RN, FAAN*
*School of Nursing*
*University of Washington*
*Seattle, WA*

**Purpose/Aims:** In this study we assessed the similarity and differences of symptoms (gastrointestinal [GI] and psychological distress) and life impact variables (life interference, cognitive beliefs, and health related-quality of life [HRQOL]) between Asian-American and White-American women with irritable bowel syndrome (IBS).

**Rationale/Conceptual Basis/Background:** IBS is a functional GI condition characterized by recurrent abdominal pain that is associated with either constipation (IBS-C), diarrhea (IBS-D) or a mixed both (IBS-M). IBS is viewed within a biopsychosocial model explicated by Drossman (2006) in which genetics, environmental, cultural, psychological and physiological factors are considered in both the development of IBS and its illness trajectory. Of these factors, less is known about the influences of ethnicity and race on the characteristics of symptom experiences in patients with IBS.

**Methods:** Asian-American women (n = 21) and age- and design matched White-American women (n = 63) with IBS completed interviews, questionnaires, and kept a diary for 28 days. Daily GI symptoms (e.g., abdominal pain, bloating, constipation, diarrhea, nausea, stomach pain, and heartburn) and psychological distress (depression, anxiety, stressed, fatigue, and sleepiness). Retrospective symptoms included psychological distress (Brief Symptom Index scale, Cognitive Scale for Functional Bowel Disorders [CSFBD]), and IBS-QOL questionnaire. Analysis of variances and partial correlations were used. Age was adjusted as a covariate.

**Results:** Asian-American women with IBS differed on symptoms compared to White-Americans with IBS. Higher percentage of IBS-C and IBS-D were seen in White-Americans than Asian-Americans (p =. 02). The percent days with moderate/ severe abdominal pain (p =.05) and psychological distress (p =.05) were higher in White-Americans as compared to Asian-Americans. Upper GI symptoms (nausea, stomach pain, and heartburn) were not statistically different between the two groups. In HRQOL, the Emotional dimension was stronger in Asian-American (p =.08) while Social Role was stronger in White-American women (p =.05). Positive and significant relationships among symptom variables and impact variables were mostly observed in White-Americans with IBS.

**Implications:** Our study provides an initial examination of how Asian-American women experience IBS symptoms and how they differ from White-Americans. Further studies are needed to evaluate contributing factors (e.g., cultural-environmental, pathophysiological mechanisms, diet) in Asian-American women with IBS so that the best healthcare can be provided.

---

Funding: This was not an industry supported study. Financial support was provided by NINR, NIH (NR004142, NR001094, NR011959, and P30 NR04001). The authors have indicated no financial conflicts of interest.

# WOMEN'S HEALTH

## Can ED Diagnoses Identify Women at Risk for Unhealthy Sexual Behavior?

*Shana Judge, MPP, JD, PhD*
*Assistant Professor*
*College of Nursing*
*The University of New Mexico*
*Albuquerque, NM*

*Elizabeth Holguin, MSN, MPH, FNP-BC*
*Doctoral Student*
*College of Nursing*
*The University of New Mexico*
*Albuquerque, NM*

**Aims:** This study evaluates whether visits to hospital emergency departments (EDs) could offer nurses an opportunity to identify women at risk of exposure to unhealthy sexual behaviors. Because these at-risk women may be unlikely to have access to regular health care services, the ED may be the medical setting in which they are most likely to seek care. Moreover, given the close interactions that nurses have with patients, ED nurses may be well-positioned to identify and assist such at-risk women.

**Background:** Many nurses receive training in recognizing indicators of rape, intimate partner violence, and abuse among patients. But no guidelines exist for identifying women who may be exposed to unhealthy sexual behaviors such as non-consensual sex or sexual violence, or related behaviors that may be criminalized, such as prostitution and sex trafficking.

Prior research offers anecdotal evidence that as a result of the physical, sexual, and emotional trauma some women experience when exposed to these behaviors, they are at risk for developing serious health problems. For example, these women may experience injuries, sexually transmitted infections (STIs), abortion complications, anxiety, and depression. Many do not receive regular health care.

**Methods:** To explore the possibility of identifying these women, we conducted a latent class analysis (LCA) using data from the Nationwide Emergency Department Sample (NEDS), which provides annual information on millions of ED visits. LCA analyzes the pattern of associations that appear among a population's observed characteristics in order to identify latent subgroups, such as certain at-risk patients, whose membership in the subgroup cannot be directly measured. The observed characteristics we use in our LCA models are the ICD-9 codes associated with ED visits.

We reviewed previous research on conditions that women may experience when engaging in unhealthy sexual behavior and identified the ICD-9 codes that commonly correspond to these conditions. We then compiled NEDS 2007 data for females who were diagnosed with one or more of these conditions and ran an LCA on a random sample of 591,311 observations.

**Results:** Our assessment of statistical model fit, in conjunction with our theoretical hypotheses, indicates that ED patients who were diagnosed with one or more conditions relating to unhealthy sexual behaviors may be members of one of four latent classes. The latent class we term as "At-Risk" (66% of patients in the sample) describes women with a relatively high probability of receiving STI diagnoses, along with depression-related diagnoses, pregnancies ending in abortive outcomes, and malnutrition. A second class (16%) includes women diagnosed with pregnancy-related complications, a third class (3%) describes women with normal pregnancies, and a fourth (16%) describes women diagnosed with anxiety-related disorders.

**Implications:** Our preliminary results indicate that an ED visit may offer nurses an opportunity to identify women who are members of a latent class at risk of exposure to unhealthy sexual behaviors. ED nurses may therefore view certain patterns of diagnoses as warning signs that could trigger referrals to social service providers or other interventions. Our future work will both refine our LCA models and explore additional recommendations.

---

Funding: Support for this study was provided in part by a grant from the Robert Wood Johnson Foundation Nursing and Health Policy Collaborative at the University of New Mexico.

# WOMEN'S HEALTH

## Measuring Midwifery Practice Climate: Driving Outcomes through Engagement

*E. Brie Thumm, MSN, MBA, RN, CNM*
*PhD Student*
*College of Nursing*
*University of Colorado Anschutz Medical Campus*
*Aurora, CO*

**Purpose:** The aim of this research is to develop a scale to measure the practice climate of midwives in order to explore burnout, engagement, and outcomes among midwives.

**Rationale:** Childbirth is the most prevalent reason for hospitalization in the U.S. Despite this, U.S. maternity care is riddled with workforce shortages and patient outcomes inconsistent with spending.

Midwives and the concept of work engagement address both of these challenges. Midwives provide care with outcomes consistent with or superior to physicians, while being more cost effective. Despite this, midwives are underutilized, attending only 8.2% of births in 2013. Engagement is associated with increased job performance and intention to leave one's position. Investigating engagement of midwives addresses cost-effective patient outcomes and workforce retention.

The Job Demands-Resources Model illustrates the relationship between engagement, patient outcomes, and workforce outcomes. The practice climate, defined as one's perception of their environment, drives the model. This abstract describes the development of the first scale to measure the unique midwifery practice climate.

**Methods:** The Midwifery Practice Climate Scale (MPCS) quantifies the midwives' perception of the practice climate in order to determine the relationship to psychological well-being and outcomes. The initial scale was an adaptation of the Nurse Practitioner-Primary Care Organizational Climate Questionnaire (NP-PCOCQ) by the author in consultation with four researchers in workforce, midwifery, and psychometric research. The NP-PCOCQ was used because of its robust psychometric testing and the similarities between nurse practitioners and certified nurse-midwives. The language was altered to accommodate various practice models and organizational structures. Four additional items were added to address the midwifery philosophy of care. The scale was then examined for content validity with a Content Validity Index (CVI) following the methods outlined by Lynn (1986). An expert panel of six midwives, representing multiple geographic regions and practice models, rated the scale on a 4-point Likert scale for the relevance of the items to their practices. The item CVI (I-CVI) and the scale CVI (S-CVI) were calculated to determine validity. In addition, experts were asked for free-form feedback, including areas omitted and overall perceptions of the scale. The results were evaluated for recurrent themes and compared to the nursing literature.

**Results:** The overall content validity of the MPCS was 0.98, with a minimum I-CVI of .83 and the maximum of 1.00. Themes in the opened ended section included unclear definition of "practice leadership", flexibility, being part of a team, and input into patient scheduling. Additionally, the respondent chosen for her birth center experience responded from her global experience as a midwife, but questioned whether items were applicable to birth centers.

**Implications:** The I-CVI and S-CVI indicate that all of the items and the total scale are valid. Prior to reliability and structural validity testing, the omissions will be addressed. Defining "practice leadership" is challenging due to the diversity of organizational structures. Given that "climate" is one's perception, the argument can be made that one's perception of who constitutes leadership is consistent with the concept. The MPCS requires additional testing with midwives practicing in birth centers.

---

**Funding:** This work was funded by the Colorado Affiliate of the American College of Nurse-Midwives.

# WOMEN’S HEALTH

## Disjointed Labor: Inducing Women on a Medical Timeline

*Janelle Palacios, RN, CNM, PhD*
*Certified Nurse Midwife*
*Women’s Health Department*
*The Permanente Medical Group*
*Walnut Creek, CA*

*Kathryn Lee RN, PhD, FAAN*
*Professor Emeritus*
*Family Health Care Nursing*
*University of California, San Francisco*
*San Francisco, CA*

**Purpose:** The purpose of this study was to understand women’s knowledge about and experiences of facing the possibility of being induced, and/or undergoing labor induction.

**Background:** Inducing labor is considered when risks to maternal or fetal health outweigh the risks of an early delivery. Since 1990, inducing women’s labor has increased from 9% to 23.3%in 2012. Labor induction rates vary by State, women’s ethnic backgrounds, and gestational ages. Women are induced for a variety of reasons and various methods are employed to induce labor; however, no study has addressed both women’s experiences of and knowledge about labor induction.

**Methods:** Data were digitally audio recorded between July 2014 to October 2015 through semi-structured in person or over the phone interviews with 40 women (n=20 nulliparous; n=20 multiparous) who faced possible labor induction either from maternal/fetal medical conditions or surpassing their due dates. Interpretive phenomenology guided interview analysis.

**Results:** Four main themes related to women’s experiences of labor induction were identified: sacrificed normalcy, critical communication, faith in medical birth, and emerging resiliency after trauma.

**Implications:** The results indicate that the process of labor induction has immediate and potentially lasting effects on women’s childbearing experiences, attitudes and beliefs. Healthcare providers and nurses are central figures in a woman’s labor induction experience. Clear communication that presents risks and benefits of labor induction, methods, and outcomes are needed: to help improve women’s knowledge, to enhance collaborative approaches to labor management, and to ameliorate women’s labor experience.

---

Funding: 5T32NR007088

# WOMEN'S HEALTH

## The Meaning of Patient-Nurse Interaction for Older Hospitalized Women

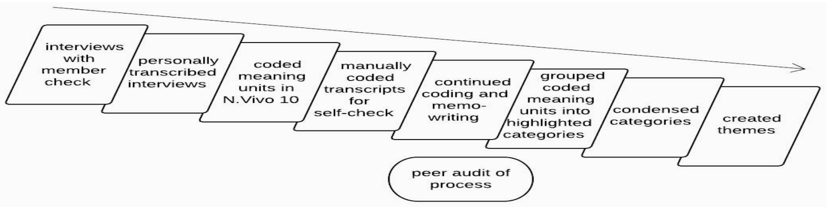
*Darcy Mize, EdD, MSN, RN*
*Simulation Coordinator/Clinical Assistant Professor*
*Oregon Health and Science University*
*School of Nursing*
*Klamath Falls, OR*

**Objective:** The purpose of this pilot study was to explore the perceptions of older women after receiving nursing care in a hospital setting.

**Background:** Older women are a vulnerable population. They are often overlooked or misunderstood by the nurses caring for them. Some research exists on nurses' understandings of their interactions with patients, yet few studies have described the meaning of such interactions from the patients' perspectives, and almost none have considered interactional meaning for older hospitalized women.

**Design:** A purposive sample included seven women between the ages of 66 and 81 from a white, middle class background. A phenomenological approach was used based on a hermeneutic framework that considered linguistic, historical, and social factors to interpret these older women's real-world of nursing care while hospitalized. The participants were interviewed using a semi-structured interview guide that helped explore their perceptions of patient-nurse interactions. The data was then analyzed using Critical Feminist Theory adapted to this study.

Figure 1. Flow Chart of Analytical Procedures



**Results:** Participants had a unique perspective on the experience of caring. Seven women told stories of being cared for by nurses as well as being the one who cared for family members. In these combined stories, a distinct contrast existed between the nurses who held caring in primacy, "I had a very kind nurse that bent over backward, always thought ahead, even ahead of what I was thinking" and those who were uncaring, "She wasn't rude, she was just like a nonperson." Narratives also shed light on an ideal of moral caring, "When you're taking care of your own (family); you want to do everything right for them," or the lack of morality in caring, "it's just a job, and they (nurses) are just there and they don't really care much, and it's unfortunate, and I haven't suffered because of it, but I didn't like it." Participants sometimes felt in control and sometimes felt powerless in their interactions with nurses. When they felt in control, their interactions with nurses were characterized by mutuality and respect, which enabled them to negotiate the terms of their care. When they felt powerless, they lacked voice and agency. All individuals seeking care, including the vulnerable population of older women in this study, potentially face increasing disability that requires hospital care. This calls for a reliance on direct, meaningful interactions with nurses to successfully navigate the healthcare system.

**Implications:** The findings suggest that older hospitalized women have inconsistent access to direct and meaningful interactions with nurses. The gathering and interpretation of additional narratives about patient-nurse interactions could lead to a deeper understanding of power and civility as it impacts a caring relationship. Future study participants could be older than age 81 and women from different cultural backgrounds. Next steps would be to develop strategies for enhancing relational skills of nurses who communicate regularly with older hospitalized women.

## Vitamin D Status among Healthy Pregnant Women in the Pacific Northwest

*Doria K. Thiele, PhD, CNM, IBCLC*
*Assistant Professor*
*School of Nursing*
*Oregon Health and Science University*
*Portland, OR*

*Elise Erickson, CNM*
*PhD Student*
*School of Nursing*
*Oregon Health and Science University*
*Portland, OR*

*Jonathan Snowden, PhD*
*Epidemiologist*
*Department of Obstetrics and Gynecology*
*Oregon Health and Science University*
*Portland, OR*

**Purpose:** To describe the current vitamin D status of women in early pregnancy in the Pacific Northwest.

**Background:** Pregnancies complicated by vitamin D deficiency are more likely to result in gestational diabetes, preeclampsia, and cesarean section. Infants born to vitamin D deficient women are themselves vitamin D deficient thus increasing risk of atopic disease, upper respiratory illness, smaller size, and later onset adult diseases. Serum vitamin D status is determined by sun exposure, skin pigmentation, latitude, and season. Several articles describing the prevalence and determinants of vitamin D status among pregnant women have been published, but none from the Pacific Northwest region of the United States (Portland 45.5°N, Seattle 47.6°N). In British Columbia (Vancouver 49.2°N), Li et al. (2011) found that 65% of pregnant women between 20 and 35 weeks gestation had 25[OH]D levels < 30 ng/mL, indicating Vitamin D insufficiency/deficiency. Determining the actual prevalence of vitamin D deficiency among pregnant women in the Portland/Seattle area is essential for understanding the extent of this health care problem and for informing clinical care.

**Methods:** Using a retrospective, chart review design, data were gathered from 2 out-of-hospital midwifery practices from charts dating between 2010 and 2013. These practices routinely analyzed serum vitamin D (25[OH]D) on all pregnant women initiating prenatal care during this time. Data were extracted from 167 charts and entered in to REDCap for data storage and management, excluding any identifiers. Statistical analysis was completed using STATA 13.1.

**Results:** The mean age of participants was 30.7 (± 4.1 years) with a mean body mass index (BMI) of 24.5 (± 5.0). The sample was not racially or ethnically diverse, as expected, with 82% of participants being non-Hispanic white. The sample consisted of 81 (48%) primiparous and 86 (52%) multiparous women. Season of blood analysis of 25[OH]D was equally distributed across the 4 seasons. The mean 25[OH]D was 30.4 (±10.9 ng/mL), with only 48% of participants being vitamin D sufficient using the Endocrine Society definitions of sufficient $\geq$ 30 ng/mL, insufficient 20-29 ng/mL, and deficient <20 ng/mL. More women were vitamin D sufficient in the summer (53%) compared to winter (43%).

**Implication:** White women with normal BMIs are at the lowest risk of vitamin D deficiency, yet this study demonstrates that 52% of these women were either deficient or insufficient in early pregnancy. Minimal sun exposure and lack of vitamin D supplementation in the Pacific Northwest is leading to this overall poor vitamin D status. Women with more skin pigmentation than the average white woman will be at even greater risk. Routine assessment and correction of vitamin D status among childbearing age women in this region should be considered. Future research is needed to determine the impact of the current situation on maternal/child health.

---

**Funding:** Sigma Theta Tau, Beta Psi Chapter, Naomi Ballard Nursing Research Award (Thiele).

# Comparing Group vs. Standard Prenatal Care in Safely Decreasing Cesarean Delivery

*Ellen L. Tilden, CNM, PhD*
*Assistant Professor*
*Nurse-Midwifery*
*School of Nursing*
*Oregon Health & Science University*
*Portland, OR*

**Aims:** Estimate the effect of group prenatal care vs. standard prenatal care on labor dystocia, mode of delivery, intervention rates, resource utilization, and morbidity and mortality outcomes.

**Background:** CenteringPregnancy or group prenatal care, a nursing innovation, is an alternate model of prenatal care delivery that has been associated with various improved perinatal outcomes in comparison to standard, individual prenatal care including decreased preterm birth, decreased low birth weight, improved breastfeeding, and high patient satisfaction. One important obstetric process measure that had not been previously explored among low-risk women who receive standard prenatal care vs. group prenatal care is the phase of labor (latent vs. active) at hospital admission. Phase of labor at hospital admission is an outcome of interest because 30 years of research have demonstrated that medically low-risk women who are admitted to the hospital in latent labor (cervical dilation of 4 cm. or less) are at significantly higher risk for interventions including oxytocin augmentation, reliance on internal fetal heart rate monitoring, use of epidural anesthesia, and cesarean birth. Though cesarean birth can be life-saving, this sharp increase in surgical delivery has been accompanied by corresponding increases in maternal morbidity and mortality, worse maternal short- and long-term health outcomes, as well as increased costs. State and national organizations support decreasing latent labor hospital admission as a vital target for reducing unnecessary cesarean birth among low-risk U.S.

Pilot data demonstrate that participation in group prenatal care was significantly associated both with active labor (≥4cm of cervical dilation) hospital admission (OR, 1.73; 95% CI, 1.03-2.99, $P = .049$) and also significantly greater cervical dilation at admission (mean (SD) 5.7 (2.5) cm vs. 5.1 (2.3) cm, $P = .005$) compared with women who participated in standard prenatal care, controlling for potential confounding variables and propensity for group vs. individual care selection. This pilot study was underpowered to draw conclusions regarding mode of delivery.

**Methods:** We will utilize observational data in which women self-select to prenatal care modality. To minimize bias from observational data, both propensity score and instrumental variable methods have been identified as successful approaches. Multivariate regression models will first be developed. Subsequently, propensity score analysis and instrumental variable methods will be utilized to examine the robustness of standard multivariable regression results. Outcomes variation will facilitate sensitivity analysis estimates.

**Results:** Pending

**Implications:** If group prenatal care is associated with decreased risk for cesarean delivery, it will establish this nursing innovation as one prevention-focused intervention with strong potential for safe reduction in U.S. cesarean delivery.

---

**Funding:** AHRQ and Quality-Funded BIRCWH K12 Award (Award Number: K12HD043488).

## Psychological Perspectives on Cervical Health Behaviors among Asian American Women

*Jongwon Lee*
*Associate Professor*
*College of Nursing*
*University of New Mexico*
*Albuquerque, NM*

*Mauricio Carvallo*
*Associate Professor*
*Dept. of Psychology*
*University of Oklahoma*
*Norman, OK*

**Purpose:** The current study explored factors influencing cervical health behaviors of VAW and KAW within the affective and cognitive aspects of attitudes.

**Background and Significance:** Cervical cancer is one of the common health problems among Vietnamese American women (VAW) and Korean American women (KAW). The incidence rates for invasive cervical cancer for VAW and KAW (11.9-18.9/100,000) are among the highest in the nation. These rates are much higher than those of non-Hispanic White (7.1-7.8/100,000) and African American (9.9-10.4/100,000) women. Despite these high incidence rates, both groups consistently report much lower rates of cervical cancer screening (68%-81%) than other major Asian subgroups (75%-89%) and non-Hispanic Whites (88%). Research shows that attitudes play a significant role in cervical cancer screening behaviors in these populations. However, this research has not integrated the dimensions of affect and cognition of attitudes to explore barriers to cervical cancer screening in VAW and KAW.

**Methods:** A convenience sample of 30 participants was recruited from Vietnamese and Korean beauty salons in Albuquerque, NM. Semi-structured interviews were conducted in participants' native language by two bilingual research coordinators, along with the primary investigator. A 40-60 minute interview was tape-recorded and transcribed verbatim in Vietnamese or Korean by transcriptionists who were fluent in those languages. Translators then interpreted the transcriptions into English for analysis. A semantic content analysis was used to identify major codes, categories, themes, and patterns across the transcripts.

**Results:** The study revealed both negative and positive affective and cognitive components of attitudes that influenced VAW and KAW's cervical health behaviors. Especially, the study revealed that beliefs such as "health is a priority," perceived empowerment of health status, and feelings of comfort and reduced anxiety are essential factors motivating them to get screened.

**Implications:** Quantitative research needs to be further conducted to help determine whether cervical health behaviors of these populations are based more on affect than cognition, or vice versa. Ultimately, such information will provide health care providers with in-depth insight into whether cervical cancer prevention programs should emphasize changes in affective or cognitive aspects of attitudes.

---

Funding: Support for this research was provided by the Oncology Nursing Society Foundation and University of New Mexico Clinical and Translational Science Center (DHHS/NIH/NCRR Grant: UL1RR031977).

## Mother-Infant Interactional Observational Assessment Tools during Feeding

*Madalynn Neu, PhD, RN*
*Associate Professor*
*University of Colorado College of Nursing*
*Aurora, CO*

*Zeynep Biringen, PhD*
*Professor and Director of Family and Developmental Studies Graduate Program*
*Colorado State University*
*Boulder, CO*

*Karen Fehringer, PhD*
*Assistant Professor*
*School of Public Health*
*University of Colorado*
*Aurora, CO*

**Purpose:** The objective of this study was to examine whether the Emotional Availability (EA) Scales (Biringen, 2008) and the Nursing Child Assessment of Feeding (NCAFS) Scale (Sumner & Spietz, 1996) provide unique information when assessing the maternal-infant relationship during feeding.

**Background:** Feeding is a frequent interactional opportunity experienced by the mother-infant dyad during the early months of life. Difficulties encountered during that time may have long-lasting ramifications, making comprehensive assessment of feeding important.

**Methods:** Mother-infant dyads (n=35) were observed during a feeding interaction before receiving an intervention for gastroesophageal reflux disease (GERD). Infants were 6 to 10 weeks of age, born at term with no medical condition except GERD diagnosed by their pediatrician. Fifty-seven percent of dyads were Caucasian and 78% of mothers completed at least four years of college. Feedings were videotaped. A certified NCAFS educator scored the interactions using NCAFS. EA scales were double-scored by coders who had achieved EA reliability scoring with infants. When disagreement occurred, the coders discussed the observation until agreement was reached.

*EA Scales*. Emotional availability refers to the ability of a dyad to share an emotional connection and enjoy a mutually fulfilling relationship. Maternal subscales: Sensitivity (appropriate responsiveness; ability to handle conflicts in the relationship); Structuring (consistent, nonexcessive limit setting); Nonintrusiveness (protectiveness of child without overdirection/overstimulation); Nonhostility (absence of inpatient, angry, bored behavior). Child subscales: Responsiveness (responding to bids of the adult without overcompliance); Involvement (engaging the adult without distress). Scores for each subscale range from 1 to 7 (more optimal). EA scales were used in more than 100 studies with every age group. Moderate short-term stability and discriminate validity were demonstrated.

*NCAFS*. NCAFS is widely used with infants from birth through 12 months of age. Maternal subscales: Sensitivity to Cues (positioning the infant for safe feeding; recognition of hunger and satiation cues); Response to Distress (recognition of infants distress and responses to decrease the distress); Social-Emotional Growth Fostering (maternal vocalization, smiling, eye contact; avoidance of hitting, shaking, negative comments); Cognitive Growth Fostering (maternal verbal response to infant vocalization; encouragement to explore breast/bottle while feeding). Infant subscales: Clarity of Cues (display of hunger and satiation cues, eye contact with caregiver); Responsiveness to Caregiver (vocalization, smiling, motor activity directed toward caregiver). Test-retest reliability and discriminate validity is adequate.

**Results:** NCAFS maternal subscales, Sensitivity and Response to Distress were uncorrelated with EA maternal subscales. Social-Emotional Growth Fostering correlated significantly with EA Sensitivity, Structuring, and Noninvasiveness ($r = .439$; $r = .345$; $r = .339$). Cognitive Growth Fostering correlated significantly with EA Sensitivity and Structuring ($r = .539$; $r = .501$). Only the infant NCAFS subscale, Responsiveness correlated significantly with EA infant Involvement ($r = .346$).

**Implications:** Commonality existed between some NCAFS and EA subscales, but correlations were only moderate. Other subscales in both instruments (NCAFS Sensitivity, Response to Distress, infant Clarity of Cues; EA Nonhostility and infant Responsiveness) provided unique information. Used together these two instruments can potentially provide a more comprehensive picture of the relationship than either one alone.

---

**Funding:** By the University of Colorado Clinical Translational Research Centers, CTRC #6379, and Intramural Funding from the University of Colorado College of Nursing.

# WOMEN'S HEALTH

## Expectations and Quality of Life in the Antepartum and Postpartum Period

*Mary K. Adams, PhD(c)*
*Associate Professor of Nursing*
*Point Loma Nazarene University*
*San Diego, CA*

*Sue Penckofer, PhD, RN, FAAN*
*Professor and Faculty Scholar, PhD Student Advisor*
*Loyola University, Niehoff School of Nursing*
*Chicago, IL*

**Purpose:** The purpose of this study is to determine how expectations affect maternal quality of life and to determine which factors are predictive of poor quality of life in women during pregnancy as well as the postpartum period. During pregnancy, women frequently anticipate birth and motherhood with unrealistic images and expectations which are formed by personal experience and society's portrayal of motherhood (e.g. books and movies). Studies have identified a link between maternal expectations, reality, and negative emotional responses.

**Conceptual Basis/Background:** Calman's theory of Quality of Life was used to guide the study. Calman proposes that quality of life is optimal when one's expectations match reality. Quality of life is also fluid and unique to each individual, as are expectations. Regarding motherhood, when expectations are met, the experience of motherhood may be a positive one. Although, when these expectations are not met, the potential for negative emotional responses may be greater.

**Methods:** This is a descriptive, longitudinal quantitative design. The following variables will be measured during the antepartum (8-9 months) and postpartum period (1-3 months): expectations (Parenting Expectations Measure), parental attitudes (Intensive Parenting Attitudes Questionnaire) moods (General Anxiety Disorder-7, Edinburgh Postnatal Depression Screen) and overall quality of life (Ferrans and Powers Quality of Life Index). Women (n=72) were recruited from an outpatient obstetrician office within a Midwest suburban medical center.

**Planned Analysis:** Data collection will be completed by December, 2015. Descriptive statistics and regression models will be used to determine whether expectations are met as well as if they are predictive of maternal quality of life. In addition, factors such as parental attitudes, social support, and measures of mood will be examined to determine their contribution to overall quality of life.

**Nursing Implications:** Knowledge gained from this study will help nurses and health care providers better understand the expectations of pregnant women compared to the realities of motherhood. In addition, exploring the factors that impact quality of life during the antepartum and postpartum period will help women prepare for motherhood with a more realistic perspective.

# WOMEN'S HEALTH

## Facility-Based Delivery Preferences of Women and Men in Ethiopia

*Nancy Beam, RN, NP, MPH*
*Doctoral Candidate*
*Family Health Care Nursing*
*University of California, San Francisco*
*San Francisco, CA*
*Nancy.beam@ucsf.edu*

**Aims:** This study aims to determine if gender differences exist in facility-based delivery preferences; the combination of preferences preferred by men and women; and key demographic factors associated with preferences.

**Background:** Despite improvements in health infrastructure and programs to promote facility-based delivery, which has been shown to decrease maternal and neonatal mortality, 80% of women in rural Ethiopia deliver at home without a skilled birth attendant. A review of the Ethiopian literature on factors associated with delivery location revealed several weaknesses in research methods that need to be addressed. First, research participants were almost exclusively women. While women's views should certainly be considered, male partners often make decisions about delivery location. Second, most quantitative study designs are similar in content to the Ethiopian Demographic Health Survey, limiting the generation of new knowledge. Third, cultural practices identified in qualitative studies as barriers to facility-based delivery have not been included in quantitative studies. This study proposes to use discrete choice experiment methodology to elicit preferences for delivery service attributes. These attributes, including support persons in the delivery room, staff training and attitude, cost, distance and transportation availability, will be assessed.

**Methods:** A cross-sectional, discrete choice experiment was conducted in 100 randomly selected households in rural Ethiopia in September-October 2015. Women who were pregnant or who have a child < 2 years old and their male partners were interviewed. After completing a demographic questionnaire, male and female respondents were asked separately to choose between facility-based scenarios where they would prefer to deliver their next baby. Data will be analyzed using a panel mixed multinomial logit model.

**Results:** Data collection and analysis is currently in progress.

**Implications:** The Ethiopian government has increased the number of health facilities and quality of care available, yet home deliveries continue to be preferred by Ethiopian families. The proposed study will identify the preferences for delivery services of women of childbearing age and their male partners in Ethiopia. A model used in Peru may offer guidance on how to improve Ethiopian facilities so that families choose to deliver at facilities instead of at home. In Peru, informants were interviewed and a list of changes that could be made at the facility level to make it more culturally acceptable and convenient to mothers and their families was compiled. Changes that were both safe and acceptable to patients were instituted. Between 1999 and 2007, facility-based births increased from 6% to 83% in targeted rural communities in Peru (Gabrysch et al., 2009). Information from this study may assist Ethiopian health care facilities in providing more culturally acceptable delivery services. This may, in turn, increase the number of families who deliver at health facilities, leading to decreases in maternal and neonatal mortality in Ethiopia.

---

**References:** Gabrysch, S., Lema, C., Bedriñana, E., Bautista, M. a, Malca, R., & Campbell, O. M. (2009). Cultural adaptation of birthing services in rural Ayacucho, Peru. *Bulletin of the World Health Organization*, *87*(9), 724–729. doi:10.2471/BLT.08.057794.

---

**Funding:** Sigma Theta Tau International Small Grant and UCSF Alpha Eta Chapter of STTI.

## Resilience in Female Street Prostitutes

*Rene Love, DNP, PMHNP, PhD Candidate*
*DNP Director/Clinical Associate Professor*
*The University of Arizona*
*Tucson, AZ*
*renelove@email.arizona.edu*

**Purpose/Aims:** Research on female street prostitutes has focused on the negative consequences of the lifestyle such as physical/mental health problems, and violence. Yet, there is a dearth of literature on resilience and coping. This pilot research study addresses resilience and coping skills among three groups of women in various life stages of prostitution: actively prostituting, exited the lifestyle for less than six months and exited for more than eighteen months. Specific aims included a description and comparison of trauma in childhood and adulthood, physical/mental health problems, number of provider visits in the last year, resilience and coping skills. Another aim included exploration of relationships between trauma, physical/mental health problems and resilience and coping skills.

**Rationale:** There is an estimated 70,000 to one million prostitutes in the United States. Female Street prostitutes suffer the highest rates of violence, abuse, and stigma of all types of sex workers with the violence often leading to an increase in premature mortality. The female street prostitutes have been shown be at high risk for HIV/AIDS, other chronic mental and physical health problems, and homelessness. The chronic physical and mental health problems as well as the increased physical and sexual violence experienced by these women on a daily basis is costly to the women, their families and society as a whole

**Methods:** Fifty subjects were divided into one of the three groups of women: still prostituting, exited the lifestyle less than six months, and exited the lifestyle more than eighteen months. The women completed seven questionnaires: Demographic characteristics, the Adverse Childhood Experiences, Adult Trauma questionnaire, a Health questionnaire, The Connor Davidson Resilience Scale, The Ways of Coping, and the Global Appraisal of Individual Needs Short Screener.

**Results:** The findings support that women who exited the lifestyle of prostitution for more than eighteen months had higher resilience than women still prostituting or left the lifestyle for less than six months. There was not a significant difference in resilience between women still prostituting and women who had exited for less than six months. The women were able to address substance abuse, crime/violence, and externalizing issues early in treatment however, internalizing issues such as distancing, and acquiring social support were not seen until exiting the lifestyle for 18 months or more. Women still prostituting reported acute issues in comparison to women who were out of the lifestyle for more than eighteen months. However, women who had been out of the lifestyle for more than eighteen months reported more chronic conditions.

**Implications:** These findings suggest that women who have experienced trauma throughout their lives will need longer-term treatment to promote resilient reintegration into society. Access to therapy as well as counseling is needed early upon exiting. Additionally, healthcare providers need to be educated to recognize red flags when providing care to prostitutes because they rarely share their lifestyles and risk factors with providers. Since the women seldom follow up with healthcare recommendations, it is important to assess these women very early so intervention can occur earlier in their life.

---

Funding: This research was partially funded from support by the IOTA Chapter of Sigma Theta Tau.

# WOMEN'S HEALTH

## Low Adherence to Medication and High Viral Load among Transgender Women Living with HIV

*Glenda N. Baguso, MS, RN*
*Doctoral Student*
*Department of Community Health Systems*

*Caryl L. Gay, PhD*
*Specialist*
*Department of Family Health Nursing*

*Kathryn A. Lee, PhD, RN*
*Professor*
*Department of Family Health Nursing*

*School of Nursing*
*University of California, San Francisco*
*San Francisco, CA*

**Purpose/Aim:** The aim is to examine the relationship between adherence to medication and demographic and clinical factors in transgender women living with HIV (TWLWH).

**Background:** The Institute of Medicine and National Institute of Health have identified transgender specific health needs as a priority research area, yet little is known about this high risk group. Transgender women are at high risk for HIV. In adults living with HIV, medication adherence is linked to health outcomes. In the United States, TWLWH report low adherence rates to medication. The goal of zero HIV transmission rates underscores the importance of adherence to medications. More studies are needed to explore the issues of TWLWH and their adherence to medication.

**Methods:** This study is a cross-sectional descriptive analysis from a larger study, the Symptom and Genetic Study. All participants were recruited from San Francisco Bay Area. Demographic data was collected on all participants. The AIDS Clinical Trials Group Adherence Questionnaire assessed adherence to all medications in TWLWH. Demographics and clinical variables were analyzed across three self-identified genders: transgender women (n=22); men (n=201) and females (n=72). Chi Squares were used to evaluate relationships between demographics and adherence across genders and within TWLWH.

**Results:** More transgender women or females were likely to be Black/African American than men ($p<.001$). Across genders, lower adherence is reported by TWLWH than men ($p=.028$). Males were more likely to be virally suppressed than either females or transgender women ($p=.039$). Looking within the TWLWH, Black/African Americans had better adherence ($p=.009$). Viral suppression was more likely in high adherent TWLWH ($p=.047$).

**Implications:** Given the high incidence of HIV in transgender women, viable interventions are needed to address adherence to medications for TWLWH. Amongst an interdisciplinary team, nurses can address the unique issues of TWLWH and provide culturally sensitive education and adherence counseling to HIV medications. Clinic based studies involving nursing care and interventions in TWLWH may decrease transmission of HIV and contribute to decreasing health disparities.

---

Funding: National Institute of Nursing Research T32 NR07081 (PI: C. Portillo & D. Vlahov); National Institute of Mental Health Grant NIMH, 5 R01 MH074358; and the General Clinical Research Center at University of California San Francisco Clinical and Translational Science Grant 1 UL RR024131.

# WOMEN'S HEALTH

## Appropriate Weight Gain during Pregnancy

*Eugelyn Opalec Santos, BSN, RN*
*Doctor of Nursing Practice Student*
*Hahn School of Nursing and Health Science*
*University of San Diego*
*San Diego, CA*

*Susan Instone, DNSc, CPNP*
*Professor*
*University of San Diego*
*San Diego, CA*

*Kristin A. Spivey, PhD*
*Clinical Mentor*
*Miracle Babies*
*San Diego, CA*

**Purpose:** The purpose of this project was to implement the Healthy Women Healthy Children (HWHC) program to assist pregnant women gain the recommended amount of weight based on the Institute of Medicine's guidelines.

**Background:** In the United States, the 2011 prevalence of greater than ideal weight gain during pregnancy was 48%. In California, the 2012 Maternal and Infant Health Survey (MIHA) reported that 42.5% of pregnant women had excessive weight gain while 48.5% of pregnant women in San Diego County gained excessive weight. Large international studies have documented that excessive weight gain during pregnancy is associated with adverse maternal and neonatal outcomes. In the United States, 1 in 8 babies are born prematurely. The annual cost of caring for babies in U.S. neonatal intensive care units (NICU) is $26 billion. Prevention of excessive weight gain during pregnancy can decrease neonatal adverse outcomes and therefore can reduce the annual cost of NICU care. Several studies document the effectiveness of diet and exercise in reducing gestational weight gain. A 2015 systematic review found that diet or exercise, or both reduced the risk of excessive gestational weight gain on average by 20%. Another 2012 meta-analysis found that there was a 1.42 kg reduction in gestational weight with diet, physical activity, or a mixed approach.

**Framework/EBP Model:** The Iowa Model and evidence about prenatal weight gain guided the development and implementation of the HWHC project.

**Project Plan Process:** The Healthy Women Healthy Children curriculum was a 12-week behavior change intervention modeled after the Healthy Mom's Study. Participants attended a biweekly class that focused on behavior change, nutrition, and exercise. Participants were educated on nutritional topics such as making healthy food choices, reading food labels, using My Plate for healthy portions, eliminating sugar-rich drinks, meal planning, and making healthy choices when eating at restaurants. During alternate weeks, participants attended an instructor-led exercise class that encouraged 150 minutes per week of moderate-intensity aerobic activity. During the bi-weekly classes, the participants' weight was recorded. These data are currently being analyzed to track the program's effectiveness.

**Outcomes:** The Healthy Women Healthy Children curriculum is expected to assist pregnant women to make behavior changes that will prevent excessive weight gain. Nurse practitioners can implement diet and exercise educational programs at their clinical settings to make a positive impact on maternal and fetal outcomes.

# WOMEN'S HEALTH

## Improving Immunization Rates among Pregnant Women

*Lacey Eden, MS, FNP-C, Assistant Teaching Professor*
*Gaye Ray, MS, NP-C, Associate Professor*
*Karlen E. Luthy, DNP, Assistant Teaching Professor*
*Janelle Macintosh, PhD, Assistant Professor*
*Renea Beckstrand, PhD, Assistant Professor*
*Halie Fellows, SN*
*Annie Tyler, SN*
*Brooke Stacey, SN*

*Brigham Young University College of Nursing*
*Provo, UT*

**Purpose/Aims:** The purpose of this project is three fold: 1) to educate pregnant women regarding the importance of specific health promotion activities during pregnancy including the Tdap vaccine, 2) to assist obstetric offices to increase Tdap immunization rates; and 3) to engage nursing students in a collaborative, community focused health promotion and disease prevention activity.
**Rationale/Background:** During 2012, there were 48,277 reported cases of pertussis including 20 pertussis-related deaths. While the lack of pertussis immunization causes illness in children and adults, infants are at greatest risk for suffering severe pertussis symptoms and death from the disease. As a result, in 2012 the Advisory Committee on Immunization Practices and the American College of Obstetricians and Gynecologists recommended pregnant women receive the Tdap immunization between 27-36 weeks gestation. Unfortunately, this recommendation has yet to be adopted by many American obstetricians. Currently only 14.3% of pregnant women are immunized with Tdap during the third trimester. An identified barrier preventing obstetricians from complying with the recommendation is refusal by patients, indicating a potential knowledge gap.
**Undertaking/Best Practice/Approach/Methods/Process:** With the widespread use of applications on mobile devices, the development of a pregnancy checklist application would cater to the familiarity of application use in daily living. Mentored students and faculty collaborated with a mobile applications development company to design and program the immunization application. With faculty mentors, students created a checklist of important pregnancy checkpoints and health promoting activities (i.e., timing for obstetric appointments, fetal ultra sound, glucose tolerance test, and Tdap and influenza immunization). This checklist will assist patients to take responsibility for their health and to be proactive advocates for themselves and their baby. The application was built around this checklist and will alert pregnant women when it is time for their important health promotion tasks.
**Outcomes Achieved/Documented:** This project will improve how healthcare providers of pregnant women can become influencers of change to increase Tdap immunization rates. Additionally, this project provides an opportunity for pre-licensure baccalaureate students to collaborate with professional agencies and groups to improve the health and wellbeing of individuals through health information technology. Specifically, this project will empower and educate expectant mothers to be proactive about their care and protection of their unborn child. As a result, it is anticipated that the rates of Tdap during pregnancy will increase, thus protecting the newborn and decreasing the incidence of pertussis.
**Conclusions:** Because other states have similar barriers to immunizing pregnant women with Tdap, intra- and inter-state collaboration will take place to improve efficacy and dissemination of the mobile application. Additionally, the National Association of Pediatric Nurse Practitioners (NAPNAP) has an Immunization Special Interest Group dedicated to protecting the health of infants and children and has expressed their desire to collaborate on this project. Hence, part of the mentored experience will include interfacing with other professional agencies and groups, both locally and nationwide.

---

**Funding:** Brigham Young University Mentoring Environment Grant.

# RESEARCH & INFORMATION EXCHANGE

The Research & Information Exchange includes posters of research conducted by faculty, students, and nurses in clinical practice. These posters have been selected by, and submitted from, WIN member agencies.

## ARIZONA STATE UNIVERSITY COLLEGE OF NURSING & HEALTH INNOVATION

*Phoenix, AZ*

### OLDER ADULT CAREGIVERS EXPERIENCING CARE TRANSITIONS: A HEALTH EMPOWERMENT PERSPECTIVE

*Laura Blank*

### CARPER'S FUNDAMENTAL PATTERNS OF KNOWING: A BRIDGE TO INTEGRATIVE KNOWING

*Judith Mueller*

### LEADERSHIP STYLE AND THE RELATIONSHIP TO STAFF AND PATIENT OUTCOMES

*Rebecca McCay*

### THE RELATIONSHIP BETWEEN BUSYNESS AND STRESS AS MODERATED BY LOCUS OF CONTROL AND ENJOYMENT OF LIFE TASKS

*Tara Perkins*

### MIDDLE EASTERN REFUGEES: WELLNESS ISSUES

*Danielle Wofford*

### CHARACTERISTICS OF MOTHERS WHO BREASTFEED THEIR LATE PRETERM INFANTS

*Angela Lober*

### DEPRESSION, SLEEP, AND GLYCEMIC CONTROL IN KOREAN AMERICANS WITH TYPE 2 DIABETES

*Mihyun Jeong*

### THE SOCIOCULTURAL CONTEXT OF BREASTFEEDING AMONG MIDDLE EASTERN ARABIC WOMEN: AN INTEGRATIVE REVIEW

*Wafa Khasawneh*

### STATE OF SCIENCE: HEALTH EMPOWERMENT TO IMPROVE SELF-MANAGEMENT IN HEART FAILURE

*Ramesh Thakur*

### SLEEP AND DIET HABITS AMONG SEX TRAFFICKED OR SEXUALLY ABUSED ADOLESCENTS

*Samantha Calvin*

## AZUSA PACIFIC UNIVERSITY SCHOOL OF NURSING

*Monrovia, CA*

Ten posters were presented by Azusa Pacific University in the Research and Information Exchange.

## BETTY IRENE MOORE SCHOOL OF NURSING AT UC DAVIS

*Sacramento, CA*

### ACTIVITY FOR STUDENTS ON CARING FOR LOW INCOME, MINORITY WOMEN WITH CHRONIC CONDITIONS

*Annie Tat*

### AN EXPLORATORY STUDY OF FRONTLINE NURSING LEADERSHIP IN THE ACUTE CARE SETTING

*Carel Troutman*

### DEVELOPMENT OF AN INTERPROFESSIONAL SIMULATION SCENARIO FOR COMMUNITY COLLEGES

*Nicole Hernandez*

### EXPERIENCES OF SURVIVORS OF SUICIDE IN A RURAL COMMUNITY WITH LIMITED ACCESS TO CARE

*Randi Arias-Losado*

### CUMULATIVE INCIDENCE OF ACUTE KIDNEY INJURY IN CALIFORNIA'S AGRICULTURAL WORKERS

*Sally Moyce*

### M-HEALTH FOR PALLIATIVE CARE: PILOT ASSESSMENT FOR OLDER ADULTS WITH CANCER

*Wendy Wait*

## BOISE STATE UNIVERSITY SCHOOL OF NURSING

*Boise, ID*

### STATE CERTIFICATION OF COMMUNITY HEALTH WORKERS AND TEAM CLIMATE IN TEXAS

*Brenna Kreglo, Mark Siemon*

### THE USE OF AROMATHERAPY TO REDUCE TEST ANXIETY IN NURSING STUDENTS

*Abigail Lipschultz, Margaret Downey*

### STUDENT NURSES PERCEIVED SELF CONFIDENCE IN CARING FOR WOMEN WITH PPD RISK

*Ryoko Pentecost, Shoni Davis*

### COMPLEMENTARY ALTERNATIVE MEDICINE IN PEDIATRIC ONCOLOGY PATIENTS

*Tara Herdegen, JoHannah Spence, Nicole Taylor, Cara Gallegos*

### INFLUENCE OF MATERNAL PTSD AFFECTING PTSD IN CHILDREN POST PCU DISCHARGE

*Ali Komlenic, Shelby Grubbs, Cara Gallegos*

### HEALTH PROMOTION AMONG PERUVIAN SHEEPHERDERS OF IDAHO

*Jillian Vaughan, Alex Burrows, Betzi Quiroz*

### COLLABORATING WITH COMMUNITY PARTNERS TO PROMOTE HIV AWARENESS AND SCREENING

*Joshua Meyer, John Larrinaga, Yunchuan (Lucy) Zhao*

### ESTABLISHING A PARTNERSHIP BETWEEN A HOSPITAL AND WIC BREASTFEEDING PEER COUNSELORS

*Cindi Bennett, Jane Grassley*

---

## CHARLES R. DREW UNIVERSITY
## MERVYN M. DYMALLY SCHOOL OF NURSING

*Los Angeles, CA*

### HEALTH RISK PROFILE OF UNDERSERVED COMMUNITY BY HEALTH STATUS

*Chao V, Montes P, Evers-Manly S, Shaheen M*

### SYSTEMATIC REVIEW OF TELEMEDICINE ON HOSPITAL READMISSION OF HEART FAILURE PATIENTS

*Merilles A, Presores G, Presores M, Evers-Manly S, Shaheen M*

### THE RELATIONSHIP BETWEEN FAT INTAKE AND COGNITIVE FUNCTION IN ELDERLY POPULATION

*Shaheen M, Evers-Manly S*

### POST-PARTUM DEPRESSION AMONG UNDERSERVED WOMEN IN LOS ANGELES: A SYSTEMATIC REVIEW

*Smeltzer J, Valverde K, Williams O, Shaheen M, Cortez A, Evers-Manly S*

### MODERN SLAVERY, HUMAN TRAFFICKING: A PUBLIC HEALTH CRISIS

*Sia A, Ung C, Agu D, Haylock J, Bowen J, Miller L, Nkwuaku N,*
*Omeze O, Williams O, Yau T, Cortez A, Evers Manly S*

### MEDICAL AND PSYCHO-SOCIAL FACTORS AMONG HIV VETERANS: A REVIEW OF THE LITERATURE

*Mesfun M, Fields S*

### PRESSURE ULCER IN CALIFORNIA HOSPITALS: IMPLICATIONS FOR BEST PRACTICES

*Cortez A, Evers-Manly S, Kermah D, Lonergan A, Frazier K, Kengston B,*
*Aclan M, Villar D, Tomines D, Molano F, Turngan J, Andal A, Edmonds B, Shaheen M*

### CHILDHOOD MOLESTATION AMONG AFRICAN AMERICANS WITH HIV IN SOUTH LOS ANGELES

*Jordon W, James J, Addo B, Evers-Manly S, Shaheen M*

### SYSTEMATIC REVIEW OF THE EFFECTIVENESS OF NURSE PRACTITIONER FACULTY PRACTICE

*Jhocson M, Azad J, Evers-Manly S, Shaheen M*

---

## CHILDREN'S HOSPITAL COLORADO

*Aurora, CO*

### CLINICAL AND TRANSLATIONAL RESEARCH: NURSE SCIENTIST AT THE CORE OF SAFETY

*Sharon Sables-Baus*

### MODIFIED BLOOD PRIME USE IN PEDIATRIC ECP: DECREASING BLOOD UTILIZATION

*Elizabeth Valdez, Eileen Schwartz, Mary Sanders, Ashley Tiller,*
*Kelley Capocelli, Melkon Dombourian, Dan Ambruso, Leon Su, Katie Baker*

### LOOKING FOR SEPSIS: A QUALITY APPROACH TO PEDIATRIC ASSESSMENT

*Danella Pochman, Lindsey Shaw*

### THE ART OF SOFT CASTING PEDIATRIC HAND BURNS: GREATER GAIN, LESS PAIN

*Cindy Nederveld, Trudy Boulter, Avery Barron, Steven Moulton*

ENHANCING EDUCATION: FAMILY LEARNING CENTER
*Beth Hicks*

YOUTH & PET SURVIVORS (YAPS): ANIMAL-ASSISTED THERAPY USING PEN-PALS
*Anne Gillespie*

---

## HOAG MEMORIAL HOSPITAL PRESBYTERIAN-NEWPORT BEACH

*Newport Beach, CA*

PROGRESSIVE MOBILITY PROTOCOL: NOT JUST FOR CRITICAL CARE
*Chet McCauley, Chandra Kinney, Diana Tai, Lani Malcolm-Koch*

CULTURE CHANGE:  INNOVATIVE SYMPTOM MANAGEMENT PROTOCOL AT END OF LIFE
*Janet Batt, Chandra Kinney*

PREVENTION AND MANAGEMENT OF POSTOPERATIVE NAUSEA & VOMITING POST CESAREAN DELIVERY
*YaGiun Chao, Ahlam Jadalla*

FROM BEDSIDE TO BOARDROOM: FRONTLINE NURSES CREATING ORGANIZATION CHANGE
*Katherine Wallace, Tim Brophy, Elizabeth Geyer, Janell Griggs*

VACCINATION RATE IMPROVEMENT USING TECHNOLOGY
*Karen Pope, Elizabeth Glanders, Cherie Bozarth*

SIMULATION DRILLS FOR MASSIVE TRANSFUSION PROTOCOL AND NURSING CONFIDENCE
*Sharon A. Hoier*

IMPLEMENTATION OF A HIGH-RISK BREAST CANCER SCREENING PROGRAM: FIRST YEAR FINDINGS
*Karen Herold, Ahlam Jadalla, Jeff Schell*

---

## LOMA LINDA UNIVERSITY SCHOOL OF NURSING

*Loma Linda, CA*

IMPROVING PERIOPERATIVE NURSES’ IMPLANT DOCUMENTATION USING BARCODE SYSTEMS
*Mary Rodriguez, Iris Mamier, Troy Seagondollar*

## PRIMARY CARE PEDIATRIC PROVIDERS PERCEPTION OF ASTHMA EDUCATION

*Margarette M. Rhamie, Shirley Bristol*

## PROMOTING INTERPROFESSIONAL COLLABORATION IN A MULTI-DISCIPLINARY TEAM

*Gwen Wysocki, Ellen D'Errico, Betty Winslow*

## 30-DAY READMISSION RISK ASSESSMENT WITH SOCIOECONOMIC MEASURES IN HEART FAILURE

*Denise K. Petersen, Patricia Radovich*

## PRESSURE ULCER PREVENTION FOR PROLONGED EMERGENCY STAY PATIENTS

*Kelly Wolff, Cinthia Ortiz, Jewel Role, Novi Sitanggang, Myra Sanchez-Estrada*

# LUCILE PACKARD CHILDREN'S HOSPITAL

*Palo Alto, CA*

## AN INTER-PROFESSIONAL APPROACH TO EVIDENCE-BASED PRACTICE AT LUCILE PACKARD CHILDREN'S HOSPITAL STANFORD

*Jessica Warren Matei*

# MAYO CLINIC, ARIZONA

*Phoenix, AZ*

## USE OF THE DELIRIUM TRIAGE SCREEN AND BRIEF CONFUSION ASSESSMENT METHOD TO SCREEN FOR DELIRIUM IN NON-INTENSIVE CARE PATIENTS

*Jane Sederstrom, Christine Aliory, Elaine Hanneman*

# MONTANA STATE UNIVERSITY COLLEGE OF NURSING

*Bozeman, MT*

## MONITORING PHYSICAL ACTIVITY IN PERSONS WITH FIBROMYALGIA

*Kira M. Kitchens, Alice Running, Linda Torma, Susan Luaprell, Jeannie Osellame*

## MORAL DISENGAGEMENT IN RURAL MONTANA NURSES: A REPLICATION STUDY

*Evan Thompson, Susan Luparell*

### ADVANCE CARE PLANNING IN RURAL MONTANA: EXPLORING THE NURSE'S ROLE

*Kara Christensen, Charlene Winters, Susan Luparell, Yoshi Colcough, Erin Oley*

### RURAL NURSE ENVIRONMENTAL HEALTH EDUCATION PROGRAM

*Amy Braaksma, Charlene Winters, Cliff Montagne,*
*Loren Barber-Franklin, Jennifer Sofie*

### ACUPRESSURE TO PREVENT POST-OPERATIVE NAUSEA AND VOMITING

*Shoshannah Seed, Alice Running*

---

## NATIONAL UNIVERSITY SCHOOL OF HEALTH AND HUMAN SERVICES

*San Diego, CA*

### IDENTIFYING CARDIOVASCULAR RISK FACTORS AMONG COLLEGE STUDENTS

*Dieu-My T. Tran, Kevin Kupzyk, Lani Zimmerman*

### CONCEPT ANALYSIS: PROFESSIONALISM

*Jocelyn Corrao*

### DEVELOPMENT OF THE EPRO FATIGUE© MOBILE SYMPTOM MONITORING DEVICE: A PILOT STUDY

*Barbara F. Piper, Linda T. Macomber, Subra R. Subramanya,*
*Norman McEntire, Geline J. Tamayo, R. Curtis Bay*

### AN INTERPROFESSIONAL EMBEDDED ONLINE MODEL TO ENHANCE BSN AND MSN STUDENT LEARNING

*Barbara F. Piper, Zemirah Lee*

---

## OREGON HEALTH & SCIENCE UNIVERSITY SCHOOL OF NURSING

*Portland, OR*

### SIMULATION THAT ENHANCES STUDENTS' TEAMWORK AND COMMUNICATION

*Suliaman Al Sabei*

### HEALTHCARE UTILIZATION DECISION-MAKING: THE INFLUENCE OF COMPANION ANIMALS

*Basilia Basin*

### LIFE SATISFACTION IN CHILDREN WITH ADHD: A MIXED-METHODS STUDY PROPOSAL

*Patricia Barfield*

### BREAST CANCER SURVIVOR SARCOPENIC OBESITY PREVALENCE AND PHYSICAL FUNCTION

*Daniel Mick, Kerri Winters-Stone, Nathan Dieckmann*

### DAILY HASSLES, MENTAL HEALTH OUTCOMES, AND MINDFULNESS IN STUDENT NURSE ANESTHETISTS

*Kaori Donohue, Mary Karlet, Scott D. Mist, Kim Dupree Jones, Michael S. Christopher*

### UNDERSTANDING FUNCTIONAL DISABILITY IN ADOLESCENTS WITH CHRONIC PAIN

*Kari A. Firestone, Anna Long, Kim D. Jones*

### POSTTRAUMATIC GROWTH'S INFLUENCE ON EXPERIENCED ICU NURSES

*Emily Calabro*

### MORAL INJURY IN NURSE SECOND VICTIMS-WOUNDED HEALERS IN THE WORKFORCE

*Mady Stovall*

### OXYTOCIN ADMINISTERED DURING BIRTH AND BREASTFEEDING: AN INTEGRATIVE REVIEW

*Elise Erickson*

---

## PACIFIC LUTHERAN UNIVERSITY SCHOOL OF NURSING

*Tacoma, WA*

### FACILITATED FAMILY PRESENCE DURING RESUSCITATION: BEING USHERED INTO THE SACRED SPACE OF RESUSCITATION

*Erla Champ-Gibson*

---

## PROVIDENCE HEALTH & SERVICES

*Portland, OR*

### FECAL MICROBIOTA TRANSPLANT (FMT): IMPLEMENTATION AT PAMC

*Amy Myers*

### GIVE ME A BREAK

*William M. Lim, Bilma Pellissery, Jenny Carrillo*

### THE EFFECTIVENESS OF LOWER STAFFING RATIOS ON AN ORTHOPEDIC MEDICAL SURGICAL UNIT

*Maelene Owera, Heinrich Huerto, Esmeralda Rodriguez, Kayley Coogan, Gemma Francisco, Alex Kaddu*

### HEEL TO HEAL PRESSURE ULCER PREVENTION 2014

*Jennifer Travis, Debra Miller, Maureen Hampton, Celia Walta, Judy Koski, Miriam Gottlieb, Kira Karinen, Lynda Moses, Tammy Palumbo, Lisa Jill Miller*

### CODE ON THE ROAD: INTERPROFESSIONAL EMERGENCY TRAINING IN MEDICAL CLINICS

*Rachelle Reid*

### INPATIENT ORAL CARE: DOES EDUCATION & STANDARDIZED PROTOCOLS IMPROVE CARE?

*Hillary Jenson*

### COMFORT BOXES DECREASE SELF-HARM BEHAVIOR ON ACUTE ADULT PSYCHIATRIC UNIT

*Joan Carr LaPorte, John Nishan, Inga Giske*

### FIRST RESPONDER ROLE ASSIGNMENT PERFORMANCE IMPROVEMENT PROJECT

*Tracy Courtenay, Tina Stensland, Rosalind Winters*

### A UNIT BASED APPROACH TO IMPROVING SKIN HEALTH: THE WOUND TREATMENT ASSOCIATE PROGRAM

*Robin Knaff Baker, Ruth Bryant, Michelle Best, Teresa Patterson, Rebecca Thomas, Elizabeth Wrigley, Tonia Wells*

### DOES COMMUNICATION OF A DAILY MEASURABLE PATIENT MOBILITY GOAL INCREASE PATIENT MOBILITY?

*Janet Nead, Leanne Woods, Jackie Kaps*

### IMPLEMENTING THE ANALOGO SEDATION PROTOCOL FOR THE VENTILATED PATIENT

*Colleen Millers, Brooke Henrikson*

### REDUCING CDI IN ICU WITH UV-C LIGHT DECONTAMINATION

*Tamara Powers, Dawn Rohrbach, Nicole Marks*

---

## SAN DIEGO STATE UNIVERSITY SCHOOL OF NURSING

*San Diego, CA*

### BONE HEALTH AND CALCIUM SUPPLEMENT INTAKE AMONG ADULTS LIVING IN SAN DIEGO COUNTY

*Elyssa Aguirre, Joy Gao, Mengqi Zhang, Young-Shin Lee*

## SOUTHERN CALIFORNA CSU DNP CONSORTIUM

*Fullerton, CA*

### EVALUATION OF LATENT TUBERCULOSIS INFECTION SCREENING IN THE FIELD

*Gema Morales-Meyer, Penny Weismuller*

### INDUCTION OF ANESTHESIA IN CHILDREN WITH AUTISM: PARENTAL PREPARATION

*Debra Rannalli, Margaret Brady*

### INTRAVENOUS OSTEOPOROSIS MEDICATION ADHERENCE

*Colleen Bogdanich, Elizabeth J. Winokur*

### CAREGIVER NEED ASSESSMENT TOOL

*Diem-Linh Phuong Tran, Gail Washington*

### CERVICAL RIPENING BALLOON: SAFETY EVIDENCE IN VAGINAL BIRTH AFTER CESAREAN

*Nancy Anderson Rouse, Ruth Mielke*

### POST FALL HUDDLE: AN INTERVENTION TO REDUCE RECURRENT FALLS IN LTC

*Mira Cabios Castaneda, Feng-Ping Sarah Lee*

### PREVALENCE OF GYNECOLOGICAL FINDINGS IN WELL WOMAN EXAMINATIONS

*Cynthia Ann Sanchez, Cynthia Hughes*

### PATIENT SATISFACTION WITH ANESTHETIC CARE: WHAT DO WE KNOW?

*Darlene K. Falco, Dana Rutledge*

### CONTRAST INDUCED NEPHROPATHY: PROTECTING KIDNEYS, PROTECTING LIVES

*Yvonne Gallegos, Asma Taha*

### IMPLEMENTATION AND EVALUATION OF CHRONIC CARE MANAGEMENT PROGRAM

*Jun Yung Kim, David Kumrow*

### DEVELOPMENT AND IMPLEMENTATION OF A WEB-PERIOPERATIVE INFORMATION SYSTEM

*Maria Hyacinth Letts, Joy Goebel*

### IMPLEMENTING EVIDENCE-BASED PRACTICES FOR INTERDISCIPLINARY ROUNDING

*Brooke Baldwin-Rodriguez, Penny Weismuller*

## TOURO UNIVERSITY NEVADA

*Henderson, NV*

### BEST PRACTICES IN USING PEER & NEAR PEER TEACHING IN NURSING EDUCATION

*Diane Elmore*

### ENGAGING STUDENTS WITH GAMIFICATION LEARNING ACTIVITIES

*Diane Elmore*

### COLLABORATIVE TESTING & ASSESSMENT TOOLS TO ENHANCE CRITICAL THINKING

*Katherina Fontanilla*

### CULTURALLY DIVERSE DISCHARGE PLANNING & EDUCATION

*Dulce Santacroce*

### A FRAMEWORK FOR ONBOARDING CLINICAL ADJUNCT NURSING FACULTY

*Rebecca Weatherly*

### EDUCATIONAL IMPACT ON PERCEIVED BARRIERS TO EARLY PROGRESSIVE MOBILIZATION IN THE ICU

*Jessica Grimm, Angela Silvestri-Elmore, Erik Grimm, Kelly Klinger, Scott Nye, Jessica Bhullar*

### ASSESSING BLOOD LOSS FOR EARLY MANAGEMENT OF POSTPARTUM HEMORRHAGE

*Susan Lynch, Rachel Rigby*

### SCHOOL NURSE IMPACT ON HEALTH PROMOTION IN SCHOOL-AGE CHILDREN

*June Hillard, Rory Mitchell, Greg Fullmer, Lilly Smith*

---

## UCSF MEDICAL CENTER

*San Francisco, CA*

### MEDICATION REVIEW IN THE AMBULATORY SETTING

*Michelle Sison*

### ORAL HYDRATION OF THE PERCUTANEOUS CORONARY INTERVENTION PATIENT: A REVISION OF THE NPO STATUS

*Rochelle Szuba*

### HEALING TOUCH AND THE EFFECTS ON PAIN IN ADULT HOSPITALIZED PATIENTS

*Anne Jensen*

### MANAGING POST-OPERATIVE URINARY RETENTION IN THE ORTHOPAEDIC PATIENT

*Michael Heinbach*

## UNIVERSITY OF ARIZONA COLLEGE OF NURSING

*Tucson, AZ*

### STAKEHOLDERS' PERCEPTIONS OF CARE COORDINATION: A PARTICIPATORY PROCESS

*Morgan Overgaard, Annmarie A. Lyles, Grace L. Caputo, Marylyn E. McEwen*

### THE USE OF MUSIC THERAPY TO DECREASE PAIN AND ANXIETY IN PEDIATRIC PATIENTS

*Amanda M. Romaine, Gloanna Peak, Melissa Goldsmith*

### A CULTURALLY SENSITIVE, TECHNOLOGY-ENHANCED MENTAL HEALTH SCREENING TOOL

*Barbara Salway-Jensen, Kimberly Shea*

### NURSE PRACTITIONERS' SKIN CANCER PREVENTION PRACTICE: A SYSTEMATIC REVIEW

*Delaney Stratton, Maribeth Slebodnik, Lois J. Loescher, Sandra S. Kramer*

### AFRICAN AMERICAN BREAST CANCER SURVIVORS' INTENTION TO PREVENT WEIGHT GAIN

*Beverly S. Washington, Lois J. Loescher, Pamela G. Reed, Carrie J. Merkle*

### A NOVEL UNDERSTANDING OF SUFFERING IN INFANTS: A CONCEPT ANALYSIS

*Nicholas L. Zumwalt*

## UNIVERSITY OF CALIFORNIA, LOS ANGELES SCHOOL OF NURSING

*Los Angeles, CA*

### ALCOHOL USE DISORDER IN POSTOPERATIVE BARIATRIC PATIENTS: A REVIEW OF THE LITERATURE

*Donna Gloria*

## UNIVERSITY OF CALIFORNIA, SAN FRANCISCO SCHOOL OF NURSING

*San Francisco, CA*

### DIABETES BELIEFS AND PRACTICES AMONG FIRST GENERATION ASIAN INDIANS IN THE US

*Rupinder Deol*

### ATRIAL FIBRILLATION PATIENTS DESCRIBE THEIR MANAGEMENT EFFORTS AND NEEDS

*Linda Ottoboni, Paul Wang, Roberta S. Rehm*

### SHARED MEDICAL APPOINTMENTS: AN INNOVATIVE MODEL OF CARE FOR LATINOS WITH TYPE-2 DM

*Carolina Noya*

### SOCIAL CAPITAL AND QUALITY OF LIFE FOR PEOPLE LIVING WITH HIV/AIDS IN TANZANIA

*Soson Jong*

### EVALUATION AND COMPARATIVE COST OF SOBERING CENTER CARE FOR ACUTE ALCOHOL INTOXICATION

*Shannon Smith-Bernardin*

---

## UNIVERSITY OF COLORADO COLLEGE OF NURSING ANSCHUTZ MEDICAL CAMPUS

*Aurora, CO*

### USEFULNESS OF CLINICAL TOOLS TO ANALYZE MOTHER/INFANT FEEDING INTERACTION

*Meredith Jameson, Karen Fehringer, Madalynn Neu*

### TRAINING IN SBIRT TO CREATE CHANGE IN KNOWLEDGE, ATTITUDE AND BEHAVIOR

*Matthew J. Mostek, Paul F. Cook, Mary Weber, Lisa K. Avery, Laurra Aagaard*

### WORKPLACE INCIVILITY IN NURSING WORK ENVIRONMENTS: METASYNTHESIS

*Lindsey Marie Tarasenko*

### ENHANCING COPD PHENOTYPES WITH PATTERNS OF COGNITIVE DYSFUNCTION

*Lisa M. Mason*

### GLYCEMIC VARIABILITY IN POSTMENOPAUSAL WOMEN TREATED WITH ERT

*Arely Mendez*

### FACTORS ASSOCIATED WITH REFUGEES' UTILIZATION OF HEALTHCARE SERVICES

*Maytham Alshadood, Jini Puma, Scott Harpin*

---

## UNIVERSITY OF NEVADA, LAS VEGAS SCHOOL OF NURSING

*Las Vegas, NV*

### CORRECTIONAL NURSES' EXPERIENCES CARING FOR PRISONERS RECOVERING FROM METHAMPHETAMINE ABUSE: HIGH BURNOUT OR CONFUSED IDENTITY?

*Victoria Plagenz*

### NURSING STUDENTS' NONACADEMIC BARRIERS TO SUCCESS ON HIGH STAKES EXAMS

*Jennifer A. Bussen*

### A LIVED EXPERIENCE OF NURSING COURSE FAILURE IN AN ADN PROGRAM

*Jayme Haynes*

### IRB CULTURAL CONSIDERATIONS: A CLINICAL INTERVENTION STUDY IN RURAL GHANA

*Karen de la Cruz*

### CLINICAL TEACHING MODELS, CLINICAL SELF-EFFICACY AND TEAM PROCESS ATTITUDES

*Christina Plemmons*

### LITERATURE REVIEW OF ENVIRONMENTAL STRESSORS FOR NURSING DOCTORAL STUDENTS

*Delene R. Volkert*

### INTENTIONAL LEARNING: A CONCEPT ANALYSIS

*Sarah Mollman*

### UNDERSTANDING THE PREPARATION AND SUPPORT NEEDED FOR UNDERGRADUATE CLINICAL FACULTY

*Sara McPherson*

### CULTURAL COMPETENCE OF NURSE PRACTITIONERS: PROVIDING CARE FOR GAY AND LESBIAN CLIENTS

*Paul S. Smith*

### DELIRIUM EDUCATION PROGRAM FOR CRITICAL CARE NURSES: A MIXED METHODS STUDY

*Meredith Padilla*

EXPANDING NURSING CURRICULUM TO INCLUDE LESBIAN, GAY, BISEXUAL, AND TRANS* POPULATIONS

*KellyAnn Garthe*

---

**UNIVERSITY OF NEW MEXICO COLLEGE OF NURSING**

*Albuquerque, NM*

COMPASSION SATISFACTION AND COMPASSION FATIGUE AMONG PEDIATRIC NURSES

*Maribeth Thornton*

EXPANDING ACCESS TO OPIOID DEPENDENCY TREATMENT

*Krista Scorsone*

UNIQUE MODEL OF INTERDISCIPLINARY HEALTH-LAW EDUCATION: NURSE-LEGAL PARTNERSHIP

*Kelly Nestor*

RESTORING HOZHO': A SOCIO-ECOLOGICAL ANALYSIS OF CHILDHOOD OBESITY

*Regina Eddie*

---

**UNIVERSITY OF NEW MEXICO HOSPITALS**

*Albuquerque, NM*

VEIN PRESERVATION IN RENAL PATIENTS

*C. Jeff Sillivent*

EFFICACY OF DIALECTICAL BEHAVIOR THERAPY ON PSYCHIATRIC PEDIATRIC INPATIENTS

*Dawnelle Romero-Baca*

REAL TIME AUDITING STROKE PATIENTS POST TPA

*Luis G. Marquez, Jolene Enslin*

THE EFFECT OF COMPASSION FATIGUE ROUNDING ON NURSES AND PHYSICIANS COMPASSION FATIGUE

*Debbie Ruiz*

THE EFFECT OF A DISCHARGE NURSE' EDUCATION AND FOLLOW-UP ON NEUROLOGICAL PATIENT'S OUTCOMES

*Deb Minke, Vallli Aran*

CARBAPENEM-RESISTANT ENTEROBACTERIACAE (CRE)

*Manuelita Chapman*

### SAFE CARE OF PATIENTS IN PROCEDURAL AREAS

*Meaghan M. Carey, Angela M. Sanchez*

### PREVENTION OF CLABSI

*Cecilia Saenz*

### PLACENTAL DRAWS SAVE INFANTS FROM INVASIVE PROCEDURES

*Rachel Brackbill, Samantha Schmaltz*

### COMPLIANCE WITH ESRD MEDICATIONS AND TREATMENT

*Cecile Sanchez, Jonathan Duggan*

### DETRIMENTAL IMPACT OF NOXIOUS NOISE ON NEONATAL POPULATIONS

*Ashley Burson, Katelyn Sanchez, Jessica Nusbaum, Brooke Karler*

### VALIDATION OF MODIFIED PEDIATRIC EARLY WARNING SCORE (PEW)

*Terri L. Young*

---

## UNIVERSITY OF NORTHERN COLORADO SCHOOL OF NURSING

*Greeley, CO*

### NEW NURSES IN THE MAGNET SETTING: NEGOTIATING NURSING VALUES

*Katherine Sullivan*

### POWER & CHRONIC ILLNESS FOR RURAL-DWELLING LATINOS OF MEXICAN ORIGIN

*Anissa Buhring*

---

## UNIVERSITY OF PORTLAND SCHOOL OF NURSING

*Portland, OR*

### PILOTING PROBLEM-BASED LEARNING IN PRE-NURSING NUTRITION EDUCATION

*Mackenzie Hegland, Kala Mayer*

### PILOTING CONCEPT MAPPING IN PRE-NURSING NUTRITION EDUCATION

*Alaina Owens, Kala Mayer*

### MORAL DISTRESS AND ASSOCIATED CONTRIBUTORS AMONG NURSING STUDENTS: A DESCRIPTIVE STUDY

*Lorretta Krautscheild, Susan McClennon, Val Orton, Austin Smith, Conor Livingston*

### PILOT STUDY: EVALUATION OF CAREGIVERS' RESPONSE TO A PROGRAM FOR "SUNDOWNING" ELDERS

*Haley Lowe*

### VALUABLE LESSONS LEARNED IN CONDUCTING RESEARCH AT NEW INSTITUTIONS

*Amber Vermeesch, Kala Mayer*

---

## UNIVERSITY OF SAN DIEGO
## HAHN SCHOOL OF NURSING AND HEALTH SCIENCE

*San Diego, CA*

### USE OF VIDEO GAMES IN PATIENTS' PAIN SELF-MANAGEMENT: A FEASIBILITY STUDY

*Janet Donnelly, Jane M. Georges*

### TECHNOLOGY VS. TOUCH: TARGETING HEART FAILURE SELF CARE

*Millicent G. De Jesus*

### AVOIDING HOSPITAL ACQUIRED CONDITIONS: QUALITATIVE ANALYSIS OF TOP PERFORMERS

*Tammy Doolittle*

### INTERPROFESSIONAL TEAMSTEPPS© TRAINING: IMPACT ON PEDIATRIC RESUSCITATION

*Mary J. Fagan*

### YOUNG ADULTS WITH SPINA BIFIDA: BARRIERS AND FACILITATORS TO ADULT CARE

*Noelle Lipkin Leveque, Ruth Bush, Cynthia D. Connelly*

### IMPACT OF ABUSE ON WOMEN LIVING WITH HIV/AIDS AND DISCLOSURE

*Monique A. Lineback, Kathy James, Erin C. Falvey*

### I-MOM: IMPROVING MATERNAL-FETAL OUTCOME MONITORING

*Elizabeth G. Bamgbose*

### BARRIERS TO OBTAINING PALLIATIVE CARE IN THE EMERGENCY DEPARTMENT
*Jacqueline L. Saucier*

### IMPACT OF EHRS ON QUALITY OUTCOMES IN ADULT INTENSIVE CARE UNITS
*Ahmad Madie, Joseph Burkard, Jonathan Mack, Michael Casale*

### NURSE/PHYSICIAN COLLABORATION USING ROBOTIC TELEROUNDING
*Ginger S. Pierson*

### "IT'S NOT ALL IN MY HEAD": FIBROMYALGIA IN YOUNG WOMEN
*Kathryn A. Yates, Joseph Burkard, Jane M. Georges, Dana Rutledge*

### A MODEL FOR SELECTING EVIDENCE-BASED PRACTICE PROJECTS
*John A. Hoyos*

---

## UNIVERSITY OF SOUTHERN CALIFORNIA DEPARTMENT OF NURSING
*Los Angeles, CA*

### GRAND CHALLENGES FOR SOCIETY: A COLLABORATION BETWEEN USC NURSING AND SOCIAL WORK
*Ellen Olshansky, Theresa Granger, Maryalice Jordan-Marsh, Sharon O'Neill, Janet U. Schneiderman, Benita Walton-Moss, Michelle Zappas*

### GRAND CHALLENGES FOR SOCIETY: ADVANCING LONG AND PRODUCTIVE LIVES
*Michelle Zappas, Theresa Granger, Maryalice Jordan-Marsh, Ellen Olshansky, Sharon O'Neill, Janet U. Schneiderman, Benita Walton-Moss*

### GRAND CHALLENGES FOR SOCIETY: CREATING SOCIAL RESPONSES TO A CHANGING ENVIRONMENT
*Theresa Granger, Maryalice Jordan-Marsh, Ellen Olshansky, Sharon O'Neill, Janet U. Schneiderman, Benita Walton-Moss, Michelle Zappas*

### GRAND CHALLENGES FOR SOCIETY: PROMOTING SMART INCARCERATION
*Benita Walton-Moss, Theresa Granger, Maryalice Jordan-Marsh, Ellen Olshansky, Sharon O'Neill, Janet U. Schneiderman, Michelle Zappas*

### GRAND CHALLENGES FOR SOCIETY: STOPPING FAMILY VIOLENCE

*Janet U. Schneiderman, Theresa Granger, Maryalice Jordan-Marsh, Ellen Olshansky, Sharon O'Neill, Benita Walton-Moss, Michelle Zappas*

### GRAND CHALLENGES FOR SOCIETY: HARNESSING TECHNOLOGY FOR SOCIAL GOOD: THE POTENTIAL OF VIRTUAL REALITY

*Maryalice Jordan-Marsh, Theresa Granger, Ellen Olshansky, Sharon O'Neill, Janet U. Schneiderman, Benita Walton-Moss, Michelle Zappas*

---

## UNIVERSITY OF UTAH COLLEGE OF NURSING

*Salt Lake City, UT*

### PREVALENCE OF DEMENTIA IN INJURED OLDER ADULTS

*Lindsay Arslanian, Linda S. Edelman*

### TOO FEW TO COUNT: AFRICAN AMERICAN PERCEPTIONS OF HEART HEALTH

*Valerie Flattes*

### ADVERSE CHILDHOOD EXPERIENCES AND MILITARY SEXUAL TRAUMA IN VETERANS

*Xinyi (Ellen) Grey*

### PERCEPTIONS OF HPV VACCINE INFORMATION AMONG DIVERSE COMMUNITIES

*Djin Lai*

### PERVERSE INCENTIVES AMONG ROUTINE USERS OF PERSONAL ACTIVITY MONITORS

*Marie Prothero, Monica Beck, Jonathan Dimas, Ann Jones, Marc-Aurel Martial, Echo Warner, Shelly White, Kristin Cloyes, Lauren Clark*

### SHIFTS IN AGING ATTITUDES, KNOWLEDGE, AND SOCIAL GOALS IN NURSING STUDENTS

*Carol Redfield*

### ASSESSING THE NUTRITIONAL STATUS OF ELDERLY RURAL UINTAH BASIN VETERANS

*Sandra Rust*

### RESPONSE TO INTERDISCIPLINARY LEARNING VIA CLINICAL IMMERSION/PROJECT ECHO

*Amanda Byrd, Susan Hall*

## UNIVERSITY OF WASHINGTON SCHOOL OF NURSING

*Seattle, WA*

### HOMECARE WORKER HEALTH: ADDRESSING WORKSITE SECONDHAND SMOKE EXPOSURES

*Sasaki K, Tsai J*

### ASSOCIATION BETWEEN SOCIAL SUPPORT AND SELF-CARE IN COPD: LITERATURE REVIEW

*Chen Z*

### IMPACT OF PHYSICAL ACTIVITY AND EATING HABITS ON COGNITION IN OLDER ADULTS

*Liu M, Wang W*

### UNIVERSAL DESIGN FOR LEARNING: STRATEGIES TO ENGAGE AND ASSESS DNP STUDENT

*Liu M, Lenart J, Belza B*

### IMPLEMENTING WORKER HEALTH EDUCATION WITH ETHNIC COMMUNITY AGENCIES

*Tsai JH, Thompson EA, Herting JR*

### UNIVERSITY OF WASHINGTON LAB TESTING SERVICES: RESOURCES FOR BIOBEHAVIORAL STUDIES

*Hayward K, Tolentino E, Whitney J*

---

## UNIVERSITY OF WYOMING
## FAY W. WHITNEY SCHOOL OF NURSING

*Laramie, WY*

### PERCEPTION OF THE TERM ‘PREDIABETES’: A PILOT STUDY

*Samantha Baker, Macey Walker, Jenifer Thomas, Thomas Lab Research Team*

### ADDRESSING WEIGHT AMONG THE COLLEGE HEALTH POPULATION

*Calla Hopeman, Ann Marie Hart*

### SYSTEM IMPROVEMENT FOR AGE AND GENDER-APPROPRIATE HEALTH SCREENING PRACTICES

*David Wells, Ann Marie Hart*

# WIN HONORS

The Western Institute of Nursing proudly recognized outstanding Western members and friends with the following awards and honors in 2016.

## DISTINGUISHED RESEARCH LECTURESHIP AWARD

The Distinguished Research Lectureship recognizes a senior researcher whose research efforts have made significant and sustained contributions to nursing. The 2016 award recipient was:

***Carolyn (Carrie) J. Merkle, RN, PhD, FAAN,*** Associate Professor, College of Nursing, The University of Arizona, Tucson, AZ.

---

## CAROL A. LINDEMAN AWARD FOR A NEW RESEARCHER

The New Researcher Award was established in 1976 by Carol A. Lindeman to support nursing researchers early in their careers. In 1987, the award was renamed to recognize Dr. Lindeman for her contributions and support of colleagues. The 2016 award recipient was:

***Lyndsey M. Miller, RN, BSN, BA,*** PhD Candidate, School of Nursing, Oregon Health & Science University, Portland, OR.

---

## ANNA M. SHANNON MENTORSHIP AWARD

The Anna M. Shannon Mentorship Award was established in the name of the former Dean and Professor of the College of Nursing, Montana State University – Bozeman who unselfishly supported and promoted the professional growth of other nurses in the West. The 2016 award recipient was:

***Lorraine S. Evangelista, PhD, RN, FAHA, FAAN,*** Professor and Associate Director for PhD Program, Program in Nursing Science, University of California, Irvine, Irvine, CA.

---

## ANN M. VODA AMERICAN INDIAN/ALASKAN NATIVE/FIRST NATION CONFERENCE AWARD

The Ann M. Voda American Indian/Alaskan Native/First Nation Conference Award was established in 2008 by Ann Voda to encourage American Indian/Alaskan Native/First Nation nursing students or nurse clinicians to participate with the WIN community of scholars. The 2016 award recipient was:

***Nicholas L. Zumwalt, MS, RN, CEN, CPEN,*** PhD Student, College of Nursing, The University of Arizona, Tucson, AZ.

## WIN EMERITI

The honorary designation of WIN Emeriti was established in 1984 by the Western Council on Higher Education for Nursing (WCHEN). The Western Institute of Nursing (WIN) has continued this honorary designation to recognize retired nurses or other individuals who have demonstrated distinguished service to WIN or its predecessor, WCHEN. The individuals on whom the honorary designation was bestowed in 2016 were:

***Julie Johnson, PhD, RN, FAAN,*** Partner, CJL Consultants, LLC, Reno, NV.

***Martha J. Lentz, PhD, RN,*** Research Professor Emerita, School of Nursing, University of Washington, Seattle, WA

***Joan (Kathy) Magilvy, PhD, RN, FAAN, FWAN,*** Professor Emerita, College of Nursing, University of Colorado, Denver, CO

---

## WESTERN ACADEMY OF NURSES

The Western Academy of Nurses recognizes and honors nurses who have demonstrated excellence in nursing practice and who have advanced nursing in direct care, education, or research. Inducted into the Academy in 2016 were:

***Jane Carrington, PhD, RN,*** Assistant Professor, College of Nursing, The University of Arizona, Tucson, AZ

***Cynthia Corbett, PhD, RN***, Professor and Interim Dean, College of Nursing, Washington State University, Spokane, WA

***Martha Driessnack, PhD, PPCNP, RN,*** Associate Professor, School of Nursing, Oregon Health & Science University, Portland, OR

***Lissi Hansen, PhD, RN,*** Associate Professor, School of Nursing, Oregon Health & Science University, Portland, OR

---

## AMERICAN NURSES FOUNDATION/WESTERN INSTITUTE OF NURSING SCHOLAR AWARD

The American Nurses Foundation (ANF) and the Western Institute of Nursing (WIN) jointly sponsor a research grant to a WIN member selected through the ANF selection process. The 2015 award recipient was:

***Linda H. Eaton, PhD, RN, AOCN,*** Postdoctoral Research Fellow, College of Nursing, University of Utah, Salt Lake City, UT

# SIGMA THETA TAU INTERNATIONAL/WESTERN INSTITUTE OF NURSING RESEARCH GRANT

Sigma Theta Tau International (STTI) and the Western Institute of Nursing (WIN) jointly sponsor a research grant to encourage qualified nurses to contribute to the advancement of nursing through research. The 2016 grant recipient was:

***Christina Purpora, PhD***, Investigator, School of Nursing and Health Professions, University of San Francisco, San Francisco, CA

# WIN ELECTED AND APPOINTED OFFICIALS

## BOARD OF GOVERNORS

**MARIE L. LOBO, PHD, RN, FAAN**
President
Professor Emeritus
College of Nursing
University of New Mexico
Albuquerque, NM

**CHARLENE A. WINTERS, PHD, APRN, ACNS-BC**
President-Elect
Professor
College of Nursing
Montana State University
Missoula, MT

**MAUREEN O'MALLEY, PHD, RN**
Secretary-Treasurer
Associate Director
School of Nursing
University of Alaska, Anchorage
Anchorage, AK

**JANE H. LASSETTER, PHD, RN**
Governor-at-Large
Associate Professor
College of Nursing
Brigham Young University
Provo, UT

**DONNA VELASQUEZ, PHD, RN, FNP-BC, FAANP**
Governor Representative of Nursing Education
DNP Program Director
College of Nursing & Health Innovation
Arizona State University
Phoenix, AZ

**MARY ELLEN DELLEFIELD, PHD, RN**
Governor Representative of Nursing Practice
Research Nurse Scientist
VA San Diego Healthcare System
San Diego, CA

**KATHRYN LEE, RN, PHD, CBSM**
Governor Representative of Nursing Research
Professor Emeritus
School of Nursing
University of California, San Francisco
San Francisco, CA

**JENNIFER PETERSON, PHD(C), MS, RN**
Governor Representative of Student Members
PhD Candidate
Program in Nursing Science
University of California, Irvine
Irvine, CA

## DEVELOPMENT COMMITTEE

**TINA DELAPP, RN, EDD, FAAN**
Chair
Professor Emeritus
School of Nursing
University of Alaska, Anchorage
Anchorage, AK

**CAROL ASHTON, PHD, RN**
Professor Emerita
School of Nursing
Idaho State University
Pocatello, ID

**JUDITH A. BERG, PHD, RN, WHNP-BC, FAAN, FAANP**
Clinical Professor
College of Nursing
The University of Arizona
Tucson, AZ

**HEATHER COATS, PHD, MS, APRN-BC**
Senior Fellow Trainee
UW/Cambia Palliative Care Center of Excellence
University of Washington
Seattle, WA

**JEANNE KEARNS, MS**
Former WIN Executive Director
Thornton, CO

**MARIE L. LOBO, PHD, RN, FAAN**
Professor Emeritus
College of Nursing
University of New Mexico
Albuquerque, NM

**NANCY FUGATE WOODS, PHD, RN, FAAN**
Professor
School of Nursing
University of Washington
Seattle, WA

# 50TH ANNIVERSARY CELEBRATION COMMITTEE

**MARTHA J. LENTZ, RN, PHD**
Chair
Research Professor Emerita
School of Nursing
University of Washington
Seattle, WA

**MARGE BATEY, PHD, RN, FAAN**
Professor Emerita
School of Nursing
University of Washington
Seattle, WA

**DENISE BARTLEY, MSN, FNP-C**
Nurse Practitioner
Student, University of New Mexico
Albuquerque, NM

**BONNIE GANCE-CLEVELAND, PHD, RNC, PNP, FAAN**
Loretta Ford Professor
College of Nursing
University of Colorado
Aurora, CO

**LINDA GREGORY, PHD(C), MSN, RN**
PhD Candidate
School of Nursing
University of California, San Francisco
San Francisco, CA

**JEANNE KEARNS, MS**
Former WIN Executive Director
Thornton, CO

**ELAINE S. MARSHALL, PHD, RN, FAAN**
Professor and Chair (Retired)
School of Nursing
University of Texas Health Science Center
San Antonio, TX

**LAURA PERRY**
Director of Communications
School of Nursing
University of California, Los Angeles
Los Angeles, CA

**MICHAEL RICE, PHD, APRN, FAAN**
Professor and Endowed Chair, Psychiatric Nursing
College of Nursing
University of Colorado
Aurora, CO

# 50TH ANNIVERSARY HISTORY SUBCOMMITTEE

**MARGE BATEY, PHD, RN, FAAN**
Professor Emerita
School of Nursing
University of Washington
Seattle, WA

**JEANNE KEARNS, MS**
Former WIN Executive Director
Thornton, CO

**ELAINE S. MARSHALL, PHD, RN, FAAN**
Professor and Chair (Retired)
School of Nursing
University of Texas Health Science Center
San Antonio, TX

**ELIZABETH G. NICHOLS, PHD, RN**
Professor Emeritus
College of Nursing
Montana State University, Bozeman
Laramie, WY

# FINANCE COMMITTEE

**MAUREEN O'MALLEY, PHD, RN**
Chair
Associate Director
School of Nursing
University of Alaska, Anchorage
Anchorage, AK

**JUDITH A. BERG, PHD, RN, WHNP-BC, FAAN, FAANP**
Clinical Professor
College of Nursing
The University of Arizona
Tucson, AZ

**MARIE J. DRIEVER, RN, PHD, FAAN**
Clinical Research and Education Consultant
Seattle, WA

**JULIE E. JOHNSON, PHD, RN, FAAN**
Consultant
CJL Consultants, LLC
Reno, NV

**MARIE L. LOBO, PHD, RN, FAAN**
Professor Emeritus
College of Nursing
University of New Mexico
Albuquerque, NM

**PATRICIA MORITZ, PHD, RN, FAAN**
Professor Emerita
College of Nursing
University of Colorado
Aurora, CO

# MEMBERSHIP COMMITTEE

**JEAN SHREFFLER-GRANT, PHD, RN**
Chair
Professor
Montana State University
College of Nursing-Missoula Campus
Missoula, MT

**DIANE KAY BOYLE, PHD, RN**
Wyoming Excellence Chair in Nursing and Professor
Fay W. Whitney School of Nursing
University of Wyoming
Laramie, WY

**MARGARET CLAYTON, PHD, APRN**
Assistant Professor, Co-Director, PhD Program
College of Nursing
University of Utah
Salt Lake City, UT

**PATRICIA DALY, PHD, RN, FNP-BC**
Clinical Assistant Professor
College of Nursing
The University of Arizona
Tucson, AZ

**ANN O. HUBBERT, PHD, RN, CTN-A**
Chair, Undergraduate Nursing Studies
Boise State University
School of Nursing
Boise, ID

**JENÉ HURLBUT, RN, MS, MSN, PHD, CNE**
Professor
Roseman University of Health Sciences
Henderson, NV

**PEGGY G. KALOWES, RN, PHD, CNS, FAHA**
Director, Nursing Research, Innovation & Evidence-based Practice
Long Beach Memorial Hospital
Long Beach, CA

**CHERYL KRAUSE-PARELLO, PHD, RN**
Associate Professor
College of Nursing
University of Colorado
Aurora, CO

**ANNETTE NASR, RN, PHD**
Nurse Scientist
Lucile Packard Children's Hospital
Palo Alto, CA

**JEANNETTE A. O'BRIEN, PHD, RN**
Assistant Professor
School of Nursing
Linfield College
Portland, OR

**MAUREEN O'MALLEY, PHD, RN**
Associate Director
School of Nursing
University of Alaska Anchorage
Anchorage, AK

**ANITA C. REINHARDT, PHD, RN**
Assistant Professor
Associate Director for Undergraduate Programs
School of Nursing
New Mexico State University
Las Cruces, NM

**KAROL K. RICHARDSON, PHD, MPH, APRN-BC**
Associate Professor
School of Nursing and Dental Hygiene
University of Hawaii, Manoa
Honolulu, HI

**ELAINE THOMPSON**
School of Nursing
University of Washington
Seattle, WA

**JANE H. LASSETTER, PHD, RN**
Board Liaison
Associate Professor
College of Nursing
Brigham Young University
Provo, UT

# NOMINATING COMMITTEE

**NANCY E. FINDHOLT, PHD, RN**
Position #3 and Chair
Associate Professor
School of Nursing
Oregon Health & Science University
LaGrande, OR

**LORRAINE S. EVANGELISTA, PHD, RN, FAHA, FAAN**
Position #1
School of Nursing
University of California, Irvine
Los Angeles, CA

**BARBARA BRABAND, EDD, RN, CNE**
Associate Professor, Master's Program Director
School of Nursing
University of Portland
Portland, OR

# PROGRAM COMMITTEE

**DONNA VELASQUEZ, PHD, RN, FNP-BC, FAANP**
Chair
Clinical Associate Professor
College of Nursing & Health Innovation
Arizona State University
Phoenix, AZ

**ANTHONY W. MCGUIRE, PHD, RN, ACNP-BC, CCRN**
Vice-Chair
Assistant Professor
California State University, Long Beach
Long Beach, CA

**JUDITH A. BERG, PHD, RN, WHNP-BC, FAAN, FAANP**
Clinical Professor
College of Nursing
The University of Arizona
Tucson, AZ

**LAUREN CLARK, PHD, RN, FAAN**
Professor; Division Chair, Health Systems & Community Based Care
College of Nursing
University of Utah
Salt Lake City, UT

**TINA DELAPP, RN, EDD, FAAN**
Professor Emeritus
School of Nursing
University of Alaska, Anchorage
Anchorage, AK

**MARY ELLEN DELLEFIELD, PHD, RN**
Research Nurse Scientist
VA San Diego Healthcare System
San Diego, CA

**MARIE J. DRIEVER, RN, PHD, FAAN**
Clinical Research and Education Consultant
Seattle, WA

**BRONWYN FIELDS, RN, MPH, PHD(C)**
Assistant Professor
School of Nursing
California State University, Sacramento
Sacramento, CA

**BONNIE GANCE-CLEVELAND, PHD, PNP-PC, RNC**
Loretta C. Ford Professor
College of Nursing
University of Colorado Anschutz Medical Campus
Aurora, CO

**LORI D. HENDRICKX, RN, EDD, CCRN**
Professor
College of Nursing
South Dakota State University
Brookings, SD

**KATHRYN LEE, RN, PHD, FAAN, CBSM**
Professor and Associate Dean for Research
School of Nursing
University of California, San Francisco
San Francisco, CA

**MARTHA J. LENTZ, RN, PHD**
Research Professor Emerita
School of Nursing
University of Washington
Seattle, WA

**MARIE L. LOBO, PHD, RN, FAAN**
Professor
College of Nursing
University of New Mexico
Albuquerque, NM

**KRISTIN LUTZ, PHD, RN**
Assistant Professor
School of Nursing
Oregon Health & Science University
Portland, OR

**KATREENA MERRILL, RN, PHD**
Assistant Professor
College of Nursing
Brigham Young University
Provo, UT

**ANNETTE S. NASR, RN, PHD**
Nurse Scientist
Lucile Packard Children's Hospital at Stanford
Assistant Clinical Professor, Department of Pediatrics
Stanford School of Medicine
Palo Alto, CA

**ROBERTA S. REHM, PHD, RN, FAAN**
Associate Professor
University of California, San Francisco
School of Nursing
San Francisco, CA

**CATHERINE VAN SON, PHD, RN**
Associate Professor
College of Nursing
Washington State University, Vancouver
Vancouver, WA

## SILENT AUCTION COMMITTEE

**SHEENA M. FERGUSON, MSN, RN, CCRN, CNS**
Chair
Chief Nursing Officer
University of New Mexico Hospitals
Albuquerque, NM

**TINA DELAPP, RN, EDD, FAAN**
Professor Emeritus
School of Nursing
University of Alaska, Anchorage
Anchorage, AK

**CAROLINE R. ELLERMANN, PHD, RN**
Associate Professor
College of Nursing and Health Sciences
Hawai'i Pacific University
Kane'ohe, HI

**KATHLEEN GILCHRIST, PHD, FNP, PHN, RN**
Professor
Department of Nursing
California State University, Bakersfield
Bakersfield, CA

**KHOLOUD M. KHALIL, PHD, CCRN, RN**
Assistant Professor
California State University Long Beach
Long Beach, CA

**CHERIE RECTOR, PHD, RN, PHN**
Professor Emeritus
Department of Nursing
California State University, Bakersfield
Bakersfield, CA

**TERI MOSER WOO, RN, PHD, CNL, CPNP, FAANP**
Associate Professor and Associate Dean for Graduate Nursing
School of Nursing
Pacific Lutheran University
Tacoma, WA

# STAFF

**EXECUTIVE DIRECTOR**
Paula A. McNeil, RN, MS

**ADMINISTRATIVE COORDINATOR**
Laura Hottman

**CONFERENCE MANAGER**
Bo Perry, MPA

SN-4S
3455 SW Veterans' Hospital Road
Portland, OR 97239-2941

Phone: 503-494-0869; FAX: 503-494-3691; Email: win@ohsu.edu; Website: www.winursing.org

# Author Index

# Subject Index