

COMMUNICATING NURSING RESEARCH

Volume 51

TRANSFORMING HEALTH THROUGH ADVANCES IN NURSING 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 11-14, 2018 at the Davenport Grand Hotel in Spokane, Washington.

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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.

FOREWORD

With my retirement planned later this year, this is the last Foreword I will write for the Communicating Nursing Research Conference proceedings. I will complete 22 years as the Executive Director of the Western Institute of Nursing (WIN). I have been so honored to stand on the “shoulders of the giants” who served before me, Jo Eleanor Elliott and Jeanne Kearns.

Looking back over 22 years, the advancements the organization have made are striking. I became the Executive Director during a time of rapid technology growth. During that time, we have moved from a paper operation to an electronic operation. We initiated the first WIN webpage and upgraded it several times, most recently for use on various electronic devices; developed a database to facilitate the work of staff and members; instituted social media channels to better communicate with members; and started the use of a conference application (app). We initiated the “Nursing Education Xchange: NEXus” by which doctoral students in one of the consortium member school may take distance education classes from another member school. In 2017, we celebrated the 60th Anniversary of WIN and the 50th Communicating Nursing Research Conference, both a testimony to the work of our members and the longevity of the mission and vision of the organization.

While these advances happened on my “shift”, I have used the term “we” deliberately. It certainly takes a strong and committed team to enact all these changes. I have been extremely fortunate to have partnered with Presidents, Board members, and Committee members, all of whom are wholeheartedly dedicated to the WIN vision and the tasks to move the organization forward. The Program Committees over the past 22 years have worked diligently to create conference programs that stimulate and educate with a gentle Western welcome to all who attend.

The staff team over the years has not only made the work of the Board and Committees easier, but staff members have contributed skill and advancements to their respective jobs. The WIN staff works very hard, and none of the advances noted above could have happened without their commitment. To echo Jeanne Kearns’ final Foreword, each has certainly made my professional life an exceptional experience.

This organization has extraordinary members who are dedicated to their careers in research, practice, and education, and accomplished students who are engaged in educational programs to enhance their contributions to nursing science. My wish for all members is that you continue to facilitate the growth of WIN and to remain committed to the 60-year WIN vision of excellence in research, practice, and education.

WIN has been greatly enriched through its partnership with the Oregon Health & Science University School of Nursing. The School and its deans, Carol Lindeman, Kate Potempa, Michael Bleich, and now Susan Bakewell-Sachs, have been supportive and nourishing in the relationship between the school and the western regional nursing organization. We owe them a debt of gratitude.

I close with my appreciation and fondness to each and every one, within and outside the organization, who has made my tenure here such an amazing experience. I will miss you all.

Paula A. McNeil, RN, MS
Executive Director
Western Institute of Nursing

April 2018

PREFACE

The 51st Annual Communicating Nursing Research Conference, “Transforming Health through Advances in Nursing Research, Practice, and Education,” was held April 11-14, 2018 at the Davenport Grand Hotel in Spokane, Washington.

The keynote address was delivered by **Bobbie Berkowitz**, PhD, RN, NEA-BC, FAAN, Dean and Mary O’Neil Munding Professor, Columbia University School of Nursing and Senior Vice President, Columbia University Medical Center, New York, NY. State of the Science presentations were delivered by: **Eileen Cody**, BSN, RN, Representative of the 34th Legislative District, Washington State Legislature and Neuro-Rehab Nurse, Group Health Cooperative, Seattle, WA; **Usha Menon**, PhD, RN, FAAN, Professor and Associate Dean for Research & Global Advances, College of Nursing, The University of Arizona, Tucson, AZ; and **Carolyn Montoya**, PhD, CPNP, FAANP, FAAN, Interim Dean, College of Nursing, University of New Mexico, Albuquerque, NM.

Two award papers were presented:

Distinguished Research Lectureship Award: Patricia Butterfield, PhD, RN, FAAN, Professor and Associate Dean for Research, Elson S. Floyd College of Medicine, Washington State University, Spokane, WA;

and

Carol A. Lindeman Award for a New Researcher: Daniel T. Linnen, MS, RN-BC, PhD Candidate, School of Nursing, University of California, San Francisco and Health Systems Research Resident, Kaiser Permanente Northern California, Oakland, CA.

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

Awards were given to numerous WIN individual members during the 2018 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: Anthony McGuire, Chair, ME; Judith Berg, AZ; Katreena Collette-Merrill, UT; Mary Ellen Dellefield, CA; Linda Edelman, UT; Bronwyn Fields, CA; Bonnie Gance-Cleveland, CO; Lori Hendrickx, SD; Kathryn Lee, CA; Judy Liesveld, NM; Kristin Lutz, OR; Paula Meek, CO; Usha Menon, AZ; Annette Nasr, CA; Joanne Noone, OR; Jennifer Peterson, CA; Kristine Qureshi, HI; Roberta Rehm, CA; Sharon Ruyak, NM; Hilaire Thompson, WA; and Catherine Van Son, WA.

We thank all of the nurse researchers who submitted papers and participated in the 2018 conference.

Charlene A. Winters, PhD, RN
President, Western Institute of Nursing

Anthony W. McGuire, PhD, CCRN-K, ACNP-BC, FAHA
Chair, Program Committee, Western Institute of Nursing

State of the Science Paper

**WHAT WOULD FLORENCE DO?
SURVEY RESULTS OF SELECTED NURSING PROGRAMS IN WESTERN
STATES: IMPLICATION FOR THE FUTURE OF NURSING EDUCATION**

*Carolyn Montoya, PhD, PNP, FAAN, FAANP
Robert Wood Johnson Fellow
Associate Professor and Interim Dean
College of Nursing
University of New Mexico
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In 2017, the Western Institute of Nursing (WIN) celebrated 60 years of advancing nursing science, education, and practice to improve health outcomes. As is the tradition at the WIN annual conferences, state of the science papers on nursing research, education, and practice were presented with a focus on the future of nursing in each of these areas. The 2017 state of the science presentation on nursing education identified the following three areas expected to influence the future of nursing education: student traits and major trends in both health care and higher education. (Young, 2017). Young's literature review provided compelling evidence regarding the challenges that face nursing education including the greying of the nursing workforce, the aging of the U.S. population, the diversity of our culture, declining state support for higher education resulting in ever increasing tuition and fees, the transformation of education due to advances in technology, and the diversity of student learning preferences.

The literature on challenges facing nursing education continues to grow. Fang and Kesten (2017) used American Association of Colleges of Nursing (AACN) full-time faculty data from the AACN Annual Survey of Baccalaureate and Graduate Programs in Nursing to estimate faculty retirements in 2016-2015 and the impact of these retirements on the nursing faculty workforce. They projected that one-third of U.S. nursing faculty active in 2015 would retire between 2016 and 2025. Concerns about a shortage of nursing faculty extend beyond the United States. Nardi and Gyurko (2013), in their review of the global nursing faculty shortage, described several challenges including aging faculty, poor salaries, lack of funding, faculty dissatisfaction with the role, and a decreasing number of full-time equivalent faculty positions.

Among the most intriguing possible challenges facing nursing education are disruptive innovations. The concept of a disruptive innovation was originally developed in the business sector to describe the process of a smaller company displacing an established company by providing a service or product to a segment of the customers whose needs were either overlooked or not deemed significantly important by the established company (Christensen, Raynor, & McDonald, 2015). True disruptors generally start by engaging clients who are either not currently served or are at the low-end of the market and then evolve to include more mainstream consumers. Christensen et al. (2015) noted that disruptive innovations are initially considered inferior by mainstream consumers. Rather than trying the new "product" because it is less expensive, mainstream consumers wait until the quality of the new product improves.

The concept of disruptive innovation has been discussed within the context of higher education and in health care delivery. Christensen, Horn, Caldera, and Soares (2011), in a report for the Center for American Progress, cited the use of online learning as an enabler for disruption in higher education. The proliferation of for-profit higher education businesses that offer online programs is an exemplar of disruptive innovation. While universities have adopted online courses and programs, the authors described the current model of offering research, teaching, and career preparation as overly complex for the focused purpose of educational program delivery, resulting in significant overhead expenditures. In contrast, for-profit educational businesses are able to keep their overhead lower as they focus solely on providing online educational programs.

Thompson (2016a, 2016b) used the concept of disruptive innovation to advocate for embracing distance education using online delivery in graduate nursing education. While

state and private universities have embraced online courses, there has been resistance to move entire programs to an online format due to the concerns regarding the quality of totally online programs. Thompson advocated for "...embracing new pedagogies and technologies to improve the quality and delivery of education, and specifically those strategies shown to work well for distance education" (Thompson, 2016b, p. 238). She argued that colleges and universities need to learn to protect their market by adopting new technology and embracing distance education as the preferred means by which students obtain higher education.

Hwang and Christensen (2007) argued that, unlike higher education, technology enablers in health care delivery have failed to produce any true disruptive innovations due to the challenges of fragmented care, lack of a retail market, regulatory barriers, and lower reimbursements for care. They classify general hospitals and physician practices as solution shops which "are institutions built to diagnose and solve unstructured problems" (p.1332). The authors noted:

The legacy institutions of health care delivery are jumbled mixtures of multiple business models struggling to deliver value out of chaos, incorporating indecipherable systems of cost accounting, excessive overhead, pervasive cross-subsidization, and an unacceptable amount of variability and medical error. (p.1332)

One example of a truly disruptive innovation in health care that can extend the reach of nurses and improve care is telehealth nursing (Grady, 2014). Telehealth encompasses telemedicine which, while originally rejected by traditional healthcare providers and consumers, now includes over 200 telemedicine networks with over 3500 service sites (American Telemedicine Association, 2017). In addition to describing potential uses of telehealth by nurses, Grady sounded a "call to action" for nurse educators to disrupt the current pedagogical methods of passive learning and include exposure to telehealth nursing. Her example of a potentially disruptive innovation in nursing education was to develop a virtual nursing unit where students could be exposed to a variety of technology that they are likely to encounter in practice. Huston, et al. (2017), further advocated for disruptive innovation in nursing education that would promote active, learner-centered education as a strategy to help bridge the academic/practice gap.

One example of a teaching modality that may be considered the beginning of a disruptive innovation in nursing education is the use of a TeleECHO for advanced practice students. The Extension for Community Healthcare Outcomes (ECHO) model, developed at the University of New Mexico Health Sciences Center, was originally designed to offer best-practice care for hepatitis C infection to minorities and underserved populations in New Mexico through telemedicine and internet connections (Arora, et al., 2007). As explained by Dr. Stephen V. Roper, TeleECHO clinics are virtual grand rounds where primary care providers from multiple locations connect at regularly scheduled times with a team of specialists utilizing low cost, multi-point video conferencing (personal communication, January 5, 2018). Dr. Roper, a faculty member at the University of New Mexico College of Nursing, is currently utilizing TeleECHO in seven advanced practice courses for primary care Advanced Practice Registered Nurse (APRN) students as well as for APRN providers across the state.

While truly disruptive innovation may still be in the future for nursing education and health care, the impact of technological innovation is not. Nursing has embraced technological innovation by incorporating simulation as a teaching/learning method and by offering hybrid web-based courses, courses that are entirely web-based, and entire online degree programs (Skiba, Connors, Jeffries, 2008). In order to sustain and advance technological innovation, nursing needs to increase technological competence. White, Pillay, and Huang (2016) assessed nurse leaders' perceptions of innovation competencies and their perceived level of competence. They found participants to have significant gaps in 18 of the 19 competencies, leading them to recommend that all nursing programs include innovation competencies in their curricula.

Reports published annually by the New Media Consortium in collaboration with EDUCAUSE Learning Initiative provide descriptions of key trends accelerating higher education technology adoption (Adams Becker, et al., 2017). These reports include considerations of both long term trends, projected to be 5 or more years in the future, and “wicked” technology-related challenges facing higher education. In the 2017 report, long-term trends included advancing both cultures of innovation and deeper learning approaches; wicked challenges included managing knowledge obsolescence and rethinking the roles of educators. Regarding timelines for technology adoption, artificial intelligence and natural user interfaces (wearable computing) were predicted to be adopted in higher education within 4 to 5 years.

True innovation will mean a major shift in attitudes as most individuals resist change, academia is not particularly nimble at making changes, and there is strong aversion to the possibility of failure (Giddens, 2015). Given that nursing academic leaders will be at the forefront of managing these educational challenges, a survey was developed to assess the perception of academic nursing leaders in the 13 states served by the Western Institute of Nursing. The survey assessed perception of academic nursing leadership in these states related to: (a) current and future challenges facing nursing education; (b) implementation of innovative strategies in response to one of the identified challenges; and (c) identification of at least one potentially disruptive innovation that would possibly impact nursing education in the next 30 years.

Methods

All members of the research team participated in the development of the survey tool which was then reviewed by and pilot tested with five senior leaders in academic nursing. Survey feedback was reviewed and incorporated into the survey during an iterative process over a three month period in 2017. The survey contained five core, open-ended questions regarding current challenges in nursing education at their institution as well as anticipated challenges in the future. Participants were also asked to describe at least one innovative strategy that they had implemented in response to a challenge and to describe at least one potentially disruptive innovation that they thought would impact nursing education in the next 30 years. The sampling frame for this survey consisted of 116 nursing programs that are American Association of Colleges of Nursing member schools in the 13 states served by the Western Institute of Nursing. Contact information was located for a nursing leader with primary responsibility for the academic mission for 100 of these 116 programs. This survey and the methodology was approved as an exempt study by the institutional Human Research Protections Office. The REDCap platform was used to e-mail a survey to these 100 academic leaders, generating 42 responses in late fall 2017.

Results

The majority of responses came from public institutions, about half of responses came from minority-serving institutions, and nearly half of responses came from institutions with more than 500 nursing students enrolled. A majority (14 of 20) minority serving institutions were Hispanic-serving, having undergraduate enrollment at least 25% Hispanic and less than 25% any other minority group. A majority (29 of 42) of institutions offered some type of graduate degree program in nursing and a majority of these institutions (23 of 29) offered specialty graduate programs for nurse practitioners. Aside from the ADN, the PhD (5 of 42) was the least common degree program offered at responding institutions.

An iterative process was used to classify responses to the question on the most challenging issues currently facing nursing education in to three major themes: faculty issues, resources, and changes. These themes remained the same when respondents were asked to anticipate the most challenging issues facing nursing education at their institutions in the next 10-20 years, with multiple respondents stating, “same as above.” Therefore, the responses to these two questions were combined.

Survey responses under the theme of faculty issues were congruent with what has been reported in the literature regarding faculty workforce. Respondents were very concerned

about aging faculty and the lack of a “pipeline” for new faculty. Several respondents identified the challenge of finding well-qualified faculty particularly at the senior ranks, a lack of tenure track faculty, and a lack of qualified faculty in leadership. One respondent noted the paucity of “...faculty that have pedagogical teaching knowledge and experiences.”

In terms of resources, respondents cited faculty pay as a challenge and noted that academic salaries lag behind salaries paid to nurses in clinical areas. Other budget challenges included decreases in state funding, faculty salaries lagging behind clinical salaries, an overall lack of funding for research and scholarship, and the cost of higher education to students as well as student debt. Additional challenges related to resources included clinical placements at all levels, a lack of preceptors, and the need for funding to upgrade and expand physical space and to secure equipment.

The third theme under challenges, change, generated the most responses. Respondents expressed their concerns regarding changes in students including student needs and student demographics and diversity, mental health accommodations, and the lack of civility among students. Additional concerns related to change included the growth of private, for profit programs and schools monopolizing preceptors. There was a definite concern about nursing education regulatory bodies, such as NCLEX and boards of nursing bodies “...not keeping pace” and “...tension between regulatory agencies and changes in the healthcare environment.” Other comments discussed concerns regarding the movement to require the BSN as the entry into nursing practice is occurring at too slow a pace and a disconnect between the NCLEX exam and what is actually taught.

Four major themes were identified related to innovative strategies implemented in response to a challenge: faculty roles/development, partnerships, curriculum changes, and simulation. The strongest of the four themes was partnerships including those with innovative strategies for the development of private-public partnerships in order to address budget issues, the use of Interprofessional experiences to manage populations with different conditions, recruiting local advanced practice registered nurses (APRNs) for faculty positions, developing memorandums of agreement with local hospitals to share nursing faculty, utilizing qualified faculty from other disciplines to teach nursing courses such as pathophysiology and research, partnering with community colleges to provide the option for the associate degree nursing students to be dual-enrolled in a BSN program, and providing dual-enrolled options for community college students. One respondent described a partnership involving peer mentoring to assist with the retention of underrepresented nursing students noting that this program, “...has contributed to increased retention after just one year.”

There were fewer responses in the areas of faculty roles/development, curriculum changes, and simulation. Innovative strategies for faculty centered on the concept of mentorship. Respondents suggested faculty development programs that would include teaching principles and developing mentorship programs for new faculty in their first year of teaching. Innovative curriculum changes included were somewhat vague with comments such as: (a) “...innovative programs designed”, (b) “...programs are offered in a hybrid format”, or (c) “revamping the curriculum is the biggest focus.” Specific innovative strategies related to curriculum included executive-style APRN education of “...2-3 day intensives with online components in-between.” One participant described the introduction of patient coaching activities during their first semester as a mean of providing “...authentic opportunities for patient interactions and development of communication skills.” Strategies for innovation related to simulation included actors playing patients in simulated scenarios, offering 20% of the clinical hours of each practicum course in the simulation environment, adding a simulation institute, and working with a company to test holographic simulations.

The results to the question asking respondents to describe at least one potentially disruptive innovation that may impact nursing education at your institution in the next 30 years did not elicit any truly disruptive innovations. The responses given centered on technology-

related innovations and simulation. For example, one commenter envisioned “Virtual skills learning using virtual reality. No need to come to skills lab...we take skills lab to you.”

While no overarching themes were identified from a final question asking respondents to share additional thoughts about nursing education, concern was expressed about the need to adhere to standards and the need for patient safety. One respondent stated that, “Even though students will continue to be tech savvy, we need to still adhere to standards and those include ethics, as there will need to always be ethical safe EB [evidence based] care delivered.” Similarly, another respondent stated “We need to articulate the value of nursing education in terms of patient safety and quality healthcare.”

Discussion

The results of the survey were consistent with the literature in terms of identifying faculty shortage as one of the primary challenges facing nursing education. While no single innovation emerged as a major theme to address the faculty shortage, sharing faculty with other nursing programs and utilizing qualified faculty from other disciplines to teach nursing courses such as pathophysiology and research were identified. Many of the items listed as innovative strategies to address nursing education challenges, such as increased simulation, the development of private-public partnerships, the use of outpatient clinics to provide interprofessional student experiences, and offering programs in a hybrid format, have been in place for several years at many institutions.

Disruptive innovation, as described by Christensen, Raynor, and McDonald (2015), is a process which typically involves the development of a new, simpler product that is more convenient and more affordable and targets specific customers who are new to the market or are entirely shut out of a particular market. Often such innovators establish a foothold for their product, improve their product, and then gradually increase their share of customers until they edge out other competitors. University nursing education has not been at the forefront of disruptive innovation. Thompson (2016a) makes a very strong case for disruptive innovation in graduate nursing education. Citing results developed by scientists at Rensselaer Polytechnic Institute (Xie, et al., 2011), she notes that if 10% of a defined population commit to a belief, such as disruptive innovation in nursing education, sufficient mass has been achieved to elicit the adoption of that belief if the social channels exist to disseminate the idea. Thompson is well aware that change does not come easy to nursing; however, she utilizes Rogers’ theory of innovation adoption (Rogers, 2003) as a model for change in nursing.

Nursing needs only to look at Florence Nightingale as an exemplar of a true disruptive innovator. In addition to reducing the death rate of British army soldiers in the Crimean war, she also published her book, *Notes on Nursing: What It is and What is Not*, thereby improving population health (Koffi & Fawcett, 2016). A year later, she established the first three-year independent training program for nurses in London. Given the pace at which our health care systems are changing, nursing education needs to embrace the Nightingale spirit of disruptive innovation, in order to ensure that the health care system will have an adequate supply of nurses and that these nurses will be prepared to care for the changing health care needs of our diverse populations.

As with all research, there were limitations to this study. While the response rate for this survey was 42%, the survey itself was limited to the 13 states that are served by the Western Institute of Nursing. The survey was administered only to academic leaders in nursing and not a broader cross-section of nursing faculty. As noted in the discussion, no real disruptive innovations were presented by the respondents. Responses may have been more robust if a comprehensive description of disruptive innovation had been included. Future research in this area should include focused interviews with nursing leaders and faculty regarding the concept of disruptive innovation in nursing education.

I would like to acknowledge the contributions of Marie L. Lobo, PhD, RN, FAAN; Blake Boursaw, MS; and Jeffery Dubinski-Neessen, EdM to this paper.

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Distinguished Research Lectureship Award Paper

**AN UPSTREAM EXPLORATION OF OCCUPATIONAL
AND ENVIRONMENTAL HEALTH DISPARITIES**

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AN UPSTREAM EXPLORATION OF OCCUPATIONAL AND ENVIRONMENTAL HEALTH DISPARITIES

*Patricia Butterfield, PhD, RN, FAAN
Professor & Associate Dean for Research
Elson S. Floyd College of Medicine
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Spokane, WA*

I am honored to give the WIN 2018 distinguished research lectureship. Writing this paper has been especially meaningful for two reasons; first, the paper provided an opportunity to take stock of the current state of occupational and environmental health disparities and reflect upon the opportunities that research holds to minimize those disparities. Second, the paper provoked me into not only reexamining my research, but rather the weaving of research, conceptual insights, and societal context into an integrated whole. I am grateful for that opportunity. It has taken me many years to acquire a sense of perspective about what I believe, know, fear, and am committed to....as a scientist, educational leader, and human. A heartfelt thank you to my nominators Drs. Cindy Corbett and Beth Schenk. I told you I thought I wasn't the right fit for this award, and you convinced me otherwise. That is what the best colleagues do; make you up your game. I am grateful that you launched me on this reflection.

In 2007, I came to WSU as the Dean of Nursing with one central goal in mind; to listen, to reflect, and then to advance a culture of research and discovery in the College. What I had not anticipated was the 2008 arrival of the recession, Washington's worst in 75 years. Being one of seven states without a state income tax, the recession left our state in a free fall and faculty without raises for 4 years. Nonetheless we persisted. We implemented the PhD program. However, without a critical mass of research qualified faculty, the program would be a sham. Thanks to the commitment of many, the PhD program thrived and did exactly what it was intended to do. Hitting the sweet spot that allowed regional students to stay in their home communities and travel intermittently to campus, students received a rigorous and real doctoral education. To this I owe the deepest debt of gratitude to program directors Ruth Bindler, Cindy Corbett, Celestina Barbosa-Leiker, and Mel Haberman. WSU PhD alums are widely lauded for WSU's brand of 'can do' wisdom, relevance, commitment, and societal impact. Go Cougs!

After accreditation, launching a PhD program, and upgrading our nurse practitioner programs to the DNP level, I chose to step back into a faculty role. After a year teaching epidemiology, I was invited to join our new Elson S. Floyd College of Medicine. Teaching population health and working in our Research Office with Vice Dean John Roll, I have embraced the opportunity to meet new colleagues while keeping my friends in nursing. It has been a fascinating experience and my appreciation for the roles of both medicine and nursing have been sharpened. Dean John Tomkowiak's courage has been instrumental in forging a community-based MD program that is innovative in content, pedagogy, alliances, strategy, and daring. The College's mission of serving Washingtonians is our true north star and we take steps toward it each day. Now let's talk about science.

Woodsmoke and wheezing, my first dip into research: Four of us at Boise State University, 2 nurses, an industrial hygienist, and a statistician conducted a study correlating hours of wood stove use with children's respiratory symptoms. I have no idea how I lucked into this work. What we did was intuitively and logistically simple. We counted hours of woodstove use in the home, then had parents document their children's health status each morning. We then calculated simple binary correlations. I was pre-PhD; doing the work was both challenging and exhilarating. What we learned was that while asthma symptoms such as wheezing were associated with woodstove use, more interesting things were happening sub-clinically. As hours of woodstove use increased, children were more likely to experience dry air at night. Even in our small study, we could see that wood heat could pose threats to children with asthma. It may not have given them severe enough symptoms to send them to the clinic, but on many days it meant waking up with a dry throat and dry eyes. We published our findings in the *Journal of Environmental Health*, the journal for

sanitarians (Butterfield, Edmundson, LaCava, & Penner, 1989). I worked hard to be a good team member; however, I remember being confused about process, what should happen next, and where we were headed. It was enough to inspire me to go home, call universities, and ask them for information about their doctoral programs. What I really learned was that I needed to learn more.

Thinking upstream: I applied for and was accepted at Oregon Health Sciences University (OHSU); the move seemed big at the time. I was asking a lot of my husband to change jobs and was asking even more of my three-year-old son. Things felt better once we got settled and fell in love with Portland. The program was exceptional and it was a relief to find colleagues as crazy and overwhelmed as I was. I received many gifts from OHSU's exceptional PhD program; the gift of challenging professors and the gift of provocative assignments. The old library was what a library is supposed to be; row after row of old journals, sagging leather chairs, and dank dark carrels. Depending on which way the wind direction was heading, I could take in the smell of old Portland; whiffs of papermill effluent, power coffee, and paper mildew filled the air. On the first day of my health protection class, Julia Brown informed me that I was the only student in the class. Cross-examining me each week about the daunting stack of reading she had assigned, I knew there was no hiding from her questions; no respite from her quick wit. I recently located a brief article about Julia Brown (nee Saparoff) in the American Sociological Association. Evidently and amazingly she sat on the lap of family friend Vladimir Lenin before her family emigrated to the U.S. in 1919. She studied at Radcliffe and Yale before taking a position at OHSU in 1972. The readings she assigned me broadened my ideas; the next quarter in theory class, I turned in a final paper titled, "Thinking Upstream" which focused on the limitations of reactive and decontextualized health care. With Chris Tanner's encouragement, I submitted the paper to *Advances in Nursing Science*. Published in 1990, it was the 1st reference to upstream and upstream conceptualizations of health in the nursing literature (P. G. Butterfield, 1990). It has grounded my approach to science, policy, and advocacy ever since. Thank you Dr. Brown for the weekly interrogation.

Environment writ large: As a doctoral student, Carol Lindeman gave my name to the director of a new Center at OHSU, one that became the Center for Research on Occupational and Environmental Toxicology and is now known as the Oregon Institute of Occupational Health Sciences. Director Peter Spencer hired me and presented me with an opportunity to conduct a case-control study of occupational and environmental antecedents of young-onset Parkinson's disease. Other members of my committee included Dean Lindeman and methodologist Barbara Valanis from the Kaiser Centre for Health Research. Our findings were interesting. Consistent with previous evidence we found an inverse relationship between Parkinson's disease and cigarette smoking. We advanced the science addressing pesticide exposure and Parkinson's disease. After controlling for the variables of race, educational level, sex, age, age at diagnosis, and family history of Parkinson's disease (PD), PD was positively associated with insecticide exposure (OR = 5.75, $p < 0.001$), past residency in a fumigated house (OR = 5.25, $p = 0.046$), herbicide exposure (OR = 3.22, $p = 0.033$), rural residency at time of diagnosis (OR = 2.72, $p = 0.027$), and nuts and seed eating 10 years before diagnosis (OR = 1.49, $p = 0.021$). These findings were consistent with hypotheses linking PD to exposure to herbicides (Butterfield, Lindeman, Valanis, & Spencer, 1995; Butterfield, Valanis, Spencer, Lindeman, & Nutt, 1993). Despite having several people remark that my science did not seem to be nursing, I knew it was. All one had to do was read the words of historic masters such as Lilian Wald or Nancy Milio to see the precepts of environmental health nursing etched across the page. Findings from my dissertation were published in *Neurology* and picked up in the lay press...CNN and USA Today.

I learned many things in this study. The science predominated my thinking, but in retrospect I was also learning about the social context of research and how participants open their hearts as well as their information to us. This was the time before Michael J. Fox became the face of young-onset Parkinson's disease; many people in their 20's and 30's with Parkinson's disease had never met anyone like them. They showed up at support groups with questions about work accommodation and raising children, only to enter a room full of people much older than themselves and working on their own journeys for

independent living. Doing this study, I learned the importance of good mentoring and good design. But the most unexpected thing I learned was the research not only gives answers, but it gives hope. To me that is the highest moral imperative of research; the public writ large gives us the mandate and the resources to conduct research. In turn we are obligated not only to provide answers commensurate with the degree of evidence we find, we are obligated to be a source of hope for future discoveries. Not in a paternal way, but as partners in a scientific community that transcends investigators, universities, and any sense of us-them-ism.

Sentenced to workers' comp: I stayed at CROET for my postdoc. My son was now 7 years old and things were good in Portland. I was assigned to manage a contract the Center had established with Saif Corporation, Oregon's non-profit workers' compensation firm. I was disappointed and did not want to step away from the etiologic work we had done on Parkinson's disease. I felt I had been sent away to Salem, banished to the Dilbert-esque world of claims management. What could be worse? In truth, it took many months for me to garner any enthusiasm for the project...and many years for me to understand what our findings meant from a health equity perspective. The mechanics of the studies involved developing predictive models of return to work for 3 prevalent work-related conditions: carpal tunnel syndrome, knee injuries, and low-back injuries. Our goal was to gain a deeper understanding of the wide variations in return to work; in essence, why some people are back at work several days following an injury while others never recover physically or emotionally. The research gave us insights into the cascade of losses that some workers encounter when they do not return to work. Losing their grounding means losing connections with colleagues and friends. Workers no longer see themselves as workers, but as someone else. Family ties fray and dignity is lost. We know much more about return to work today than we did in the 1990's, so it was more than an a-ha moment when we finally finished cutting and transforming the data, making the models, and examining our findings. What we learned was, of course, that more nuanced health metrics, such as self-reported energy and fatigue were stronger predictors of return to work than the severity of the injury itself (Butterfield, Redmond, Spencer, Zirkle, & Strukel, 1997). Discontinuing exercise post injury was the strongest predictor of poor outcomes post back injury (Butterfield, Spencer, Redmond, Feldstein, & Perrin, 1998). We didn't know if exercise was the chicken or the egg, but we did learn that the same thing that Florence Nightingale learned about injuries 150+ years ago....that activity was essential to recovery....and that the absence of it amplifies every other problem...or as Ms. Nightingale noted, "you have no idea the relief which manual labor is to you" (Nightingale, 1860).

While I didn't see it at the time, these studies, which were often framed in the vernacular of workers' faults, were really about occupational health equity. Just like us all, workers can read the tea leaves. Working in a place where you are valued makes it easy to value yourself. Being diminished at work by word or deed fosters mistrust. Grief can be manifested either inwardly as depression or outwardly as anger and/or violence. Both the workplace and the workforce have changed remarkably over the past 20 years and it does not take a lot of tea leaves to see that things are harder rather than easier for the vast majority of American workers. The concentration of wealth has enabled us to understand the science of efficiency and how to get the most out of every worker. It is a double-edged sword; the social dimensions of work are what creates meaning for workers and what propels them to excellence. In sum, we need more research addressing occupational health risks in every workforce sector. We need to continue to also conduct science across industry sectors, examining complex factors such as work-related fatigue, shift work, worksite violence, and the implications of work on family health. And we need to continue to advocate for adequate funding for NIOSH. Even in this days of austerity, it is hard to find another agency more in need of a funding bump than NIOSH.

Trading places: Following my postdoc our family moved to Montana State University so that my husband could pursue his PhD in biofilm engineering and so we could live in Bozeman. We were there for 9 good years. I still dream about skating on snowy nights; white snowflakes and a night sky create the perfect venue to gliding across the ice. It probably doesn't surprise many of you, but it was truly a surprise to me that in leaving CROET, I lost the infrastructure and talent that an exceptional center provides for new

investigators. I lost a lot of support that would have helped my career as a scientist. Dr. Spencer looked at me like I was moving to Mars when I submitted my resignation letter. It was the first of many unconventional career paths I have taken. I do not regret moving to interesting places; the West is an amazing place to discover. But a cautionary note to PhD students and young scientists; mentors matter and good ones will be central to your advancement.

At MSU I submitted an R29 proposal to NINR to test the impact of a nurse delivered return-to-work intervention on workers' physical and mental health outcomes. Many of you aren't old enough to remember the NIH R29 FIRST award mechanism which was discontinued in the 90's. For me, this award was essential to launching my work addressing rural workers, rural companies, and unique needs they both face. Reviewing the return-to-work literature, it was apparent (and logical) that the research had been conducted almost exclusively in large (think Boeing) companies that had both the infrastructure and expertise that workers with back injuries warranted. Companies with fewer than 20 workers, which as a whole represent 89% of U.S. private sector firms, are doubly challenged in identifying modified work opportunities as well as have access to occupational health expertise.

A perfect detour: I was admitted to the Robert Wood Johnson Executive Nurse Fellows Program in 1999. The application was due right after I had been hospitalized to receive I-131 oral radiation to treat thyroid cancer. Being trapped in a hospital room, with just the radiation technologist at the door with a scintillation counter gave me the chance to think, whether I wanted to or not. Returning to Bozeman, I focused the RWJ application on environmental health capacity building in nurses. I used the funding for two summer short courses addressing Upstream Environmental Health. Attendees worked in both the classroom and in the field; Drs. Laura Larsson and Phil Butterfield walked attendees out to a local ditch where they learned to run coliform tests on the water. I rented a huge bus and took all the attendees on a naturalist guided day in Yellowstone; I recall being terrified when I signed the financial contract for the bus. What if no one came, I thought. I'd have this expensive bus and no way to pay for it. But people did come, mostly from Montana and Wyoming the first year. The following year we had attendees from across the nation, Mexico, and Canada; a wonderful collaborative of participants who came from diverse fields of practice, but who shared a common commitment to environmental health (Larsson & Butterfield, 2002).

TERRA and upstream redux: As my science evolved I developed an increasing interest in the conceptualization of environment. I wrote several additional papers focusing on environmental determinants of health; issues of equity surface in a more overt manner. Upstream reflections offered a historic review of environmental health issues (Butterfield, 2002). The truth is, that among the health professions, nurses have been both thought leaders and action takers for a long time. Sometimes this legacy is mischaracterized; we invoke Florence Nightingale, then fast forward through to the past decade. The reality is that many have demonstrated leadership in environmental health; often framed using a programmatic lens (such as WIC, home visiting, sanitary reform) leaders for more than a century have advanced system change to reduce risks associated with environmental exposures. Upstream reflections included a first iteration of an action oriented framework; in retrospect, I was aware of the importance of promoting different levels of system change, but not perhaps explicit enough in regard to mechanisms for change. Differentiating between **distributive actions**, aimed at increasing environmental health system capacity, and **strategic actions**, aimed at what we would now refer to as disruptors, the goal of this conceptual piece was to plant the flag for environmental health action. Understanding alone was not sufficient. Action was required, and not just any action. One should spend sufficient time thinking alone and with others about what type and levels of actions are needed to achieve clinically relevant reductions in, for example, children's lead levels, vector-borne diseases associated with climate change, or airborne radon. Not an easy feat in word or deed.

The TERRA (Translational Environmental Research in Rural Areas) framework was developed as structural girding for our household environmental risk reduction study (P. Butterfield,

An Upstream Framework for Environmental Health: Characteristics of Distributive and Strategic Actions	
Distributive actions—daily efforts <ul style="list-style-type: none"> ▪ Improve existing environmental health data ▪ Strengthen communication among organizations ▪ Establish an ongoing dialogue between nurses and citizens 	Strategic actions—breakthrough efforts <p>Advance the knowledge of environmental health problems through:</p> <ul style="list-style-type: none"> ▪ Scientific discoveries ▪ New awareness of an existing environmental health issue
<i>Change occurs "along the banks"</i>	<i>Change occurs at the "confluence of new and old knowledge"</i>

Postma, & team, 2009). Two conceptual advances were achieved by this framework: 1) the importance of context in environmental health disparities work, and 2) the importance of framing issues from an environmental health equity perspective. Let me speak to both of these points. In regard to context, it became increasingly clear over the course of my involvement in environmental health projects that context mattered. By context I mean everything from location to demography to political economy. Much of our project work focused around specific events and situating that work in the richness of context was key to understanding. One such example was our partnership with the Agency for Toxic Substances and Disease Registry (ATSDR) and the State of Montana to offer medical monitoring for hypertension and renal disease to Montanans who had been exposed to lead, cadmium, and arsenic from the Bunker Hill Idaho smelter. It would be impossible to deliver any type of intervention, research or otherwise, without immersing oneself in understanding the place or the time. Frankly it would be unbelievable to many scientists. The short version of the story (or context) is that persons living downwind from the Bunker Hill smelter between 1973 and 81 had documented blood lead levels (BLLs) of up to 164µg/dL. The average BLL in children was 68µg/dL (Spear et al., 2001; Spence et al., 2001). 25 years post exposure we offered monitoring services via 10 local health departments; consistent with findings about the long-term effects of lead exposure 22% of participants had hypertension and 7% had evidence of renal disease. Simply put, without a deep understanding of community and worker context, it would have been impossible to develop and deliver a program that was acceptable to the population. To be effective in any capacity we needed to listen and come to a deep understanding of Smeltonville, Idaho in the 1970's. We needed to listen to people tell us about their work, the awareness that their children's blood levels were > than 20 times the acceptable threshold. The TERRA framework was a reminder to myself and others that place matters, context matters. In TERRA I referred to contextual factors as macrodeterminants of environmental health, further sliding them into the categories of physical-spatial, economic-resources, and cultural-ideologic. I wrote that model at a time when I was first hearing the normalization of anti-government language; frankly I was amazed how people who were clearly and willfully poisoned at their workplace could direct their anger to the Environmental Protection Agency (EPA). It was only by thinking about the cultural-ideologic facets of health that I could understand how a worker saw their company and their work colleagues as an extension of their family and EPA actions, certainly benevolent from my perspective, as the "outsiders" and "big government" to local residents.

The other conceptual puzzle piece I worked to highlight in the TERRA framework was that of environmental health inequities. Once again, this type of labeling was new in my thinking. Like many of you I write to push my own

understanding as well as the understanding of others. In my 5 years at CROET I had adopted the framing language of my occupational toxicologist colleagues. Everything was host, agent, or environment; risks were viewed as dosages. It's the old adage that if all you have is a hammer, everything looks like a nail. Changing my thinking to examine environmental health from a power differential perspective was a different lens. It took a while to recalibrate my technical knowledge of environmental health from a thinking upstream perspective. But once I had integrated those approaches, it rang true for me.

ERRNIE: Environmental Risk Reduction through Nursing Interventions and Education:

Following completion of my husband's PhD and in fulfillment of our quest to live in every WAMI state (excluding Alaska), we moved to Seattle and UW in 2003. I struggled with discerning my identity as a scientist. With RO1 support from NINR we developed and tested a household-level environmental risk reduction intervention for rural, low-income families. Informed by Brigg's multiple agents-multiple effects (MEME) model, we first examined county level data to identify potential risks. Meghan Penniman, a Montana State graduate student used her environmental health literacy skills to create risk reduction messages that were clear, direct, and actionable. To assure consistency in the intervention, we organized risk reduction messages into an interactive pop-up book. During each of 4 home visits, the nurse would share household results with the family (usually the mother). At one visit, the family would receive their radon results; at the next, they would receive their water quality results. Household risk data collected included carbon monoxide, airborne radon, in-wall humidity (representing the risk for mold/mildew growth), and biological and chemical characteristics of drinking water; biomarkers includes children's blood lead and salivary cotinine (a marker of tobacco exposure). Outcome measures address general as well as agent-specific environmental self-efficacy and precaution adoption. Three months post-intervention, those in the intervention group had significantly higher scores on: 1) all 6 risk-specific self-efficacy subscales, 2) general environmental health self-efficacy, 3) 5 of 6 risk-specific precaution adoption scores, and 4) general environmental health precaution adoption (see ERRNIE figure).

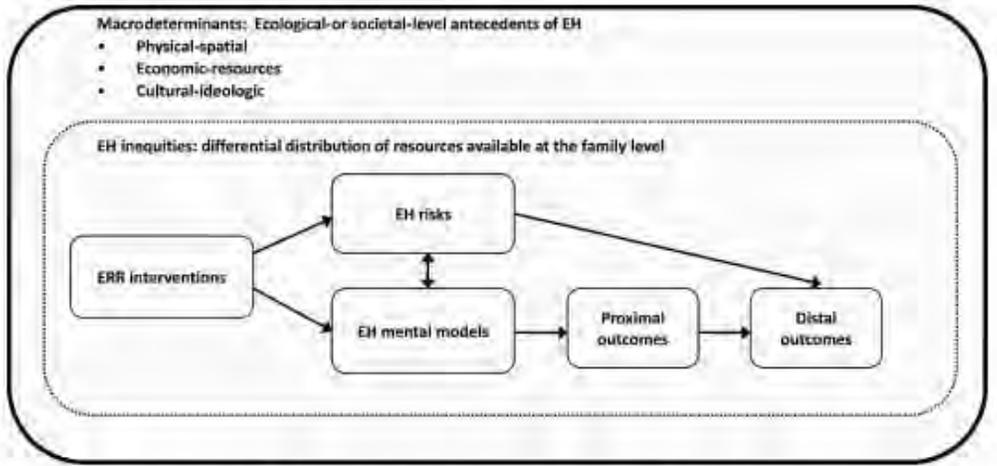


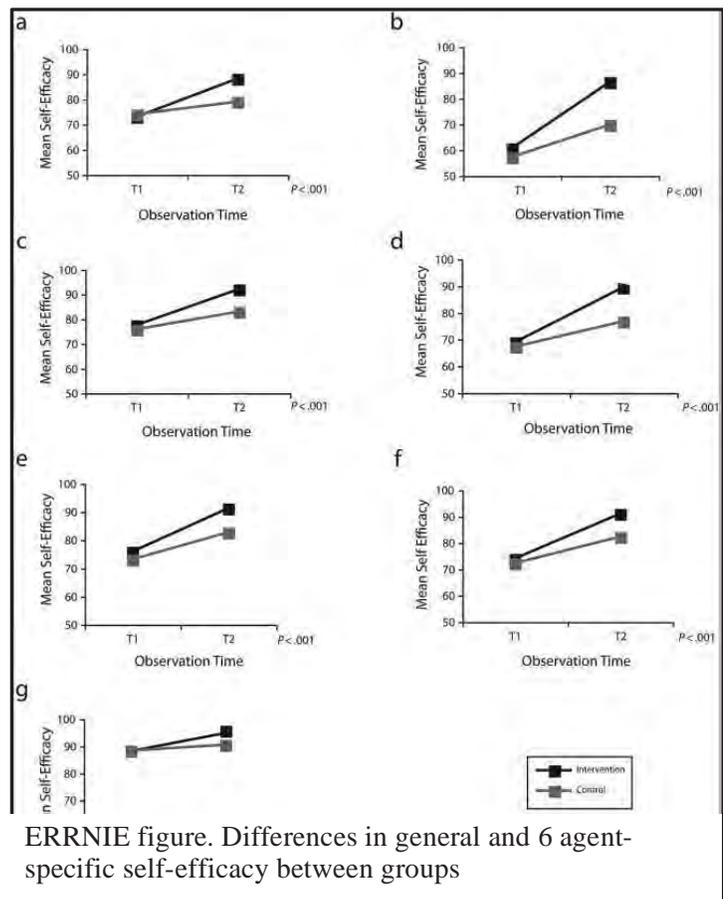
Figure 1. TERRA framework: Key concepts and examples. Abbreviations: EH indicates environmental health; ERR, environmental risk reduction; and TERRA, translational environmental research in rural areas.

The feasibility issues in this study were high; rural families lived as far as 80 miles from the county seat. At the Gallatin County site, that meant the distance from Bozeman to West Yellowstone and in Whatcom County, that meant from Bellingham North to the Canadian border. It was a testament to the commitment of our team that we were able to obtain valid in-home measurements. It was a testament to the excellence of the local public health nurses that we they were able to deliver the interventions consistently over 3 years of data collection.

When good studies go bad: Our WSU research team accomplished what I consider to be among the best work of our lives between 2009-2014. Unfortunately, we have little to show for it, nor does the American public who funded it. I am speaking about the National Children’s Study, what had intended to be cohort study of 100,000 U.S. children from

conception until age 21. Planned as a collaborative effort between NIH, EPA, and CDC, the goals of the National Children’s Study were to pose and answer internationally significant questions about children’s growth, development, biology, and connections to environmental factors. These were the real questions of our time, with answers sought by parents, the public, and scientists alike. What causes autism? Does adolescents’ viewing of violent video games beget violent behavior later in life? Does exposure to endocrine disruptors lead to precocious puberty or hypospadias? (Landrigan et al., 2006). To optimize the design, a Vanguard Study was launched and data was collected at 40 sites, with the only site in the Northwest being Grant County, Washington. Scientists from UW’s School of Public Health were awarded the contract and in turn, we received the subcontract to manage data collection and operations. Nationally sites were assigned to collect data via one of three mechanisms: via providers’ offices, via direct community outreach, or via neighborhood and household canvassing. Working with UW, we rented offices in downtown Moses Lake and hired and trained more than 60 data collectors, many of them Hispanic and/or with deep roots in the rural communities of Quincy, Mattawa, and Ephrata. We managed to exceed expectation in recruitment and enrollment, thanks to the stunningly effective work of Drs.’ Julie Postma, Phil Butterfield, and Tamara Odom-Maryon (Postma et al., 2015). We earned trust by listening to both our workers and our participants, honoring the importance of context and culture. Many of you know that, due to budget overruns (>\$1.3B), feasibility issues, and multi-level hubris, NIH discontinued the study nationally in June 2014 (Director, December 11, 2014). Partial funding was redirected to less ambitious projects. I am not alone in continuing to grieve the end of the National Children’s Study, our courageous workers in the field, and our dedicated participants.

Elevating and harnessing this loss, I am working to use it to redouble my efforts to speak plainly about the importance of bringing voice to the issues of our day, whether they be issues of science, policy, advocacy, or a sustainable future. We are at a time in our nation when the very nature of science, is under threat. A recent paper in Health Affairs simply and audaciously posed the question, “is power the most fundamental cause of health inequities?” (Givens, Kindig, Tran Inzeo, & Faust, February 1, 2018). If so, or if almost so, it is our responsibility as scientists to speak and nevertheless persist in response to actions



ERRNIE figure. Differences in general and 6 agent-specific self-efficacy between groups

that devalue science, normalize bigotry, or exacerbate inequality. It is our responsibility to advance emancipatory policies for the common good (Valentine-Maher, Butterfield, & Laustsen, 2018). I recently received an e-mail from Peggy Chinn, ANS’s long-time editor. I know her only through the fingerprints she leaves in her writing. The tagline in her e-mails, only to apropos for our times reads, “the future will ask; what did you do?” It is a challenge I am taking to heart.

Centering:

Last year ANS put out a call for the 40th anniversary of the journal (P. G. Butterfield, 2017). It was an opportunity to reflect on my work and learn from the work of others. I proposed a new model (BUMP Health) to inform the framing of research and initiatives addressing health equity. The point of inflection is the

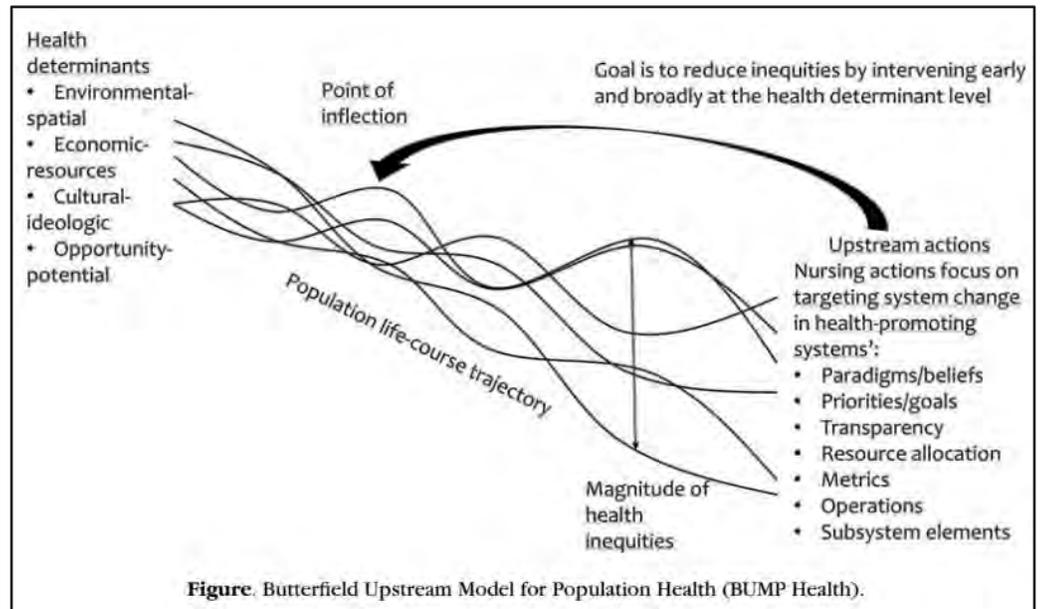


Figure. Butterfield Upstream Model for Population Health (BUMP Health).

predominant concept in the BUMP Health model; its purpose is to promote more intentional consideration of where one’s actions can yield the greatest benefit. Population-based interventions can occur at many points along the national history of disease; historically we’ve thought of these junctures as primary, secondary, or tertiary prevention. The BUMP Health model provides an opportunity for greater specificity in considering both intervention timing and content. Adapting ideas from systems science, actions are categorized by level of system change. For example, one way of driving organizational change is to promote better metrics. If you are working to improve environmental health outcomes in a system that doesn’t measure them or misrepresents them, it should not be surprising that nothing happens. One of the most effective way of advancing population level health goals is to have those goals embraced within the central paradigms/belief systems of the organization. I developed these categories of upstream actions because too often I have observed well-intentioned scientists and advocates propose changes at the subsystem or unit level. The ideas may be substantive and elegant, but if they don’t connect with the system at the right level (e.g., budget, strategic plan, core values) they may have little long-term impact. The model should send a message to scientists and scholars to speak up and be strategic. The magnitude of inequities in our nation is profound; our position on international rankings addressing infant mortality, life expectancy at age 60, and slope of mortality decline over the past 10 years is shameful (Schneider, Sarnak, Squires, Shav, & Doty, July 2017). Our actions must have the greatest possible impact. And quickly. I have often thought of the pace of traditional science, advancing in 5 year increments, in relation to the pace of climate change, population stress, and environmental degradation. It seems that unless we adopt more disruptive mechanisms for scientific discovery, we will be outlapped by changes in the natural and anthropogenic world. I am confident that a new generation of scholars will show us innovative ways forward.

Leading and learning: Leading an organization is invigorating because you can support others’ science through word and deed. Serving as a chair at UW and then dean at Washington State University, I worked to create a culture of discovery for my faculty. At UW, a deep foundation had been laid by my predecessor Bobbie Berkowitz and Nancy Woods, who were both incredibly kind to me. It was an honor to recruit new faculty to Psychosocial and Community Health. The eight years I served as Dean of Nursing at WSU were also incredibly rewarding. The old adage that students teach us the most is cliché but

true to its core. I found it daunting and uncomfortable the first time one of my students leap-frogged my knowledge with their insights and wisdom. It took a while to pivot my awareness and appreciate that, just as I had converted Dr. Julia Brown's insights into my own ideas, so did my students catalyze ideas from my work and others into their voice. Among the work I have been proudest to witness is Dr. Julie Postma's CBPR-based work in lower Puget Sound with immigrant parents of children with asthma. Examining the roles that stress, exercise, and irritants/allergens in homes and daycares, Dr. Postma has connected parents' insights back to a regional health system (Evans-Agnew, Postma, & Sledd, 2015). Their work is informing us that system's actions addressing housing, food security, and patient education. Dr. Beth Schenk identified a gap in environmental health by noting the absence of instruments addressing nurses' awareness of hospital and home-based actions addressing waste reduction. The (NEAT) Nurses' Environmental Awareness Tool was developed with a sample of >600 nurses from the Providence system; fast forward just a couple of years and the NEAT is being used in 9 other counties (Schenk, Corbett, Barbosa-Leiker, Postma, & Butterfield, 2016). Dr. Gail Oneal was interested in how low-income rural parents hear and create meaning from environmental risk reduction messages; building on her grounded theory findings, she refined and improved the quality of measures addressing environmental health risk perception and self-efficacy (Oneal, Postma, Odom-Maryon, & Butterfield, 2016). Dr. Lois James has just received R01 funding to test the examine the impact of shift-accumulated fatigue on patient care and post-shift driving collisions. What an important topic to health professionals and patients alike. It has been an honor to see others step up to embrace the complexity of occupational and environmental health disparities. The tables have turned; it is my time to provide fodder for others to consider in the genesis of their ideas, approaches, and solutions. Just as 30+ years ago Dr. Julia Brown pointed my thinking upstream, I now have the privilege of co-advancing upstream ideas with others. Thank you.

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The Carol A. Lindeman Award for a New Researcher Paper

**HOSPITAL-LEVEL RISK ADJUSTMENT REDUCES
HOSPITAL VARIATION OF PRESSURE INJURY RISK**

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Introduction

Hospital acquired pressure injuries (HAPIs) are an important nurse-sensitive hospital quality indicator [1]. HAPI occurrence has been associated with patient age, comorbidity, and vasopressor use in critical care [2]. Prevention strategies include patient repositioning, skin care, nutritional support, use of specialty bed surfaces and silicon foam dressings [3-5]. With a national incidence of 31 HAPIs per 1,000 discharges [6], they are both a frequent occurrence and the focus of quality reporting and quality improvement activities.

Some proportion of HAPIs may be considered unavoidable [7] in the context of a patient's clinical circumstances (end of life, use of vasopressors in hemodynamically unstable patients, or reliance on medical devices for survival). Nevertheless, HAPIs are largely considered an avoidable complication. HAPIs may cause severe pain and infection, and an estimated 60,000 patients die annually as a direct consequence of pressure injuries [1]. For hospitals and health systems, HAPIs (including those present on admission) increase hospital length of stay and cost with approximately \$500-70,000 per patient per pressure injury, totaling up to \$11 billion annually in the United States [8]. In addition, more than 17,000 HAPI lawsuits are filed annually, making it the second largest cause of hospital litigation [1].

To measure hospital quality without bias, quality agencies and health systems rely on risk-adjustment methods that control for risk factor differences in a given patient population [9]. Recent systematic reviews clearly delineate key risk factors for HAPI [2, 10-14]. The evidence suggests that patient age, severity of illness, type 2 diabetes mellitus, renal insufficiency/renal failure, immobility, malnutrition, incontinence, cardiac surgery, a low baseline Braden scale score [15], and hemodynamic compromise may contribute to HAPI risk. Protective nursing characteristics may include percent of nurses with a baccalaureate degree, percent of nurses with specialty certifications [16], and the degree of nurse-perceived structural empowerment of the unit or hospital within the Magnet hospital framework [17]. No studies to date, however, have investigated the association of hospital characteristics such as hospital size, location, or occupancy rate with HAPI risk. This is problematic because risk-adjustment of HAPI without adjusting for hospital characteristics assumes that all hospitals are equal when they are truly not.

Research Objectives

This report expands a 2017 analysis by Rondinelli and colleagues accepted for publication in *Nursing Research* (in print). This work found that patient age, male sex, a patient's comorbidity burden, severity of illness at admission, total Braden scale at admission, and admit category were independently associated with HAPI. However, substantial unexplained variation in HAPI risk remained across hospitals in the health system after adjustment for patient level variables.

We had two research objectives: 1) to evaluate the association of hospital characteristics with HAPI risk, and, 2) to quantify whether addition of these hospital variables would reduce unexplained between-hospital variation. Given the scarcity of evidence investigating hospital characteristics of HAPI, this study was hypothesis generating and did not aim to test an *a priori* null hypothesis and alternative hypothesis.

Methods

The Kaiser Permanente Northern and Southern California Institutional Review Boards approved the study.

Sample and Setting

Our study cohort consisted of 728,266 hospitalization episodes among 35 Kaiser Permanente hospitals in California between January 1, 2013 and June 30, 2015. The health system uses a comprehensive electronic medical record (EMR) with standardized flowsheet documentation across sites, including the Braden scale. The eligible research population was adult patients at least 18 years of age who were admitted with an overnight stay during the study timeframe. We included multiple hospital episodes by the same patient (sensitivity analysis confirmed episode independence for patients with more than one hospital episode). We excluded hospitalizations that began outside of the health system, those for observation status, and episodes from labor and delivery, psychiatry and rehabilitation.

Measures

Outcome Variable

The outcome of interest was the first HAPI documented in the system's sentinel event database, irrespective of stage. Any newly documented inpatient HAPI in the health system triggers an evaluation by a licensed wound specialty nurse and stage confirmation following clinical guidelines by the National Pressure Ulcer Advisory Panel (2014). As a second outcome, this report also aimed to determine the reduction of unexplained hospital variation of HAPI risk across the health system.

Patient-Level Independent Variables

The previous report focused on patient variables, and served as the baseline model for this study. Statistically and/or clinically significant patient variables included patient age, male sex, comorbidity burden (COPS2 score), severity of illness at admission (LAPS2 score), the lowest Braden score in the first 24 hours after admission, admission type (ED medical compared to ED surgical), history of Type 2 diabetes mellitus or stroke, and code status.

Development and Selection of Hospital-Level Independent Variables

We defined twenty-two candidate hospital variables and evaluated their collinearity to produce candidate variables for model building. We selected hospital variables because they were meaningful at the patient level (e.g., hospital's mean patient age and patient age) or because of a plausible putative association (e.g., hospital size, occupancy rate). Collinearity testing included bivariate linear correlation, principal component analysis, and cluster analysis. We identified and excluded ten collinear variables, and twelve candidate hospital variables remained for model building (Figure 1).

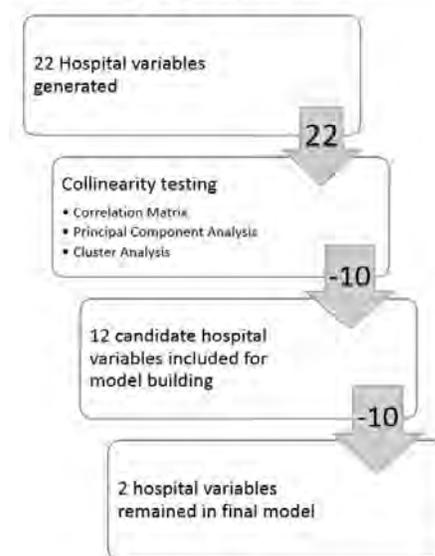
Model Derivation and Validation

We split the patient cohort into derivation (70% of observations) and validation (30%) datasets. Variable testing, model building, and model cross-validation occurred in the derivation set, while we reserved the validation dataset strictly for final model confirmation.

Mixed Effects (Hierarchical) Survival Model

We used mixed effects survival analysis [18], an approach that accounts for the temporal dimension of patients entering and leaving a research cohort at different points in time. Mixed effects models analyze the observed temporal probabilities hierarchically across clusters (here: hospitals). Clustering accounts for within-hospital dependence of

Figure 1. Overview of the Process of Defining, Testing, and Excluding Hospital Variables



observations; meaning that HAPI events are correlated within a hospital and may be associated with some hospital characteristic that varies across facilities. Mixed effects survival models calculate the random effects of the clustering variable while also adjusting for the base-level variables (here: patient characteristics). This is useful for two reasons. First, a temporal analysis offers a more accurate view of a patient's clinical course (as patients stay longer, their HAPI risk increases). Second, one cannot assume that all patient episodes are independent of the hospital in which they took place. Since a longer length of stay may increase HAPI risk, we accounted for the shrinking denominator of patients over time by right-censoring episodes by hospital discharge as a competing risk (discharges with 30-day survival, transfers out of the health system or inpatient deaths).

Model Building

Our initial model included nine previously reported patient variables and twelve hospital candidate variables. Using stepwise backwards elimination, we removed hospital variables not meeting the statistical significance threshold of $P < .20$ ($n = 8$). We retained hospital mortality and hospital percent of episodes with a history of diabetes. Cross-validation of the second model demonstrated good model fit (c -statistic = .792, Pearson product-moment correlation coefficient $R^2 = .0868$). Final validation of the model in the 30% validation dataset confirmed model fit (graphs omitted).

Results

Final Risk-Adjusted Model

Of the twenty-two initial hospital variables, we excluded ten from model building due to collinearity, and ten in model building, resulting in two final hospital variables. The final model had patient age, gender, patient comorbidity (COPS2), severity of illness (LAPS2) at admission, total Braden scale score at admission, history of diabetes and history of stroke, admit category, and resuscitative code status at the patient level, while the hospital variables were hospital mortality rate, and hospital percent of patients with a history of diabetes.

Cohort Characteristics

Fewer women had a HAPI episode than a non-HAPI episode (43.5% vs. 53.4%). On average, patients with HAPI episode were older (71.3 years vs. 65.4 years), had a higher comorbidity burden (COPS2 78.8 vs. 48.5), higher severity of illness score at admission (LAPS2 93.3 vs. 59.6), lower Braden score at admission (15.4 vs. 18.7), higher length of stay (22.9 days vs. 4.5 days) and higher 30-day mortality (24.4% vs. 5.8%).

Intra-System Variation of Hospital-Level Variables

We found a high coefficient of variation (standard deviation/mean >1.0) in hospital county population density (1.51), an indicator of rural vs. urban location, and percent of patients with a sepsis admission diagnoses (50.7). Ten variables had a low coefficient of variation 1.0). These results indicate that relatively little variation persisted across hospitals in the health system with respect to hospital occupancy (CV = 0.22), mean patient age (CV = 0.03), mean Braden score (CV = 0.02), percent of patients with high comorbidity (CV = 0.10), severity of illness at admission (CV = 0.18), history of diabetes (CV = 0.11), history of stroke (CV = 0.14), ICU stay in episode (CV = 0.44), discharge to long-term care (CV = 0.26), and patient mortality (CV = 0.22).

Hierarchical Survival Analysis of Hospital Variables

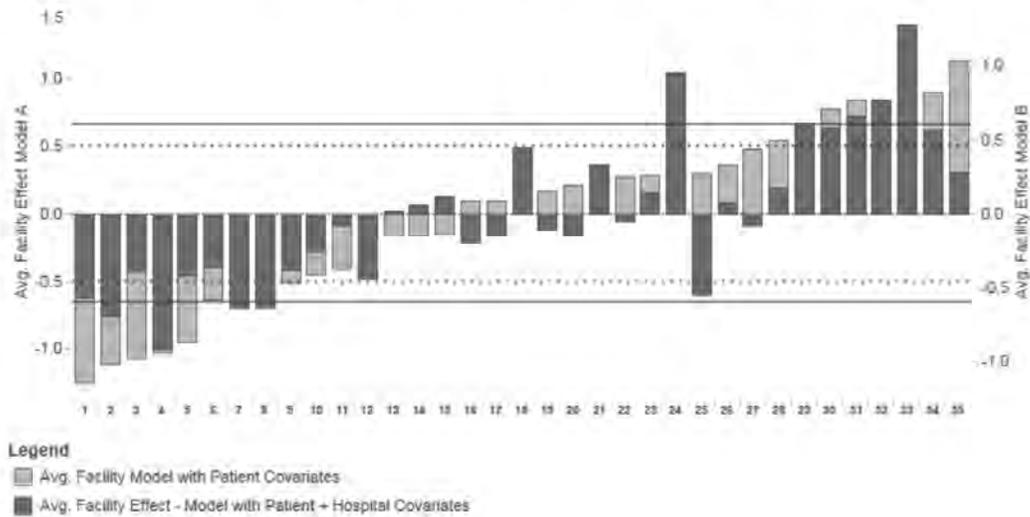
After adjustment for patient-level and hospital-level variables, the hazard for HAPI decreased by 4.8% for every 0.1% increase in a hospital's mean mortality (95% CI [6.3%, 2.6%], $P < .001$). The hazard for HAPI increased by 5% for every 1% increase in the proportion of patients with a history of Type 2 diabetes (95% CI [-0.4%, 10.0%], $P = .072$).

Model Impact on Hospital Variation of HAPI Risk

Compared to the patient-level model, the new model decreased unexplained hospital variation of HAPI risk by 35% (hospital-level variation 0.59 vs. 0.39). We utilized *coxme* code in R [19] to calculate each hospital's individual effect of HAPI risk before and after the addition of the hospital variables. In the new model, the hospitals' HAPI risk rankings rearrange across the system, meaning that the order of low-to-high variation changes as the

new model adjusts for the hospital variables. Figure 2 illustrates how the new model readjusts the hospital effects of HAPI risk across the 35 hospitals, including quite stark reductions in some hospitals as well as apparent risk reversal in others.

Figure 2. Comparison of Hospital Random Effects (Unexplained Variation) Sorted By Hospital in Two HAPI¹ Models Adjusting For Patient-Level Variables vs. Patient and Hospital-Level Variables



Footnotes:

X-axis: Hospital IDs sorted by hospital random effects in the model adjusting for patient-level variables

Y-axis: Hospital random effect coefficients on the logit scale (unexplained hospital variation)

In this graph, Hospital IDs are sorted by lowest to highest hospital random effect ranking in the baseline model (black bars). The gray bars represent each hospital's random effect observed with the new model.

1- Hospital Acquired Pressure Injury

Discussion

This large multicenter retrospective cohort study offers new insights into the field of HAPI risk adjustment and offers an important addition to translational nursing science. Our review of the literature suggests that the effect of hospital characteristics on HAPI risk has not been studied extensively. To our knowledge, this is the first study that evaluated the addition of a wide variety of hospital characteristics (other than nursing variables) to an existing HAPI risk model. Organizational quality improvement activities and electronic clinical decision support rely on risk-adjustment. Without hospital-level risk adjustment, health system stakeholders may pay attention to the wrong performance outliers. The observed association of hospital mortality with HAPI may be a function of the statistical methods used to model competing risks. The facility-level mortality rate may be capturing the lower HAPI rate that is expected from patients who die. It is also plausible that mortality has an independent effect on HAPI since, on average; hospitals with a high mortality rate likely serve a sicker or frailer patient population that is not entirely measured with the patient variables. For example, hospitals serving such patient populations may provide more resources (wound care specialists) to care for such patient populations. A systematic review of HAPI prevention strategies [20] noted that organizational HAPI reduction programs are often broadly implemented across settings.

Limitations

This study has several limitations. First, our findings cannot establish a direct causal role between the observed effects. Nevertheless, the associations we found are plausible, and model testing indicated robust performance using both cross-validation and split validation techniques. A second limitation is the moderate sample size at the hospital level in our hierarchical model (35 hospitals). Even with nearly $\frac{3}{4}$ million patient episodes, the number of hospitals (and not the number of episodes) is the limiting factor when accounting for hospital characteristics. However, despite potential sample size limitations at the hospital

level, this study is the largest investigation of the impact of hospital characteristics on intra-system variation of HAPI risk to our knowledge. Third, the setting of this study is one of the largest integrated health systems in the United States. Decades of work in process/quality improvement [21-24] have aimed to improve patient outcomes and decrease outcome variation. These efforts appear to be successful given that the health system is performing substantially better than the national average (2.3 HAPI/1000 patients in this study vs 30.9/1000 patients [25]). Even though the research setting may limit generalizability, results apply to other integrated health systems of similar size and a similar degree of practice standardization.

Conclusion/Implications

We found that adding hospital-level-mortality and percent of episodes with diabetic patients decreased residual hospital variation of HAPI risk substantially. The magnitude of this effect – a 35% relative reduction – suggests that both the risk factors we identified as well as the methods we employed should be considered by health systems aiming to arrive at an unbiased comparison of HAPI risk across hospitals and to reduce HAPI rates. Future studies should evaluate characteristics of nursing staff (e.g., years in nursing, educational attainment), structural measures (e.g., bed surface type availability and utilization, specialty bed refresh cycle, linen type), process measures (e.g., elapsed time from risk identification to specialty wound nurse referral, time from risk identification to specialty bed delivery), and combine large EMR datasets across organizational boundaries [26].

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Abstracts of Symposium Presentations

ADVANCING THE SCIENCE OF PRESSURE INJURY
PREVENTION IN HIGH RISK PATIENTS

Moderator:

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OVERVIEW: PRESSURE ULCER PREVENTION IN HIGH RISK PATIENTS
JoAnne D. Whitney

FACTORS ASSOCIATED WITH STAGE 1 PRESSURE
INJURY DETERIORATION
Jenny Alderden, Mollie Cummins, Lucy Zhao

A MACHINE LEARNING APPROACH TO PRESSURE
INJURY RISK PREDICTION IN THE ICU
*Jenny Alderden, Mollie Cummins,
Ginny Pepper, JoAnne D. Whitney*

PRESSURE INJURY PREVENTION: EFFECT ON PERFUSION (RCT)
*Elizabeth Bridges, JoAnne D. Whitney,
Ernesto Tolentino, Robert Burr*

CONCEPTUAL FRAMEWORK OF EARLY MOBILIZATION
MEDIATING PRESSURE INJURY
Faygah Shibily

ADVANCING THE SCIENCE OF PRESSURE INJURY PREVENTION IN HIGH RISK PATIENTS

Overview: Pressure Ulcer Prevention in High Risk Patients

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Pressure injury, defined as “localized damage to the skin and/or underlying soft tissue” (NPUAP, 2017) is a national patient safety concern and a marker used to judge quality of care. Pressure injury acquired during hospitalization is an issue for patients in critical care environments, affecting 22-49% of this population (Berlowitz, 2014). Several characteristics have been identified that influence pressure injury development among this high-risk population including impaired mobility, poor nutrition, decreased tissue perfusion, skin moisture and reduced sensory perception (Dealy et al, 2015). Prediction of risk and identifying effective preventive interventions are requisite to advancing the science that will guide practice. This symposium reports recent research that advances understanding of risk identification and preventive strategies to address and modify factors associated with increased pressure injury risk during intensive care.

Despite research aimed at prevention, pressure injury in high-risk patients remains a challenge. Various risk assessment scales have been used clinically and studied for effectiveness for decades. The utility of these instruments to predict pressure injury occurrence in high risk patients has not been definitively established and is often questioned (Chou et al 2013; Tayyib & Coyer 2016). New approaches to define and identify risk are needed to solve this problem. Such an approach using a large data set to develop a pressure injury prediction model is presented in the paper “A machine learning approach to pressure injury risk prediction in the ICU.” (Alderden)

Pressure injury to the skin is understood to occur in stages, ranging from changes to intact skin to full tissue destruction. Prevention of progressing damage relies on detecting early skin changes and instituting appropriate interventions to limit damage. We lack complete understanding of early stage pressure injury and its relationship to the ultimate progression of a pressure injury, toward healing or deterioration. New findings pertinent to this issue in ICU patients are presented in “Factors associated with stage 1 pressure injury deterioration.” (Alderden)

Pressure and reduced perfusion contribute to pressure injury. Pressure reducing surfaces are among evidence based preventive strategies with certain surfaces more effective in high risk patients (Chou et al 2013). Yet pressure injuries in the critically ill still occur despite the use of support surfaces. We have limited understanding of how to intervene to reduce friction and shear, factors that may also impair blood flow and change the “microenvironment” conferring additional risk. “Pressure injury prevention-effect on perfusion” presents new data comparing two shear reducing technologies on skin blood flow, oxygen and temperature. (Bridges)

Mobility impairment increases risk of pressure injury in critically ill patients. Turning and position changes are the hallmark of preventive strategies. Early mobilization has been introduced and implemented in intensive care settings to mitigate complications of immobility. Studies of the effects of early mobilization have reported many benefits, but there are not studies documenting the effects of this intervention in regard to prevention of pressure injury. Current evidence is presented on how this modality may mediate pressure injury in intensive care patients “Conceptual framework of early mobilization mediation mediating pressure injury”. (Shibily)

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ADVANCING THE SCIENCE OF PRESSURE INJURY PREVENTION IN HIGH RISK PATIENTS

Factors Associated with Stage 1 Pressure Injury Deterioration

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Background: Hospital acquired pressure injuries (PI) are a common and serious problem among surgical critical care patients. Pressure injuries are categorized into specific stages with stage 1 pressure injury representing non-blanchable redness and \geq stage 2 injuries indicating at least partial thickness tissue loss. The clinical relevance of stage 1 pressure injuries in the ICU is uncertain: no data exist about how often stage 1 pressure injuries progress into more severe stages in that population. Moreover, no studies have identified factors associated with stage 1 pressure injury worsening.

Purpose: The purpose of our study was to describe the clinical course of stage 1 pressure injuries among critical care patients. The specific aims were to a) describe how often pressure injuries worsen versus healing or staying the same, and b) identify factors associated with stage 1 PI deterioration into \geq stage 2 pressure injury.

Methods: Working with a biomedical informatics team, we used electronic health record data to retrospectively identify patients with category 1 pressure injury among surgical critical care patients at a level 1 trauma center and academic medical center who were admitted between May 1, 2008 and May 1 2013. We limited our sample to patients whose stage 1 pressure injury persisted for more than 24 hours to avoid selecting patients with only transient redness. We identified potential risk factors for pressure injury worsening via literature review. We used competing risk survival analysis to identify factors associated with pressure injury worsening. In the analysis, individuals who experienced pressure injury healing were regarded as the competing risk, and those whose pressure injuries stayed the same were censored.

Results: Among 6,376 patient records reviewed, 259 patients (4%) developed stage 1 pressure injuries that persisted for >24 hours. Among those, 92 (36%) patients' stage 1 pressure injuries persisted until discharge, 84 (32%) patients' stage 1 injuries worsened into \geq stage 2 injuries, and 83 (32%) patients experienced pressure injury healing. Patients whose pressure injuries worsened were more likely to be older (SHR= 1.02, 95% CI= 1.01-1.03, $p<0.01$), to have a higher serum lactate (SHR= 1.06, 95% CI= 1.02-1.10, $p<0.05$), to have lower hemoglobin (SHR= 0.82, 95% CI = 0.71-0.95, $p <0.01$), or to experience decreased oxygenation defined as an SpO₂ $< 90\%$ (SHR= 1.5, 95% CI= 1-2.5, $p < 0.05$).

Implications: Deterioration of stage 1 pressure injuries into more severe stages occurred among 32% ($n=84$) of the surgical critical care patients in our sample, whereas a prior study found stage 1 PI worsening occurred among 8% of long term care patients and 22% of acute care patients.

Critical care nurses should consider aggressive offloading and other preventative measures for patients with stage 1 pressure injury to prevent deterioration into a more severe pressure injury. Aggressive measures are particularly important for patients with stage 1 injury who are older, or who have alterations in oxygen delivery or perfusion as evidenced by higher lactate, lower oxygen carrying capacity (hemoglobin), or lower percentage of hemoglobin saturated with oxygen (SpO₂).

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ADVANCING THE SCIENCE OF PRESSURE INJURY PREVENTION IN HIGH RISK PATIENTS

Pressure Injury Prevention: Effects on Perfusion (RCT)

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Background: Military combat casualties undergoing aeromedical evacuation (AE) are at high risk for skin pressure injuries. No strategies, except a pressure-reducing mattress have been studied. Two mitigating strategies appropriate to AE: Mepilex (multilayer dressing) and LiquiCell (fluid-filled pad) may decrease pressure injury risk as evidenced by tissue perfusion and skin temperature.

Objective: Under conditions simulating AE transport (23 x 60-inch mesh stretcher with standard AE mattress), in healthy subjects compare transcutaneous oxygen (TcPO₂) and skin temperature under offloaded (side-lying) and loaded (supine/supine with 30-degree backrest elevation) in four conditions: control (no intervention), Mepilex sacral/heel dressings, LiquiCell pad, and Mepilex + LiquiCell.

Methods: Healthy adults were randomly assigned to four groups with stratification based on ideal body weight. Backrest position randomized. TcPO₂ and temperature was measured on the sacrum/heel; skin interface pressure was measured with XSensor. Protocol: 5-minute baseline (offloaded); 40-minutes supine (median flight time for transport from the battlefield to a military field hospital); 15-minutes offloaded.

Results: Forty healthy adults (60% women, BMI 24.6 ± 5.3). Body weight: under (20%), within (37.5%), above (42.5%); equally distributed between groups. Skin interface pressure: There was no group, position or time effect for the sacrum/heels. Peak sacral pressure ~ 43 mm Hg. Peak heel pressure: ~50 mm Hg. For the occiput, there was a significant position effect: supine/flat: 55-70 mm Hg; supine/backrest elevated: 45-60 mm Hg. TcPO₂: There were no significant group, position or time effects. Sacral TcPO₂ was significantly different between unloaded and Time 0 (loaded) conditions in flat (79 ± 16.5 mm Hg vs. 57 ± 25.2 mm Hg, p = .000) and HOB elevated position (85.2 ± 13.6 mm Hg vs. 66.7 ± 24.2 mm Hg, p = .000). Similar results for the heels. The chest TcPO₂ was unchanged, demonstrating stability of oxygenation across the experiment. Skin temperature: There was no group or position effect, but sacral skin temperature increased significantly across time (~1.5°C).

Conclusions: The lack of difference between the control/experimental groups may reflect the low interface pressure from the AE mattress; however, the significant TcPO₂ decrease between unloaded and loaded conditions supports offloading interventions. With a combination of the interface pressure plus the 1.5°C increase in skin temperature (equivalent to ~20 mm Hg), the maximum allowable time for continuous pressure exposure is ~4.7 hours. Increased friction and shear decreases this time to 3 hours, not accounting for altered perfusion, edema or existing trauma; thus, supporting a maximum 2-hour repositioning strategy. Prophylactic Mepilex is associated with lower incidence of pressure injuries; however, in this study Mepilex did not affect skin interface pressure, tissue perfusion or skin temperature. Results were similar for LiquiCell, suggesting that the mechanism of both interventions may be decreased friction/shear. Areas for future research include the generalizability of risk models created for prolonged surgical cases in critically injured casualties undergoing long-distance transport, the effect of skin microclimate (moisture/temperature) and shear on tissue oxygenation when evaluating pressure reducing surfaces, and dressings and the effect of LiquiCell during transport to mitigate position-induced friction and shear.

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ADVANCING THE SCIENCE OF PRESSURE INJURY PREVENTION IN HIGH RISK PATIENTS

Conceptual Framework of Early Mobilization Mediating Pressure Injury

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Background: Patients in intensive care units (ICUs) are at higher risk of developing pressure injuries (PIs) than patients elsewhere. ICU patients, and mechanically-ventilated (MV) patients may be immobilized for long periods, which is a main factor in PI development. Researchers have recommended mobilizing ICU patients to prevent PIs. Recently, a new technique known as early mobilization (EM) has been introduced in ICUs, which helps decrease complications due to immobility such as muscle weakening. However, no research has explored the effects of EM on PI development.

Objective: To conceptually elucidate the connection between EM intervention and PIs.

Method: A systematic review of the literature was conducted drawing on research from the past decade to identify PI risk factors in ICU populations. The review was supplemented by further analysis of the relationship between PI pathophysiology and EM outcomes in ICU populations to exemplify how EM could mitigate PI risk.

Results: The systematic review identified five factors that affect the skin loading pressure that are significantly associated with PI development: mobility, activity, friction/shear, repositioning, and sedation. In addition, other significant factors that affect or reflect skin perfusion include vasopressors, systolic BP less than 90 mmHg, mean arterial pressure less than 60 mmHg, continuous venous hemofiltration, edema, mechanical ventilation, diabetes mellitus, cardiovascular disease, pulmonary disease, and albumin. Moisture and ICU length of stay were associated strongly with PI development. There is a lack of evidence concerning the association between EM intervention and PI development. A conceptual framework was created to demonstrate how EM might mediate PI development. In this model, links were introduced between EM and PI development in the Braden and Bergstrom conceptual scheme. This conceptual scheme explains how various risk factors are related to PI development. Immobility, inactivity, shear, and friction are factors that can be mediated directly when patients are mobilized from the supine position to the edge of the bed, to a chair, and finally, up and ambulating. A particularly high-risk group are ICU patients who are intubated and receiving mechanical ventilation (MV). These patients may be sedated and immobilized for longer periods. Patients with decreased sensory perception to pain may be unable to change their position to relieve and distribute the constant pressure over bony prominences. Early mobilization may decrease the risk of PIs, through the associated decrease in sedative use. Also, EM increases both the activity level and the physical functioning of ventilated patients in ICUs. Thus, early mobilization directly and indirectly effects factors associated with PI development.

Conclusion: This systematic review demonstrates the potential mitigating effects of EM on PI risk. A study of the relationship between EM and PI development in ICU patients, and the modifying effects on risk factors, is being developed.

Abstracts of Symposium Presentations

BEST PRACTICES IN CHRONIC PAIN EDUCATION:
ANALYZING THREE PACIFIC NORTHWEST BSN PROGRAMS

Moderator:

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OVERVIEW: BEST PRACTICES IN CHRONIC PAIN EDUCATION:
ANALYZING THREE PACIFIC NORTHWEST BSN PROGRAMS

Kim Dupree Jones, Jackie F. Webb, Kari A. Firestone

BEST PRACTICES IN CHRONIC PAIN EDUCATION:
OREGON HEALTH & SCIENCE UNIVERSITY

Linda L. Paul, Kim Dupree Jones

MAKING THE CASE FOR ENHANCING CHRONIC PAIN
EDUCATION: WALLA WALLA UNIVERSITY

Kari A. Firestone, Lucille Krull

LAYING THE FOUNDATION FOR PAIN
EDUCATION: LINFIELD COLLEGE

Jackie F. Webb

BEST PRACTICES IN CHRONIC PAIN EDUCATION:
ANALYZING THREE PACIFIC NORTHWEST BSN PROGRAMS

Overview: Best Practices in Chronic Pain Education:
Analyzing Three Pacific Northwest BSN Programs

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Rationale: Poorly treated chronic pain (CP) is the leading cause of long term disability, opioid misuse, diversion, addiction and drug-related death. Nurses play a critical role in effective CP management. The purpose of this project was to describe acute and chronic pain content recommended or required as best practices (BPs) by regulatory and professional organizations included in prelicensure BSN curricula from Oregon Health & Science University, Linfield College, and Walla Walla University.

Approach: Step 1: Identify pain content from four key sources: The International Association for the Study of Pain (IASP) BP Guidelines for Pain in Nursing Curriculum; Commission on Collegiate Nursing Education (CCNE); and the state boards of nursing in Oregon and Washington Step 2: Compare four key sources to identify pain concepts and content. Step 3: Create an evidence matrix of pain concepts. Step 4: Review all relevant course syllabi and on-line teaching portals from each of the BSN programs for evidence of specific content (0=absent, 1=present). Disagreements on curricular content's match with the matrix at each school were decided by KJ. Selected faculty teaching at each institution were also interviewed about acute or CP content and pain-related learning activities.

Outcomes: We constructed an evidence matrix first from IASP, detailing 24 pain-related concepts grouped by the following overarching concepts: multidimensional nature of pain, pain assessment and measurement, pain management, and clinical conditions. Based on a preponderance of evidence in the published literature, the authors added one concept—'central pain' (e.g., fibromyalgia, irritable bowel/bladder, daily headaches, temporomandibular pain). The authors also added 'acute pain' to compare the relative curricular emphasis on acute pain and CP. Because the CCNE requirements were derived from the IASP guidelines, CCNE did not contribute any additional items. The Oregon Board of Nursing Standards for Approval of Curriculum yielded one item not found in the IASP document: 'All programs will include no less than six (6) contact hours of learning activities related to pain management,' and did not differentiate between acute and CP. The Washington Board was silent on pain in the curriculum. Ultimately, the evidence matrix listed 27 specific content areas or example. Each school was also invited to describe an exemplary learning activity that reflected a contemporary understanding of CP.

Conclusions: Each institution's curriculum included the majority of the concepts examined, and each identified specific opportunities for improvement. Acute pain was considerably overrepresented compared to chronic pain. None of the participating schools identified a flagship example of a chronic pain assignment, but all had stellar examples of acute pain-related learning activities. Opportunities to improve the visibility of chronic pain in curricula were evident, particularly related to evidence of spiraling content across the curriculum in multiple populations, settings and complexities. Future directions include 1) correcting identified deficits, 2) creating chronic pain-related learning activities in a similar manner as exists in acute pain, and 3) evaluating how chronic pain concepts are applied in advanced practice nursing programs.

BEST PRACTICES IN CHRONIC PAIN EDUCATION:
ANALYZING THREE PACIFIC NORTHWEST BSN PROGRAMS

Best Practices in Chronic Pain Education: Oregon Health & Science University

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Rationale: Oregon Health & Science University (OHSU) teaches the traditional prelicensure curriculum as part of the Oregon Consortium for Nursing Education (OCNE). OCNE is a partnership of 11 Oregon community colleges and six campuses of the OHSU School of Nursing with a shared curriculum taught on all consortium campuses. OHSU also offers a five term accelerated curriculum on two campuses for students who have a bachelor's degree in another field. To the authors' knowledge, best practices in pain had not been systematically evaluated in the OHSU BSN curriculum since the publication of The International Association for the Study of Pain (IASP) Best Practice Guidelines for Pain in Nursing Curriculum.

Approach: Two faculty reviewed the syllabi and course materials posted on the on-line teaching platform separately and together from 7 courses- broadly titled: Pharmacology, Pathophysiology, Epidemiology, Acute Care Nursing 1 and 2 and Chronic Care Nursing 1 and 2. One reviewer had expertise in pain, while the other had extensive teaching experience in the OCNE program.

Outcomes: Each course was compared to the evidence matrix described in the symposium's lead abstract. The course syllabi proved too general to identify specific concepts, therefore the course management system site was explored in depth, including week-by-week content, readings, slide presentations, audio/video materials and student assignments such as case studies. The assessment and management of acute pain was well represented in all seven courses reviewed. Acute pain content included the multidimensional nature of pain, pain assessment and measurement, management of pain, developmental, cultural, language issues and multiple clinical conditions. Chronic pain content was represented in only four of the seven courses, including: opioid & non-opioid analgesics, neuropathic pain, a biopsychosocial model of pain, and pain assessment (including pediatrics, gerontology and non-English language/culture). A single chronic pain lecture in Chronic Care Nursing II course accounted for 23 of 27 concepts on the pain matrix. Content on mixed pain states (e.g., non-acute low back pain and pain associated with HIV) was not found in any course. Thirteen contact hours of chronic pain content were identified, primarily in the Pharmacology and Chronic Care Nursing II courses. Pharmacology had extensive and creative pain-related teaching techniques, on acute but not chronic pain.

Conclusions: Acute pain recognition, assessment and management was successfully spiraled through the curriculum whereas chronic pain relied primarily on a single lecture in Chronic Care Nursing II with additional evidence in Pharmacology, Pathophysiology, Acute Care Nursing I and Chronic Care Nursing I. Opportunities exist to replace selected acute pain content with content on chronic low back pain, pain associated with HIV and mixed pain states. Our data indicate that the OHSU curriculum offers twice the pain management contact hours required in Oregon for prelicensure nursing programs but also highlights the possibility of losing the majority of recommended chronic pain content if a single lecture is removed.

BEST PRACTICES IN CHRONIC PAIN EDUCATION:
ANALYZING THREE PACIFIC NORTHWEST BSN PROGRAMS

Making the Case for Enhancing Chronic Pain Education: Walla Walla University

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Purpose: Examine a pre-licensure baccalaureate-nursing (BSN) curriculum to determine pain related content and make recommendations to support the development of a robust pain curriculum as exemplars for other BSN programs.

Rationale: Chronic pain (CP) affects approximately 1/3 of adults and 25% of children (aged 1-18) in the U.S. with increases in prevalence expected. CP creates substantial emotional and financial burdens and left unaddressed results in increased rehospitalization rates, longer hospital stays, and the need for more extensive outpatient follow up care. Multiple position statements call for better awareness, recognition and treatment of CP that include a recommendation for improved education of healthcare professionals. The BSN prepared RN is poised as an important member of the inter-professional team to provide direct CP assessment, intervention and management.

Methods: Using the evidence matrix described in the symposium's lead abstract, nine core courses were evaluated for key pain content identified by the International Association for the Study of Pain (IASP); Commission on Collegiate Nursing Education (CCNE); and the Oregon (OSBN) and Washington nursing boards. Two faculty conducted a review of course content maps, syllabi and other course materials (e.g. note taking guides, lectures) from nine courses: Fundamentals, Health Assessment, Pharmacology, Acute Care, Mental Health, Pathophysiology, Family, Chronic Illness, and Advanced Acute. One reviewer had clinical and research expertise in pain, while the other had extensive teaching and curriculum experience in undergraduate baccalaureate-nursing programs.

Results: General pain content was identified in all nine courses, focused primarily on acute pain concepts. Acute pain focused content included: assessment, measurement, pharmacologic management, special populations (e.g. children, older adults, history of addictive disease), and cultural/language barriers. Only three of the nine courses presented CP concepts and included content on: assessment, the multi-dimensional nature of CP, nociceptive and neuropathic pain, biopsychosocial model, and pharmacological management. The majority of pain matrix concepts (20 of 27) were represented in a single course: Chronic Illness. Secondly, Fundamentals addressed 11 of 27 concepts. Content on mixed pain states was not identified in any course. We identified thirteen pain contact hours across the curriculum. Approximately 3 hours of CP focused content was identified. Primary modes of content delivery included lecture, case studies, and End-of-Life Nursing Education Consortium (ELNEC) module content.

Implications: Acute pain related content is significantly represented and threaded throughout the curriculum. However, only a third of courses included CP concepts, with one course accounting for the majority concepts. Opportunity to include additional chronic pain content focused on mixed pain states, central pain (e.g. fibromyalgia), CP impact, and management of CP (e.g. psychological, physical and behavioral strategies) in place of selected duplicated acute pain content across courses exists. We determined our undergraduate curriculum includes more than double the required contact hours for pain as required by the OSBN and adequately addresses the guidelines for pain set forth by the IASP. However, ample room exists to expand the depth of chronic pain content within an existing curriculum framework without requiring additional contact hours to improve the BSN prepared RN practice as it relates to CP.

BEST PRACTICES IN CHRONIC PAIN EDUCATION:
ANALYZING THREE PACIFIC NORTHWEST BSN PROGRAMS

Laying the Foundation for Chronic Pain Education: Linfield College

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Purpose: To examine Linfield College's BSN curriculum to identify acute and chronic pain (CP) related content with the goal of discovering opportunities to lay a strong foundation for learners to assess, intervene and evaluate pain across a variety pain states and diverse populations.

Rationale: Acute pain is a universal experience for most humans and appreciated by nurses practicing in a variety of settings. However a gap exists in nurses' understanding of pain's transition from acute to chronic. CP affects approximately 100 million adults in the United States, making it more common than four other major disease states combined: diabetes (25.8 million), coronary heart disease (16.3 million), stroke (7 million) and cancer (11.9 million). These statistics highlight the importance of providing prelicensure learners with a contemporary understanding of CP.

Methods: We evaluated four core courses broadly titled Foundations in Nursing, Pathophysiology/Pharmacology, and Chronic Illness Management and Acute Illness Management which included a total of 14 semester credits taught either in first, second or third semester in a four semester BSN nursing program curriculum. We examined course syllabi and our on line learning platform (Blackboard) for weekly content/lectures, power point presentations, links to Kahn and other outside sources, written information and student assignments. All reviewers had extensive expertise in undergraduate baccalaureate-nursing education; one faculty had wide-ranging expertise in pain.

Results: Concepts regarding acute pain were identified in all courses, including pain's assessment and intervention (both pharmacologic and nonpharmacologic). We found evidence of pain's application in diverse patient populations and pain tools in special populations (pediatrics, adolescent, gerontology). Most applications were hospital-based. Regarding CP, we found that a single lecture conveyed 23 of 27 concepts related to CP in the matrix. There was no evidence of content on mixed pain states, which is the transition of acute/nociceptive pain to neuropathic and/or central pain. The most common example of this transition is chronic low back pain with neuropathy. The curriculum was silent on interventional pain treatments such as palliative radiation for cancer pain and neurostimulation for CP (e.g., epidural stimulation, brain and spinal cord stimulation), though TENS units were shown in class.

Conclusion: Acute pain is well represented in the curriculum with multiple examples of compelling student assignments and exemplary teaching techniques. We exceeded the Oregon State Boards of Nursing's required contact hours for pain, based primarily on acute pain offerings. There is an opportunity to teach acute and CP together in the early courses, laying a foundation to tease-out differences between pain states (acute, nociceptive, neuropathic, and central) in future courses. We could also spiral CP's multidimensional experience (physiological, sensory, affective, cognitive, behavioral, social, cultural, and ethical, political) in future assignments including both in and out-patient settings. Interprofessional education could be integrated for experiential learning, especially in interventional pain care. Suggested changes would limit the likelihood of losing the majority of CP content if a single lecture is lost. We propose that such changes could be accomplished without requiring additional contact hours.

Abstracts of Symposium Presentations

CONCEPTUAL FRAMEWORKS FOR CLINICIANS WORKING
WITH SMART HOMES

Moderator:

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OVERVIEW: CONCEPTUAL FRAMEWORKS FOR CLINICIANS
WORKING WITH SMART HOMES

Roschelle L. Fritz, Roxanne Vandermause

CONCEPTUAL FRAMEWORK FOR CLINICIAN-IN-THE-LOOP
SMART HOME PREDICTIVE ANALYTICS

Gordana Dermody, Roschelle Fritz

A THEORETICAL MODEL OF SLEEP DISTURBANCE
IN DEMENTIA TO GUIDE SMART HOME RESEARCH

Katherine Wuestney, Cynthia Corbett, Roschelle L. Fritz

CONCEPTUAL FRAMEWORK FOR SMART HOME RESEARCH
AND PRACTICE WITH MINORITY OLDER ADULTS

Connie Kim Yen Nguyen-Truong, Tuong Vy Le, Roschelle L. Fritz

CONCEPTUAL FRAMEWORKS FOR CLINICIANS WORKING WITH SMART HOMES

Overview: Conceptual Frameworks for Clinicians Working with Smart Homes

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The dramatic growth of the aging population is a complex humanitarian issue affecting older adults and their families, their communities, and the nation's healthcare system. Two-thirds of older adult Americans have multiple chronic conditions, which may contribute to unnecessary institutionalization. Treatment for this population accounts for 66% of the national healthcare budget. The National Aging in Place Council (NAIPC) reports that more than 90% of older adults would prefer to age in place rather than move to senior housing. Because older adults prefer to age in place, and current care delivery systems for older adults are unsustainable, the National Academy of Medicine, National Institutes of Health, and the National Science Foundation have called for innovative interdisciplinary solutions that include technology. Health-assistive smart homes have emerged as one such solution. For more than 10 years, researchers have been developing smart homes. More recently, these smart homes have been deployed across a variety of care settings: independent community-dwelling, assisted living, residential memory care, and skilled nursing. Researchers have disseminated findings on health-outcomes from smart home sensor data, yet significant gaps exist in the nursing literature. It is unknown how nurses respond to the technical data generated from persons living in smart homes, especially as they engage with older adults from specific cultures and ethnic backgrounds (Abstract A), and those with a variety of physical and/or cognitive impairments (Abstract B). Additionally, nurse researchers with optimal clinical knowledge need to work closely with engineers to make clinical sense of data produced by smart home sensor activations (Abstract C). The adoption of smart home technologies by older adults may be enhanced if nurse researchers use conceptual frameworks to guide mindful implementation and efficacious evaluation of this high-technology solution for aging in place, health outcome monitoring, and timely intervention. Here, we propose three frameworks developed by nurse researchers working with Washington State University's smart home for health assistance. We propose frameworks for: (A) conducting smart home research among Asian immigrant persons using Community-Engaged Research methods, (B) smart home sensors to detect and interpret sleep patterns and behaviors in persons with dementia, and (C) infusing clinical nursing knowledge into the smart home's artificially intelligent algorithms by integrating a participatory approach to activity recognition, discovery, and interpretation. These frameworks are well positioned to guide future researchers and clinicians as they work with engineers to develop and deploy health-assistive smart homes. These frameworks may also inform future development of a 'gerontechnology' theoretical approach for facilitating aging in place.

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CONCEPTUAL FRAMEWORKS FOR CLINICIANS WORKING WITH SMART HOMES

Conceptual Framework for Clinician-in-the-Loop Smart Home Predictive Analytics

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Purpose: To introduce a sequential explanatory framework that integrates smart home activity recognition, discovery and interpretation with the goals to: (a) expand predictive analytics to automatically detect anomalies in patient health; (b) foster synergistic multidisciplinary collaboration between clinicians and engineers; (c) support the contextual environment to enhance the self-determination of individuals. Within this framework, we introduce the ‘Fritz Method’ for contextualizing and infusing clinically relevant knowledge when training an artificially intelligent machine using an expert-guided approach.

Methods: Existing theory focusing on the integration of quantitative and qualitative approaches in the social and behavioral sciences, including self-determination theory, pragmatism, and participatory design were examined, and key theoretical concepts defined. A pragmatic approach supporting work that integrates both qualitative and quantitative methods is used as the guiding principle. Pragmatic principles informing this work are: (a) discovery of meaning with regard to health states in motion sensor data; (b) communicating clinical knowledge to engineers who are not clinically trained; (c) maintaining the ability to collect and analyze data necessary for training an artificially intelligent machine to detect changes in health states.

Using this theoretical foundation, the Fritz Method contextualizes sensor data with patients’ health states. Contextual knowledge is informed by reviewing medical records, weekly telehealth and monthly in-home nursing assessments, and time-stamped ambient motion sensor data from continuous unobtrusive monitoring. To understand the “story” of the motion sensor data, the clinician views the health assessment data alongside the motion sensor data. Next the clinician qualitatively interprets the meaning of sensor data. For example, a patient’s normal daily routines (exhibited as patterns in the sensor data) are identified and associated with abnormal patterns in the sensor data, which may regard a change in health. Following, data-driven contextualized themes that regard the patient’s health are reported to engineers who “feed” this new information to the artificially intelligent machine.

Results: The information ascertained through the Fritz Method, becomes the “good working theory” needed for training artificially intelligent context-aware algorithms, and enhance the self-determination of individuals living in the smart home. Findings indicate that health-assistive smart homes can detect over 40 normal activities of daily living of older adults with greater than 98% accuracy. Formative findings show changes in health states can be detected including insomnia, side effect of radiation treatment, and a fall.

Conclusions: This theoretical framework and the Fritz Method may be instrumental for nursing’s scientists as they work with engineers and patients living in smart homes to make sense of smart-home generated data.

CONCEPTUAL FRAMEWORKS FOR CLINICIANS WORKING WITH SMART HOMES

A Theoretical Model of Sleep Disturbance in Dementia to Guide Smart Home Research

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Purpose: To reframe sleep disturbance in dementia as a need-driven dementia-compromised behavior within the Consequences of Need-Driven Dementia-Compromised Behavior Model. Sleep disturbance in people with dementia living in residential care facilities is a complex phenomenon. It has many negative health and psychosocial consequences, and it is challenging to manage and treat. Innovative methods for understanding, monitoring, and alleviating sleep disturbance in persons with dementia living in residential care facilities are critically needed. Smart home monitoring systems are a promising option. To accurately train the machine learning algorithms it is necessary to have a clear definition and model of the phenomenon. Decades of research has identified a multiplicity of causal and influential factors for sleep disturbance in dementia, its consequences on health and well-being, and various strategies to treat and manage it. Despite this large body of literature, sleep disturbance in dementia continues to lack a clear definition and distinction from its associated concepts.

Methods: Meleis' integrated method of theory development was used to synthesize knowledge from research literature and clinical practice to demonstrate relationships between sleep disturbance and the full range of associated concepts. Those relationships mirror the pathways depicted in the Consequences of Need-Driven Dementia-Compromised Behavior Model, a middle range nursing theory. Reframing sleep disturbance as a need-driven dementia-compromised behavior provides conceptual clarity about the causes, needs, and symptoms surrounding sleep and dementia.

Results: Formative findings reveal that this new theoretical framework for understanding and addressing sleep disturbance in persons with dementia in residential care may (a) allow for a more refined analysis of motion patterns derived from smart home sensors, (b) facilitate distinguishing between background and proximal factors, and (c) discriminate the behavior of sleep disturbance from behaviors that are consequences of the sleep disturbance.

Conclusions: Smart home algorithms that are grounded in a framework that includes the full range of concepts involved in sleep disturbance are necessary to offer research and practice solutions for this challenging phenomenon. The Consequences of Need-Driven Dementia-Compromised Behavior Model reframes sleep disturbance from a condition to be treated to an expression and symptom of an underlying unmet need. Using this framework for sleep disturbance can ensure that future smart home research aligns with the national agenda for person-centered dementia care.

CONCEPTUAL FRAMEWORKS FOR CLINICIANS WORKING WITH SMART HOMES

Conceptual Framework for Smart Home Research and Practice with Minority Older Adults

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Purpose: To develop a culturally and technologically safe framework to guide nurses working in the development of health-assistive smart homes. The smart home will monitor the in-home movements of Asian immigrant older adults residing in a metropolitan area for the purpose of detecting and intervening with health changes. Scant information is available on conceptual frameworks that include culturally safe approaches to adoption of a health-assistive technology in minority populations, such as smart homes that monitor persons in the privacy of their home.

Methods: A community-engaged, participatory, values-based research approach guides nurse researchers' interactions with the Asian immigrant community. Specific tenets of community-engaged research employed are: (a) promoting empowerment, voice, and decision-making; (b) acting on problems that are relevant to and prioritized by a local community; (c) considering the influence of social determinants on the health of a community; (d) building on the community's strengths and resources; and (e) co-learning and capacity building among partners. Also, influencing this framework are ideas of technology adoption taken from Roger's Diffusion of Innovation Theory and engineering's Technology Acceptance Model. Professional nursing standards are layered onto this values-based approach. Directly informing this framework are the principles of autonomy, the right to self-determination, and providing culturally safe care for individuals and minority populations. The result is a neoteric conceptual framework that includes multiple disciplines engaging a minority community.

Results: Early utilization of this framework with seven key informants reveals that relationships between nurse researchers and Asian immigrant community leaders are strengthened by: (a) prolonged engagement through storytelling and honoring a history from deep rooted traumatic struggles to grassroots efforts to growing with the Asian immigrant community; (b) a long-term goal of relationship and trust building for sustainability; (c) a shared cultural and research language developed through walking along side with humility; (d) use of a bicultural lens on western (independent) and eastern (interdependent) perspectives; and (d) values-based nursing principles employed in parallel to ideas of diffusing a new high-technology in a minority population.

Conclusions: Health-assistive smart homes will be market ready in the coming years. Research exploring the efficacious use of this technology is of significant value to minority populations given the emphasis placed on family-based care by the Asian immigrant community and given older adults preference to age in place. This framework may guide nurse researchers and future nurse clinicians when working with smart homes and minority populations. It may also inform future development of a theoretical framework.

Abstracts of Symposium Presentations

DISASTER RESPONDERS: AIR NATIONAL GUARD
MEDICAL PERSONNEL SLEEP HEALTH

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CONDUCTING SLEEP RESEARCH WITH AIR
NATIONAL GUARD MEDICAL PERSONNEL
Stephanie Rowan, Denise Smart, Tamara Odom-Maryon,
Lois James, Kimberly Honn, Amanda Roby

DEVELOPING CRITICAL SKILLS ASSESSMENTS FOR DISASTER
RESPONSE MILITARY PERSONNEL: A PILOT STUDY
Denise Smart, Amanda Roby, Tamara Odom-Maryon

SLEEP DEPRIVATION IN MILITARY PERSONNEL
RESPONDING TO A DISASTER TRAINING EXERCISE
Lois James, Denise Smart, Tamara Odom-Maryon,
Stephanie Rowan, Kimberly Honn

THE IMPACT OF SLEEP DISRUPTION ON AIR NATIONAL
GUARD MEDICAL PERSONNEL'S CRITICAL SKILLS
Tamara Odom-Maryon, Denise Smart,
Lois James, Stephanie Rowan

DISASTER RESPONDERS: AIR NATIONAL GUARD MEDICAL PERSONNEL
SLEEP HEALTH

Conducting Sleep Research with Air National Guard Medical Personnel

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Purpose/Aims: The overall mission of the U.S. Air and Army National Guard (NG) is to respond to chemical, biological, nuclear, radiologic and natural disaster and emergency events. NG Medical Personnel work and live in nonmilitary settings with obligations of 2 days a month and 2-4 weeks a year for disaster training. High-intensity simulated disaster training exercises are used to prepare guardsman for mission capability. Research demonstrating the prevalence and extent of sleep deprivation along with its impact on military personnel's performance during simulated disaster training exercises is needed. This symposium focuses of findings from a study focused on determining the extent of sleep deprivation as well as the impact of sleep disruption on operational performance in NG Medical Personnel responding to simulated disaster training exercises.

Rationale: There is ample data from multiple sources to support the need to improve sleep and increase sleep opportunity during these extended operations. Recommendations for medical and nursing commanders that address sleep health for service members under their command are needed. These recommendations have the potential to assist in improving mission capability by reducing fatigue-induced errors by National Guard service members.

Method: The papers included in this symposia focus on a study of 77 NG Medical Personnel from two Air Force Bases called up for disaster training exercises. Data about sleep health (civilian and during training exercises) measured using actigraphy, sleep history (questionnaires and self-reported sleepiness) and medical decision making (critical skills) were collected from five training exercises.

Results: Each paper presents novel findings. The first paper presents findings regarding the extent of sleep deprivation in NG Medical Personnel in the month leading up to and during disaster training exercises. The second paper describes the method used to measure medical decision making in a military field setting. The third paper examines the impact of sleep deprivation on NG Medical Personnel performance during disaster training exercises.

Implications: Outcomes from sleep research studies on NG personnel will ultimately assist in improving mission capability by estimating and reducing fatigue-induced errors by National Guard service members.

DISASTER RESPONDERS: AIR NATIONAL GUARD MEDICAL PERSONNEL
SLEEP HEALTH

Developing Critical Skills Assessments for Air National Guard Medical Personnel
Participating in Disaster Training Exercises: A Pilot Study

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Purpose/Aims: Measuring medical decision making in a military field setting such as simulated disaster training exercises that is non-disruptive to the exercises underway is challenging. The purpose of this study was identify a set of medical calculation questions and Basic Life Support (BLS) questions that had similar response times (time required by participants to complete the question) and accuracy (percentage of participants correctly answering the question) under non-stressful conditions. These questions could be used as a proxy for critical skills required by National Guard (NG) Medical Personnel responding to natural disasters.

Rationale: Traditional approaches to measuring operational performance including medical decision making errors during disaster training exercises taking place in the field can be intrusive to the flow and conduct of the disaster training exercises. Examples of traditional approaches include simulation training for pilots, surgeons, truck drivers and law enforcement officer. Measuring response time and accuracy of response to critical skills questions sent to NC Medical Personnel's cell phone is a non-intrusive approach to measure medical decision making.

Method: Thirty-seven Doctor of Nursing Practice (DNP) and Baccalaureate of Science Nursing (BSN) students, serving as proxies for National Guard Medical Personnel that include providers (physicians and nurse practitioners) and medical staff (registered nurses, medics, etc.), were recruited to participate in the study. Over the course of three days, student participants were sent five questions in the morning and five questions in the evening. On the fourth day, students were sent 10 questions in the morning and 10 questions in the evening. DNP students received medication calculation questions and BSN students received Basic Life Support (BLS) questions. All questions were drawn from standardized test bank sources, were multiple choice, and were reviewed by the research team for relevant content prior to study testing.

Results: Twenty-five (50%) and twenty-eight (56%) of the 50 BLS and medication calculation questions met the selection criteria of average response times between 10 and 50 seconds and accuracy of at least 80%. From these, 16 BLS questions and 16 medication calculation questions were selected using the following criteria: smaller standard deviations, minimum response times of at least 5 seconds and maximum response times less than 90 seconds.

Implications: The approach used to identify a set of critical skills questions should be replicated in a larger study and by other researchers who require a non-intrusive method for measuring medical decision making in a field setting. Studies using these questions are needed to examine the usefulness of these measures in detecting fatigue-related critical skills deterioration.

Funding: This study was funded through a TriService Nursing Research Program Grant number: HU0001-16-1-TS01 (N16-501).

DISASTER RESPONDERS: AIR NATIONAL GUARD MEDICAL PERSONNEL
SLEEP HEALTH

Sleep Deprivation in Air National Guard Medical Personnel
Responding to a Simulated Disaster Training Exercise

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Purpose/Aims: The purpose of this project was to investigate the extent of sleep deprivation in National Guard Medical Personnel from two separate Air Force Bases (AFBs) responding to simulated disaster training exercises.

Rationale: It is critically important to understand the prevalence of sleep deprivation in military personnel so that targeted interventions can be developed that protect both our servicemen and safeguard their ability to protect civilians. This understanding is not just important for individual service members, but for the cohesive functioning of a military unit. High-intensity simulated disaster training exercises provide the ideal opportunity to study this population in an accessible field environment, as they are a well-accepted proxy for real-world disasters.

Method: National Guard Medical Personnel were recruited from two U.S. AFBs, one in the Northwest, and the other in the Southwest. A total of 77 National Guardsman were consented into the study. These participants were fitted with wrist activity monitors (actigraphy) to objectively measure their sleep for approximately 7-days of their civilian time (to establish a baseline), followed by a 2-day transition period from civilian to military duty, and a 5-day disaster-training exercise. Differences in sleep quantity, quality, and “cognitive effectiveness” (calculated based on prior sleep, time since last sleep, and time of day) were analyzed using generalized linear mixed models. From these models, we determined the extent of sleep deprivation during disaster training.

Results: On average, participants received 7.16 hours of sleep per 24h period during the baseline measurement period. Their average sleep quality was 85% and their cognitive effectiveness score was 91%. These baseline scores suggest our participants were generally healthy sleepers. During the transition and disaster exercise period, participants’ sleep quantity dropped significantly to 5.9 hours ($F=39.22$ (1,74); $p<0.0001$), and their cognitive effectiveness also dropped significantly to 87% ($F=19.61$ (1,58); $p<0.0001$). Sleep quality did not vary significantly across measurement periods.

Implications: Our results reveal that National Guard Medical Personnel were sleep deprived during a simulated disaster training exercise. Although these types of exercises are a valid proxy for real world disasters they are likely to be a conservative approximation of the stress guardsmen experience during crisis response. Sleep deprivation increases the risk of errors, incidents and accidents which have associated costs and health/safety implications. As such, the need for targeted fatigue-related interventions to safeguard our servicemen during these critical times is clear.

DISASTER RESPONDERS: AIR NATIONAL GUARD MEDICAL PERSONNEL
SLEEP HEALTH

The Impact of Sleep Disruption on Air National Guard Medical Personnel's Critical Skills

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Purpose/Aims: This study examines the effect of sleep disruption on operational performance in Air National Guard (NG) Medical Personnel responding to simulated disaster training exercises. The conditions trainees are subjected to (i.e. lack of sleep, intense heat, fast paced tasks, etc.) accurately simulate real operations during a response to a natural disaster or emergency events.

Rationale: The need to improve sleep and increase sleep opportunity for guard personnel during training exercises and extended operations has been documented. Close examination of the consequences of sleep restriction, deprivation, and fragmentation on NG Medical personnel's critical skills performance will inform research-based recommendations for medical and nursing commanders that address sleep health for service members under their command. These recommendations have the potential to assist in improving mission capability by reducing fatigue-induced errors by NG service members.

Method: NG Medical Personnel (n=77) from two military bases called up for disaster training exercises were recruited for participation in the study. Data about sleep health (civilian and military [during training exercises]) measured using actigraphy, sleep history (questionnaires, diaries, and self-reported sleepiness) were collected. During disaster training exercises, participants were sent a critical skills question (medication calculation or basic life support question) four times a day. Response time (in seconds) and accuracy (correct: yes/no) were calculated for each question sent. Critical skill data were collected for participants during 2 different training exercises at each base. Generalized linear mixed models were used to examine the relationship between sleep health, history, and changes in critical skills performance within and across the days of the training exercises.

Results: Preliminary findings suggest slower response times for questions sent in the evening compared to questions sent in the morning and across days of training exercises (F-statistic (df1, df2)=10.35(1,168); p-value=0.0016). Response times (in seconds) on Day 1 of a four-day exercise in the morning (8:00 a.m.) compared to evening (8:00 pm), respectively, were [mean (standard deviation)]: 34 (29) versus 51 (59). Corresponding response times on Day 3 were: 35 (26) versus 65 (60). Accuracy declined for questions sent later in the day compared to questions sent earlier in the morning, although the decline was not consistent across the days of the training exercise (F-statistic (df1, df2)=0.45 (1,169); p-value=0.5010). Actigraphy measures of sleep and self-reported sleepiness at the time of completion of each question were not statistically associated with slower responses or accuracy. However, at least one-third of the participants reported being very sleepy on the morning of Day 1. By the end of each day, nearly two-thirds of the participants reported being very sleepy.

Implications: Our long-term goal is to help protect the health of our service members. Ongoing analysis of the extensive data collected is underway to fully examine the relationship between sleep deprivation and operational performance. Preliminary findings from this study suggest that sleep deprivation, fragmentation, and restriction impacts NG medical personnel's performance on simulated tasks during disaster training.

Funding: This study was funded through a TriService Nursing Research Program Grant number: HU0001-16-1-TS01 (N16-501).

Abstracts of Symposium Presentations

ENHANCING DOCTOR OF NURSING PRACTICE EDUCATION
THROUGH INTERPROFESSIONAL EDUCATION

Moderator:

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OVERVIEW: ENHANCING DOCTOR OF NURSING PRACTICE
EDUCATION THROUGH INTERPROFESSIONAL EDUCATION

*Barbara Richardson, Janet Purath, Linda Ward,
Tamara Odom-Maryon, Brenda Bray*

DEVELOPMENT, IMPLEMENTATION AND EVALUATION
OF A LONGITUDINAL IPE PROGRAM

*Linda Ward, Tamara Odom-Maryon, Janet Purath,
Brenda Bray, Barbara Richardson*

EVALUATION OF AN IPE MODEL TO TEACH SBIRT:
QUANTITATIVE AND QUALITATIVE FINDINGS

*Janet Purath, Barbara Richardson, Tamara Odom-Maryon,
Brenda Bray, Erica Tuell*

INTERPROFESSIONAL FORMATIVE FEEDBACK AND ASSESSMENT

Tamara Odom-Maryon, Brenda Bray, Barbara Richardson

ENHANCING DOCTOR OF NURSING PRACTICE EDUCATION THROUGH INTERPROFESSIONAL EDUCATION

Overview: Enhancing Doctor of Nursing Practice (DNP) Education Through Interprofessional Education

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Purpose/Aims: Inclusion of interprofessional education (IPE) across health professions curricula is critical to train a workforce that shares the knowledge, skills and attitudes required to effectively collaborate with one another, patients, families, and communities. Few opportunities exist where teams of students engage in interprofessional collaborative practice approaches to managing care of patients, particularly patients with multiple chronic conditions. An interprofessional (IP) team of faculty from three different universities partnered to develop two different opportunities for IP teams of students to engage in simulated IP collaborative practice. Interprofessional teams of students participated in team-building activities to learn about principles of collaborative care, then practiced delivering team-based, patient-centered care using a longitudinal series of four simulated primary care visits with a standardized patient. In the second project, health professions students from seven different disciplines participated in training sessions practicing IP approaches to Screening, Brief Intervention and Referral to Treatment (SBIRT) for patients at risk for substance misuse. The IP SBIRT workshops included peer role-playing and case studies, again using standardized patient encounters. This symposium focuses on IP collaborations undertaken that incorporated IPE experiences within the Doctor of Nursing Practice (DNP) and other health professions curricula that utilized formative assessment and evaluation of team behaviors.

Rationale: The Interprofessional Education Collaborative (IPEC, 2016) calls for healthcare team members to develop competencies in the following domains: communication, teams and teamwork, values, ethics, and professional roles and responsibilities. Health professions curricula that incorporates IPE experiences focusing on these domains are needed, with the goal of preparing nurse practitioners to work effectively in collaborative practice settings to improve health outcomes.

Method: The papers included in this symposium focus on the development, implementation, and evaluation of two IPE programs that provided students from nursing (DNP), medicine, pharmacy, social work, nutrition and exercise physiology, physician assistant and occupational therapy programs with opportunities to learn with, from, and about one another. DNP students participated in both IPE programs. Embedded within the learning activities, emphasis was placed on developing methods for faculty to provide effective formative feedback to learners on interprofessional teams and to conduct meaningful assessment of interprofessional team behaviors.

Results: The first paper describes approaches used to implement IPE experiences and the tools selected to provide formative feedback to learners and to conduct assessment of interprofessional team behaviors. The second paper presents findings from the longitudinal IPE project where an unfolding case series was used to allow IP teams of students to practice providing collaborative care across time. The third paper presents findings from an IPE project focusing on using an interprofessional model to teach students from multiple disciplines about the importance of Screening, Brief Intervention, and Referral for Treatment (SBIRT) for substance misuse.

Implications: Interprofessional education must be accomplished without adding extensive new content to existing curricula for DNP programs. Collaborations that incorporate IPE within other health professions curricula and utilize formative assessment and evaluation of team behaviors are valuable.

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ENHANCING DOCTOR OF NURSING PRACTICE EDUCATION THROUGH INTERPROFESSIONAL EDUCATION

Development, Implementation and Evaluation of a Longitudinal Interprofessional Education Program

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Purpose/Aims: Effective interprofessional education (IPE) programs foster collaborative, patient-centered care, enrich interprofessional discourse, and improve student satisfaction with the educational experience. Effective IPE requires opportunities for health professions students to practice collaborative care, in particular for patients with complex chronic conditions, whose care frequently requires a multidisciplinary approach. The purpose of this project was to prepare workforce-ready health professionals to work effectively as a team to provide safe, high quality patient care in an ambulatory setting.

Rationale: A collaborative, interprofessional approach is required to provide high quality care for patients with multiple chronic conditions. Longitudinal learning activities allow teams of students to experience collaborative practice and practice team-based decision-making and care.

Method: Fourteen faculty from nursing, pharmacy, medicine, dietetics and social work programs from three universities developed a series of learning activities to introduce students to collaborative interprofessional practice, promote teamwork, and provide structured opportunities for students to practice team-based care. Learning objectives were based on the Interprofessional Education Collaborative (IPEC) core competencies. For two consecutive years, interprofessional teams of graduate students from five disciplines were formed. After learning about collaboration, the teams practiced delivering team-based, patient-centered care with a standardized patient over a series of simulated primary care visits utilizing faculty-developed, unfolding case studies. The cases involved patients with chronic conditions that became increasingly complex as the cases unfolded over time. Team performance was evaluated through direct observation of teams and evaluation of required written assignments. Students' perceptions of their team skills abilities, the importance of interprofessional clinical education and a self-assessment of their clinical reasoning skills were measured before implementation of the IPE program and following completion of the final clinical encounter. Survey tools were adapted from published and publically available instruments with documented reliability for use among students in healthcare professions. Changes in students' perceptions of their ability to work as a member of a team (Team Skills Scale; 85 points possible) and the value/importance of working with interdisciplinary teams (Student Perceptions of Physician-Pharmacist Interprofessional Clinical Education; 50 points possible) were compared pre- and post-IPE experience using random effects regression.

Results: Eighty-one students from nurse practitioner, pharmacy, medicine, social work, and nutrition programs participated in the second year of the project. The majority (73%) were female and the average age was 30.0 years (SD=5.4). Just over half (51%) reported having some prior experience working with an interprofessional team. Students' perceptions of their ability to work effectively as a team increased from a mean (standard deviation) score (out of 85 possible using the Teams Skill Scale) of 64.4 (SD=11.4) pre-IPE experience to 72.7 (SD=11.1) post-IPE experience ($p<.001$). No change in students' perceptions of the value/importance of working with interdisciplinary teams was found ($p=0.97$)

Implications: As patients increasingly seek care for multiple chronic conditions, an interprofessional collaborative approach is necessary to ensure high quality care. This project provided structured, hands-on activities for health professions students to practice team-based care, with significant improvement in students' self-assessment of their ability to work with an interprofessional team.

Funding: This study was funded through the Division of Nursing, Bureau of Health Professions, Health Resources and Services Administration, Advanced Nursing Education Grant D09HP25920-01-00.

ENHANCING DOCTOR OF NURSING PRACTICE EDUCATION THROUGH INTERPROFESSIONAL EDUCATION

Evaluation of an Interprofessional Model to Teach SBIRT: Quantitative and Qualitative Findings

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Purpose/Aims: Most health professional programs now mandate interprofessional education as part of their accreditation requirements, but finding ways to implement IPE in already full curricula is a challenge. Effectively screening for substance misuse is a beneficial skill for all health professionals. This project utilized Screening, Brief Intervention, and Referral to Treatment (SBIRT) learning activities with interprofessional teams of students, enabling them to learn with, from, and about other health professions while practicing SBIRT skills and discussing team-based approaches to care for people at risk for substance misuse.

Rationale: High prevalence of unhealthy alcohol and drug use as well as the substantial associated morbidity, mortality, and health care costs mandates the need for routine and universal screening for substance misuse. Identifying common curricular content across multiple health professional programs increases the relevance of interprofessional education (IPE) and makes it easier to embed IPE within existing curricula.

Methods: Faculty (n=15) from nursing, medicine, pharmacy, social work, dietetics, occupational therapy, and physician's assistant programs created a learning activity focused on interprofessional approaches to using SBIRT. Goals of the didactic and practical training sessions were to educate students on the SBIRT model and to practice implementation of SBIRT with interprofessional peers. Training included online preparation, two hours of face-to-face learning that included tools for using SBIRT, peer role-playing, followed by more complex case studies with standardized patients (SP). For the SP encounters, groups of three students practiced SBIRT with three different types of roles for the SP: 1) amicable to treatment, 2) minimizing severity of the problem, and 3) resistant to change. SPs used a rubric to provide students with feedback on performance and students' peers used an observational tool to provide formative feedback on the use of the SBIRT tools and techniques. Students then met as a large group to debrief. Quantitative and qualitative measures of students' perception of interprofessional roles and program quality were collected post-training.

Results: Students from the seven disciplines evaluated the activity (n=469). Eighteen were Nurse Practitioner (NP) students. Students strongly agreed/agreed that "I understand the roles of other professionals within the interdisciplinary team" (89%) and that "SBIRT is an effective activity for interprofessional learning" (89%). The SBIRT activity helped develop mutual respect amongst professionals from different disciplines (91%). Qualitative responses added further support. Students commented that "working together will give better patient outcomes every time". One student noted that as a team works with the same patients "giving patients this information more than once shows that [multiple] healthcare professionals care about them" and that messaging from different disciplines may increase the odds of patient willingness to change.

Implications for NP Students: SBIRT can effectively be taught to NP students in an interprofessional format.

Funding: This study was funded through the Substance Abuse and Mental Health Services Administration grant # 1 TI026015-01.

ENHANCING DOCTOR OF NURSING PRACTICE EDUCATION THROUGH INTERPROFESSIONAL EDUCATION

Interprofessional Formative Feedback and Assessment

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Purpose/Aims: The Interprofessional Education Collaborative core competencies mandate that health professions students learn to provide team-based patient care to improve healthcare quality and safety. Educators leading interprofessional education (IPE) are challenged with determining how to provide effective formative feedback to learners and how to conduct meaningful assessment of interprofessional team behaviors and learning experiences. Approaches developed to implement IPE learning activities and to evaluate IPE learning among large groups of health professions students from two grant funded projects are described.

Rationale: Over the last decade, an evidence base has emerged to support the design of educational strategies to deliver IPE. However, the implementation and evaluation of student IPE experiences that are both feasible and informative for all health professions programs participating is challenging. Understanding ways in which interprofessional team behaviors may be assessed as well as identifying potential tools for evaluating student perceptions of interprofessional team behaviors will assist educators in providing formative feedback as health professions students learn to provide team-based patient care.

Method: In the first project, interprofessional teams of students participated in team-building activities to learn about collaborative care, then practice delivering team-based, patient-centered care with a standardized patient through a longitudinal series of four simulated primary care visits. Previously published and publicly available instruments which have documented reliability for use among students in healthcare professions were selected to evaluate longitudinal changes in interprofessional team behaviors. In the second program, health professions students completed online training in preparation for a single two-hour session involving peer role-playing and interactions with standardized patients. A subset of the tools selected to evaluate longitudinal changes were selected to evaluate cross-sectional interprofessional team behaviors.

Results: Tools used to provide effective formative feedback to learners included a Standardized Patient Team-rating Form and a Team-based SOAP Note Evaluation Rubric. Tools used to conduct meaningful assessment of student perception of interprofessional team behaviors and learning experiences included: Student self-perception instrument that includes the Team Skills Scale (TSS); the Student Perceptions of Physician-Pharmacist Interprofessional Clinical Education (SPICE); the Self-Assessment of Clinical Reflection and Reasoning (SACRR); and The Team Fitness Test (TFT) Student Self-Assessment Tool. A peer-to-peer observational tool was also used to provide immediate formative feedback to participants.

Implications: Use of interprofessional evaluation tools to provide formative feedback to students and assess interprofessional team behaviors can lead to better understanding among students of team roles and improved attitudes and perceptions of students' overall skills in working in teams.

Funding: These studies were funded through the Division of Nursing, Bureau of Health Professions, Health Resources and Services Administration, Advanced Nursing Education Grant D09HP25920-01-00 and through the Substance Abuse and Mental Health Services Administration grant # 1 TI026015-01.

Abstracts of Symposium Presentations

HEALTH AND HEALTH CARE EXPERIENCES OF CANCER
PATIENTS: WHAT CAN NATIONAL SURVEYS TEACH US?

Moderator:

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OVERVIEW: HEALTH AND HEALTH CARE EXPERIENCES OF
CANCER PATIENTS: WHAT CAN SECONDARY DATA TEACH US?

Janice F. Bell

FACTORS INFLUENCING OUT-OF-POCKET COSTS
FOR WORKING AGE CANCER SURVIVORS

Brenda Achelpohl-Chagolla, Danica Loralyn Taylor, Regina Orozco

CANCER SURVIVORS INFORMATION-SEEKING EXPERIENCE

*Cynthia G. Matsumoto, Adebola M. Olarewaju, Janice F. Bell,
Gennifer A. Holt, William A. Randall*

COMMUNICATION PRIORITIES AMONG PATIENTS
WITH ADVANCED CANCER

Karen Marie de Sola-Smith, Janice F. Bell, Joshua J. Fenton

PSYCHOSOCIAL DISTRESS IN PATIENTS AT AN
ACADEMIC COMPREHENSIVE CANCER CENTER

Angela E. Usher, Janice F. Bell, Laurel A. Beckett

ASSOCIATIONS OF MEDICAL OR NURSING TASK
PERFORMANCE AND FAMILY CAREGIVER OUTCOMES

Robin Whitney, Janice F. Bell

HEALTH AND HEALTH CARE EXPERIENCES OF CANCER PATIENTS: WHAT CAN NATIONAL SURVEYS TEACH US?

Overview: Health and Health Care Experiences of Cancer Patients: What Can Secondary Data Teach Us?

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This symposium session highlights research focused on the health and health care experiences of the growing population of US patients with cancer and their caregivers. By 2020, the number of cancer survivors is expected to exceed 20 million. Along with this population growth, demand for care and related expenditures have increased dramatically with widespread implications for patients, their families and their caregivers. At the same time, national reports have declared cancer care a crisis—drawing attention to unmet healthcare needs; inadequate screening for psychosocial distress; gaps in patient-provider communication; problems with care coordination and transition management between oncology and primary care providers after cancer treatment has ended; patient-provider differences in follow-up care expectations; and the implications of these issues for family members and caregivers.

Despite new efforts to address these concerns in oncology care, research lags behind, often relying on small-scale studies and qualitative analyses. Recent national surveillance and large-scale research efforts have, however, yielded many large datasets that can support research in cancer care. The researchers presenting in this symposium all use such large secondary datasets to study cancer care issues important to nurses and allied health professionals—including psychosocial distress screening at diagnosis, patient concerns and the content of their discussions with providers toward the end of life, survivor information-seeking needs, survivor out-of-pocket expenses, and the psychosocial health concerns of cancer caregivers.

Two of the presentations highlight work from an innovative research methodology course designed to introduce doctoral nursing students to data management and analysis as part of their training in quantitative research methods. In this course, students at the Betty Irene Moore School of Nursing work in groups with faculty mentors 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 CVs through development of presentations and papers for publication. The remaining three presentations are by former students of the course, who have continued to apply these skills to address new research questions using different datasets. This symposium session will be of interest to faculty interested in developing quantitative methodology courses with similar aims and to nurses and allied health professionals interested in clinical practice and research focused on the health and health care experiences of individuals with cancer care and their caregivers.

HEALTH AND HEALTH CARE EXPERIENCES OF CANCER PATIENTS: WHAT CAN NATIONAL SURVEYS TEACH US?

Factors Influencing Out-of-Pocket Costs for Working Age Cancer Survivors

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Purpose: The purpose of this study was to determine the types of out-of-pocket costs accrued by working age cancer survivors in the United States and to examine the association of age, stage of cancer, and type of insurance with different categories of out-of-pocket costs.

Background: For individuals with cancer, out-of-pocket costs including expenses for clinical care and medications can have significant health and social effects. Working age cancer patients may face unique challenges in terms of their ability to pay for care due to loss of income and insurance status necessitated by their diagnosis. The resulting out-of-pocket costs can create a financial hardship for working aged cancer survivors and their families.

Methods: We analyzed data from the 2015 LIVESTRONG survey, a cross-sectional online survey of cancer survivors, caregivers, and loved ones. We examined binary variables representing any cancer-related out-of-pocket costs experienced by survivors in four categories, including: 1) copays; 2) medical costs and equipment; 3) social support costs (e.g., childcare, transportation); and 4) none/unknown. Logistic regression was used to model each out-of-pocket cost category as a function of survivor age and type of cancer. Models also controlled for gender, marital status, education, stage of cancer, and insurance type.

Results: Thirty-eight percent of respondents reported financial difficulties due to their cancer diagnosis and treatment. Eighty-one percent reported they experienced out-of-pocket costs for copays; 69% for medical costs/medical equipment; 63.7% for social support costs; and 27% reported out-of-pocket costs in the unknown or none category. Medical expenses were higher for those 18-55 years and even doubled when narrowing to ages 18-35 (OR 2.17; 95% CI 1.21-3.87). The age group least likely to have out-of-pocket copays, were between the ages of 46-55 (OR 0.53; 95% CI 0.32-0.85). Compared to survivors who were diagnosed with stage 1 cancer, those diagnosed with stage 3 cancer had higher odds of incurring medical out-of-pocket costs (OR 2.80; 95% CI 1.39-3.00). Finally, those with public insurance had lower odds of reporting medical expenses and co-pays when compared to those with private insurance coverage (ORs 0.65; 95% CI 0.42-0.98 and ORs 0.24; 95% CI 0.15-0.40).

Implications: Our study found an association between the type of out-of-pocket costs incurred by cancer patient's age groups, stage of cancer and type of insurance. Our findings suggest a need for continued clinical and policy attention to supporting the financial needs of young, working age cancer patients and their families. Future research or clinical interventions to address out of pocket costs might focus on survivors at the highest risk, including younger survivors and those with more advanced stage cancer.

HEALTH AND HEALTH CARE EXPERIENCES OF CANCER PATIENTS: WHAT CAN NATIONAL SURVEYS TEACH US?

Cancer Survivor Information-Seeking Experience

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Purpose: To examine age-related differences in the information seeking experiences of cancer survivors.

Background: Cancer survivors have a critical need for reliable information about diagnosis, prognosis, treatment options, and available support services given the complex medical decisions they face across the survivorship continuum. Few studies have explored the experience of looking for information including the process, effort involved and appraisal of the quality of the information once found. Identifying survivor-specific factors, such as age, associated with information seeking can support targeted interventions to improve the experience.

Methods: Our sample included U.S. cancer survivors who responded to the information needs portion of the 2014-2015 LIVESTRONG online survey (n=1477). Six dependent variables were examined, reflecting both positive experiences and negative information-seeking experiences. Multiple logistic regression was used to model each outcome as a function of age controlling for sociodemographic and health-related covariates (gender, race/ethnicity, partnership status, income, time since diagnosis, cancer type, cancer stage, and recurrence).

Results: Most respondents reported positive information-seeking experiences, including knowing where to look (78%), who to ask (75%), and trusting the information (88%). Fewer respondents reported negative information seeking experiences, including feeling frustrated (47%), taking a lot of effort (49%), and difficulty understanding the information (39%). Race/ethnicity was not associated with in information-seeking differences. In the fully adjusted models, compared to participants ages 18 to 39 years, those 60 to 69 years had higher odds of trusting the information found (p=0.02) and those 50 to 59 years had lower odds of reporting that looking for information took a lot of effort (p=0.05). Participants with income <\$20,000/year had lower odds of knowing where to find information and higher odds of feeling more frustrated compared to those in other income groups. Respondents with prostate (OR=2.10; p=0.03) and lung cancer (OR=2.20; p=0.03) had higher odds of knowing where to look for information and; those with colon (OR=1.74; p=0.05) and lung cancers (OR=2.10; p=0.03) had higher odds of knowing who to ask for information and Those with breast cancer had lower odds of thinking it took a lot of effort (OR=0.69; p=0.03) and those with lung cancer had lower odds of feeling frustrated (OR=0.54; p=0.02).

Implications: Cancer type was consistently associated with outcomes examined suggesting the need for cancer-specific interventions to improve the information-seeking experiences of cancer survivors. Furthermore, such interventions may need to be tailored to address the unique needs of some age and income groups.

HEALTH AND HEALTH CARE EXPERIENCES OF CANCER PATIENTS: WHAT CAN NATIONAL SURVEYS TEACH US?

Communication Priorities among Patients with Advanced Cancer

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Aims: To present findings from an investigation of patient-reported discussion topics between patient and oncologist. Based on evidence suggesting that communication priorities among patients with advanced cancer are poorly understood, this study aimed to describe the relative frequencies of quality of life issues, treatment planning, and future care planning issues arising in patient-oncologist discussions, and to determine risk factors for poorly addressed issues. Results of this investigation will inform clinical care and intervention design aimed at improving supportive care of patients with advanced illness.

Background: Clinical guidelines for care of patients with advanced cancer emphasize that communication between patients and clinicians should address subjects beyond treatment options, and should include robust discussion of symptom management and future care, particularly discussions of end-of-life care preferences. Evidence from palliative care research indicates that such discussions are beneficial, both in improvements to quality of life and to survival time. However, interventions designed to broaden the focus of doctor-patient communication to include quality of life in the context of advanced disease have not seen consistent or impressive results, and current research lacks an adequate explanation of why and how such interventions fail. Understanding the priority and progression of discussion topics reported among a sample of patients with advanced cancer will address critical gaps in current evidence for design of effective supportive care for this population.

Methods: This was a secondary analysis of data collected from the Values and Options in Cancer Care Randomized Controlled Trial (VOICE RCT), in which a sample of 265 patients with non-hematologic advanced cancer completed inventories of topics addressed during visits with their oncologists for three months prior to survey. Seven topics were inventoried: Pain, Nausea, Emotional Issues, Palliative Care, Prognosis, Treatment Options, and End-of-Life Care. Frequency distributions for each of seven discussion topics were calculated to give an overall view of between-patient and between-topic variability in the sample. Associations with the following demographic characteristics were also assessed: Age, Gender, Race/Ethnicity, Breast (versus other cancer type), and Cancer Aggressiveness.

Results: Patients surveyed reported having discussed the above topics in this order of likelihood: Treatment Options (97%), Pain (96%), Nausea (93%), Prognosis (86%), Emotional Issues (70%), Palliative Care (65%), Care at End of Life (39%). Increase in age decreased the likelihood that patients reported discussions of pain ($p=0.0037$), nausea ($p=0.0327$), prognosis ($p=0.0351$), and emotional issues ($p < .0001$). Non-white race/ethnicity increased likelihood of reporting discussions of palliative care ($p= 0.0022$) and end-of-life care ($p= 0.0023$).

Implications: Results suggest that age is a significant predictor of inadequate communication between patients and oncologists across several important topic areas, a finding supported by other literature on unmet supportive care needs among senior cancer patients. Interventions may be needed to support providers in light of lower prevalence of palliative care and end-of-life care discussions. The unexpected finding that non-white race/ethnicity is associated with greater palliative care and end-of-life care discussion deserves further exploration as it is not consistent with population-level studies showing minority races/ethnicities to be at higher risk for poor end-of-life care.

HEALTH AND HEALTH CARE EXPERIENCES OF CANCER PATIENTS: WHAT CAN NATIONAL SURVEYS TEACH US?

Psychosocial Distress in Patients at an Academic Comprehensive Cancer Center

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Aim: To characterize cancer-related psychosocial distress in recently diagnosed patients at an academic National Cancer Institute-designated Comprehensive Cancer Center.

Background: Cancer-related psychosocial distress is recognized as common among patients, and recent clinical practice guidelines require routine screening for distress as part of accreditation standards for all cancer treatment facilities. Little evidence exists, however, to describe the types of distress patients experience. To address this gap, we assessed the prevalence of psychosocial distress at initial consult using the “Supportive Care Screen” (SCS), a validated screening tool which includes the National Comprehensive Cancer Network Distress Thermometer (DT), capturing distress scores in 4 domains (health, emotional, practical and social) and the Patient Health Questionnaire 2 (PHQ-2), measuring symptoms consistent with depression.

Methods: Data were analyzed from patients ($n = 1366$) who completed the SCS between January 1, 2016 and June 30, 2017. In each domain, the DT measures distress scores with an 11-point Likert scale; the PHQ-2 measures depressive symptoms with two questions about the frequency of depressed mood, with a total score ranging from 0 to 6. Established thresholds for clinically significant distress were used for both the DT and PHQ-2. Distress was summarized as mean levels and proportion above the threshold, overall and by socio-demographic and health characteristics. Statistical significance for subgroup differences was set at $p < 0.05$.

Results: The overall rate of psychosocial distress among newly diagnosed cancer patients from the DT was 51%. Mean scores in the four distress domains were 3.82 in health, 3.79 in emotional, 2.28 in practical and 1.93 in social concerns. Clinically significant distress based on the DT was more common for patients who were younger than 65 years, women, unmarried, covered by MediCal/Medicaid insurance compared to private insurance, and had brain, head and neck, gastrointestinal or gynecologic cancers compared to genital-urinary, lung, breast, hematologic and other (melanoma or sarcoma) cancer diagnoses. Higher PHQ-2 depressive symptoms scores were reported by patients aged ≥ 80 years, or with lung cancer.

Implications: In this large sample of patients at an NCI-designated comprehensive cancer center, we found high rates of psychosocial distress, with over half of recently diagnosed cancer patients reporting at least one psychosocial distress concern and many reporting multiple concerns. Our findings underscore the importance of understanding the prevalence and predictors of different types of distress as a critical first step toward developing targeted nursing and social work interventions to improve supportive care treatment. Such interventions will likely need to be tailored by cancer type and by the patients’ socio-demographic characteristics.

HEALTH AND HEALTH CARE EXPERIENCES OF CANCER PATIENTS: WHAT CAN NATIONAL SURVEYS TEACH US?

Associations of Medical or Nursing Task Performance and Family Caregiver Outcomes

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Purpose: The purpose of this study was to examine the association between caregiver performance of medical/nursing tasks and experience of emotional stress or financial strain.

Background: An estimated 33.3 million Americans identify as the informal caregiver of an adult friend or relative. Informal caregivers provide upwards of 522 billion dollars' worth of unpaid care each year—often at great personal expense. Indeed, caregiving—while potentially rewarding—is also reported to be burdensome and is associated with increased emotional stress and financial difficulties. Caregiving burden may be particularly high among cancer caregivers, who are more likely to assist with activities of daily living (ADLs) and perform medical or nursing tasks compared to caregivers who provide care to someone without cancer (other caregivers). However, few studies have examined factors associated with emotional stress or financial strain among cancer and other caregivers using nationally representative data.

Methods: Data were obtained from the *Caregiving in the U.S. 2015* Survey, conducted by the National Alliance on Caregiving and the American Association of Retired Persons. *Caregiving in the U.S. 2015* is a national, probability-based online survey designed to be representative of the U.S. population of caregivers. Primary outcomes of interest included: 1) caregiving-related emotional stress (high stress versus no/moderate stress); and 2) caregiving-related financial strain (high strain versus no/moderate strain). Survey-weighted logistic regression was used to examine the association of these outcomes with cancer caregiving (versus other caregiving) and caregiver performance of medical or nursing tasks. Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated, and all models controlled for important sociodemographic and health characteristics, including age, sex, race/ethnicity, marital status, income, education, health status, and hours spent on caregiving.

Results: Among all caregivers in the sample (n= 1,248), approximately 7% were cancer caregivers. High emotional stress was reported by 38.3% of caregivers (51.0% of cancer caregivers *versus* 37.3% of other caregivers, p=0.02). High financial strain was reported by 18.0% of caregivers (26.2% of cancer caregivers *versus* 17.7% of non-cancer caregivers, p=0.07). In multiple logistic regression models, significant predictors of high emotional stress included good/fair/poor self-reported health (versus very good/excellent health; OR 1.7; 95% CI 1.3- 2.2); and performance of medical/nursing tasks (OR 1.8; 95% CI 1.3- 2.4). Significant predictors of high financial strain included good/fair/poor health (OR 1.8; 95% CI 1.3- 2.6) and spending more than 40 hours per week on caregiving activities (OR 1.7; 95% CI 1.1- 2.4). Being a cancer caregiver was associated with higher odds of emotional stress (OR 1.7; 95% CI 1.0-2.7) and financial strain (OR 1.6; 95% CI 0.9- 2.8) but these associations were not statistically significant.

Implications: In this nationally representative sample of informal caregivers, we found a high prevalence of emotional stress and financial strain. Importantly, performance of medical or nursing tasks was associated with increased risk of both outcomes, suggesting an unmet need for caregiver training and support. Targeted efforts to reduce emotional stress and financial strain might focus on those at highest risk, including caregivers who are themselves in suboptimal health.

Funding: The lead author for this study is supported by a grant from the Larry L. Hillblom Foundation.

Abstracts of Symposium Presentations

OCCUPATIONAL SAFETY, SLEEP, FATIGUE AND
WORK-LIFE BALANCE FACTORS AFFECTING NURSES

Moderator:

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OCCUPATIONAL SAFETY, SLEEP, FATIGUE, AND
WORK-LIFE BALANCE AFFECTING NURSES

*Patricia Butterfield, Julie Postma, Lois James,
Gail Oneal, Marian L. Wilson*

NURSING STUDENTS SLEEP PATTERNS
AND PERCEPTIONS OF SAFE PRACTICE

*Lois James, Patricia Butterfield, Julie Postma,
Janessa Graves, Erica Tuell*

NURSING STUDENTS' PERCEPTIONS OF SHIFTWORK
COMPARED TO THE TWH MODEL

Julie Postma, Erica Tuell, Lois James, Patricia Butterfield

TOTAL WORKER HEALTH OF NEWLY LICENSED NURSES:
EXPERIENCES OF BALANCING LIFE AND WORK

Gail Oneal, Janessa Graves, Tullamora T. Diede, Julie Postma

SLEEP AND MOOD VARIATIONS BETWEEN DAY AND
NIGHT SHIFT NURSES WORKING 12-HOUR SHIFTS

*Marian L. Wilson, Regan Permito, Samantha M. Riedy,
Ashley English, Carlana Coogle, Sandra Albritton,
Joshua Burton, Hans PA Van Dongen*

OCCUPATIONAL SAFETY, SLEEP, FATIGUE AND WORK-LIFE BALANCE FACTORS AFFECTING NURSES

Occupational Safety, Sleep, Fatigue, and Work-Life Balance Factors Affecting Nurses

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Purpose and Rationale: The purpose of this symposium is to present results from four studies addressing nurses' experiences with shift work and long work hours. All of the studies were situated in a Total Worker Health™ context, a holistic approach to worker well-being developed by the National Institute for Occupational Safety and Health (NIOSH). Each study examined a different point in nurses' professional development, including: 1) novice student nurses' (e.g., junior-level undergraduates) transition into evening- and night-shift clinicals, 2) senior students' perceptions and concerns as they adjusted to a time- and energy-intensive capstone experience, 3) new graduates' adoption of health protective behaviors, and 4) licensed nurses' sleep patterns and mood while working 12-hour night versus day shifts. Key concepts included: sleep, fatigue, adoption of new behaviors, occupational self-efficacy, and work-life balance. Together these concepts reflect contemporary demands on the nursing workforce in response to changing occupational norms (e.g., 12- versus 8-hour shifts), performance expectations, and work-family issues.

Methods: Research questions were answered using both qualitative (e.g., apriori thematic analysis) and quantitative (e.g., actigraphy, self-reported measures) data. Each study's methods are described in detail in their respective abstracts.

Results:

1. Novice student nurses (n=19) received approximately 7 hours and 20 minutes sleep/night. Safe practice self-efficacy scores improved throughout the semester. Self-reported 'feeling sleepy' was a significant predictor of lower safe-practice self-efficacy.
2. Findings from focus groups with senior nursing students (n=12) reinforced the notion that students viewed their work, home life, and personal health goals in a holistic manner. Students also reported a high degree of fatigue post-shift and expressed concerns about their ability to drive home safely.
3. Themes that emerged from focus groups with newly licensed nurses reflected the importance of social support in both their home and work lives.
4. A significant decrease in positive mood was detected for both day and night shift nurses (n=22) across their 12-hour work shifts. Compared to day shift workers, night shift nurses had greater dispersion of sleep patterns across time of day, indicating substantial circadian rhythm disruption.

Implications: The nation's three million nurses comprise the largest segment of the healthcare workforce. Health system changes have resulted in increases in both the pace and complexity of clinical work; understanding nurses' responses to occupational demands is critical to the support of nurses' personal health as well as their ability to deliver safe and effective care. Total Worker Health™ is a useful perspective for research that addresses cross-cutting issues associated with shift-work, fatigue, and work-life balance.

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OCCUPATIONAL SAFETY, SLEEP, FATIGUE AND WORK-LIFE
BALANCE FACTORS AFFECTING NURSES

Nursing Students' Sleep Patterns and Perceptions of Safe Practice

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Purpose/Aims: The purpose of this project was to describe students' sleep patterns and perceptions of safe practice during their first semester of clinical rotations.

Rationale: Nursing students make an abrupt transition from traditional classes into clinical rotations and shift work. Little is known about students' sleep, sleep problems, and safe practice behaviors during this critical and singular phase of professional development. It is well established however that practicing nurses report a number of sleep-associated problems and associated adverse health events in patients (i.e., medication errors) and nursing staff (i.e., needlestick injuries) alike. Understanding student nurses' initial sleep patterns in response to clinical rotations can yield insights into opportunities for occupational interventions at the university and hospital level.

Method: We measured the sleep of 19 full-time J2 nursing students before, during, and after their first clinical rotations. Sleep was measured objectively using wrist activity monitors (actigraphy) and sleepiness was measured using sleep diaries for seven consecutive days at each time period. During these same time periods we used Bandura's self-efficacy scales to measure students' perceptions of safe practice. We then used multi-level-modeling (MLM) to explore associations between students' sleep, sleepiness, and their perceptions of safe practice.

Results: Nursing students' sleep quantity did not differ across time periods, they consistently received approximately 7 hours and 20 minutes per night. The number of students reporting sleepiness however increased from 29% before rotations, to 32% during rotations, to 39% after rotations. Nursing students' self-efficacy scores improved across the three time periods (from 80% at time 1, to 84% at time 2, to 87% at time 3) indicating that overall exposure to clinical rotations improved students' belief in their own safe-practice. However, students assigned to night shift rotations had lower self-efficacy scores than students assigned to day shift rotations (82% vs. 87%). Furthermore, within individual students, feeling sleepy significantly predicted lower safe-practice self-efficacy scores ($f=42.55$; $df=1,60$; $p<.001$).

Implications: Our results reveal that, although students' safe practice self-efficacy improves with exposure to clinical rotations, sleepiness significantly degrades student confidence in their ability to perform safe nursing practice. Our work addresses a gap in the total worker health (TWH) research by examining a critical period in the professional development of nurses, and helps to guide occupational interventions—particularly those targeted towards reducing nursing student sleepiness.

OCCUPATIONAL SAFETY, SLEEP, FATIGUE AND WORK-LIFE BALANCE FACTORS AFFECTING NURSES

Nursing Students' Perceptions of Shift Work Compared to the TWH[®] Model

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Purpose: The purpose of this study was to compare pre-licensure, baccalaureate nursing students' perceptions of problems and solutions associated with shiftwork in clinical settings with the tenets of the Total Worker Health[®] (TWH) model.

Rationale/Conceptual Basis/Background: Since 2004, the National Institute of Occupational Safety and Health has shifted its focus to integrating occupational health and safety with personal wellness through its TWH[®] program. The TWH[®] model theoretically integrates protection from work-related safety and health hazards with promotion of illness and injury prevention efforts to advance worker health. Critics suggest the model remains theoretical; that on-the-ground employers stress employee wellness programs over improving hazardous work conditions in an imbalanced, compartmentalized manner. Listening to nursing students identify problems and innovate solutions as they transition to shift work can inform TWH[®] programs and the model itself.

Method: This qualitative, descriptive study used two rounds of focus groups to engage a convenience sample of 12 senior nursing students in a participatory process. Each session lasted 90-120 minutes. Directed content analysis was used to identify how students cope with shift work and summarize their suggestions to promote healthy behaviors, environments, and safe clinical practice. Two members of the research team used the TWH[®] model to deductively identify codes to categorize the data, including problems and solutions that impacted 1) students' personal well being and 2) the workplace environment. Directed content analysis was used to assess similarities and differences between the students' perceptions and the tenets of the TWH[®] model. Exemplar quotes from narratives were combined with worksheet data to offer rich descriptions from the student voice.

Results: Participants identified problems and solutions related to personal and workplace well being. Findings reinforced the TWH[®] model in that participants framed most issues (e.g. nutrition, sleep; anxiety) from a cross-cutting personal health and worksite safety perspective. For example, participants stressed the importance of taking adequate breaks and eating nutritious food to maintain energy on a long shift. They identified the role that nurse managers can play in ensuring students get adequate breaks, and they suggested that hospital cafeterias stock nutritious food. Participants also identified solutions such as bringing high protein snacks to work and using water bottles to stay hydrated and energized. They identified their need to learn to be assertive and ask for breaks. To promote sleep, participants suggested workplaces allow consolidated breaks to promote 'strategic napping,' design routine work schedules, and promote time management so nurses do not have to stay late, which impacts sleep duration. To improve sleep quality while home, they recommended using noise machines and blackout curtains, minimizing use of sleep aids, and informing friends and family of their schedules to avoid interruptions during sleep.

Implications for Translation to Practice/Further Research: Findings will be used to design and test integrated TWH[®] interventions in clinical settings, inform curricular and programmatic revisions, and advocate for safe work place environments.

OCCUPATIONAL SAFETY, SLEEP, FATIGUE AND WORK-LIFE BALANCE FACTORS AFFECTING NURSES

Total Worker Health of Newly Licensed Nurses: Experiences of Balancing Life and Work

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Purpose: The purpose of this study was to uncover the experiences of newly licensed nurses transitioning into practice that affect work and social life as related to the Total Worker Health™ concept, with a long-range aim to develop a tool to measure new nurses' perceptions of work-related risks.

Background: Total Worker Health™ is a program intended to improve health by linking work factors to the health and life of employees. The underlying premise of Total Worker Health™ is to protect employees from work and health risks while increasing worker well-being by addressing factors of workplace, employment, and worker, including work-life balance. Although literature has shown that new nurses have higher rates of occupational injury, psychological and physical illness, poor health behaviors, and burnout, little is known about their experiences and perceptions of work risks in and out of the workplace that affect wellbeing as they transition to professional practice.

Method: A qualitative design with apriori thematic analysis was used, related to Total Worker Health™ issues. Thirty-four newly licensed nurses working in diverse facilities participated in either focus groups or independent interviews in three cities in two Pacific Northwest states. Semi-structured questions guided discussion. Data collection continued until saturation was achieved. Codes were compared and sorted into themes and subthemes, according to thematic analysis method.

Findings: The main concept was *Balance between Work and Life* which had three themes of Health, Work Environment, and Learning to Be, and described the new nurses' perceptions and efforts to maintain control over work and social environments as affected by the workplace. Subthemes further explained the issues of how work influenced each of the three themes. Subthemes for Health included personal definition of wellbeing finding social support, threats to health from workplace issues, and safety risks to self. Work environment subthemes were caring for patients, communication, gender, organizational support, and workplace culture. Learning to be included self-autonomy, self-advocacy, knowing/not knowing, work way vs school way, and proving worth. One example included shift work as it affects personal safety, patient care, support, and social life. Themes and subthemes aligned with relevant Total Worker Health™ issues that affected the wellbeing in work and social life of the participants.

Implications: Issues that confront newly licensed nurses as they transition into the work environment increase risks to their work performance and safety, patient care, personal health, and wellbeing in and out of the workplace. Using the Total Worker Health™ concept, these risks can be addressed through interventions at the workplace and home such as adequate staffing on all shifts, building a supportive culture of health including proper sleep and nutrition, providing psychological support, and increasing safety. Early identification of risk issues of new nurses through research is needed to reduce risks, burnout, and the loss of a nurse employee. More research of actual work environments may uncover the need for organizational changes.

OCCUPATIONAL SAFETY, SLEEP, FATIGUE AND WORK-LIFE BALANCE FACTORS AFFECTING NURSES

Sleep and Mood Variations between Day and Night Shift Nurses Working 12-Hour Shifts

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Purpose: This study examined 12-hour day and night shift nurses' sleep/wake cycles and mood profiles across a two-week period. Specific aims were to investigate (1) differences in sleep/wake cycles, and (2) differences in mood profiles between nurses working day versus night shifts.

Background: Twelve-hour shifts have become the norm for day and night shift nurses in acute care settings. Sleep disturbances and altered mood states are commonly cited consequences of shift work. Fatigue from sleep disturbances and altered mood states at work can affect the quality of patient interactions and employees' ability to perform duties. Our previous research demonstrated that fatigue remains relatively low and stable across 12-hour day shifts; yet, the level of fatigue increases across 12-hour night shifts. In the present study, we compared day and night shift nurses' on-duty and off-duty sleep schedules, and compared their mood profiles during duty periods.

Methods: Twenty-two full-time nurses (11 day shift, 11 night shift) participated in this study. Participants wore a wrist activity monitor to objectively measure sleep/wake activity and kept a sleep diary for a two-week period. The Positive and Negative Affect Schedule (PANAS) questionnaire provided a self-report measure of positive and negative affect. It was completed by participants at the beginning, middle and end of four of their scheduled work shifts. Data were analyzed with mixed-effects regression models.

Results: The amount of sleep obtained in the 24 hours preceding a shift averaged 7.6 hours (SD: 1.9 hours) and did not differ significantly between day and night shift nurses ($F_{1,107}=0.01$, $p=0.91$). However, day shift nurses showed a nighttime-oriented sleep schedule across both on- and off-duty days, although they tended to wake up later on off-duty days. In contrast, night shift nurses showed a predominantly daytime-oriented sleep schedule during on-duty periods, but they reverted to a nighttime-oriented sleep schedule during off-duty periods. Positive affect did not differ by shift type ($F_{1,177}=1.27$, $p=0.26$), but was positively associated with sleep obtained in the 24 hours preceding a shift ($F_{1,177}=3.95$, $p=0.048$). For every additional hour of sleep obtained, positive affect on the PANAS increased by 0.089 units. Negative affect did not differ by shift type or the number of hours of sleep obtained prior to the shift ($F<2.96$, $p>0.087$). In both day and night shift nurses, positive affect decreased from the beginning to the end of the shift ($F_{2,183}=3.65$, $p=0.028$), while negative affect did not significantly vary by time in shift.

Implications: Compared to day shift nurses, night shift nurses showed greater variation in sleep patterns between on-duty and off-duty periods; thus, they are at greater risk of health consequences associated with circadian misalignment. Positive affect, but not negative affect, decreased across time on shift and was significantly related to the amount of sleep obtained prior to a shift. Future investigations should examine whether mood fluctuations are linked to patient outcomes and nursing workforce issues, including customer and employee satisfaction, and job retention. Interventions such as shorter nighttime shifts and sanctioned workplace napping can be trialed to mitigate consequences of 12-hour shift schedules.

Abstracts of Symposium Presentations

PATIENT & PROVIDER ENGAGEMENT & EMPOWERMENT THROUGH
TECHNOLOGY (P²E²T²) PROGRAM TO IMPROVE HEALTH IN DIABETES:
TRIAL RESULTS AND LESSONS LEARNED

Moderator:

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PCORI TRIAL TO IMPROVE HEALTH IN DIABETES:
PRELIMINARY RESULTS AND LESSONS LEARNED

Heather M. Young

P²E²T² CLINICAL TRIAL IMPLEMENTATION:
CHALLENGES AND LESSONS LEARNED

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

FROM SELF-MANAGEMENT TO EMPOWERMENT:
TECHNOLOGY AND HEALTH COACHING IN DIABETES CARE

*Sheridan Miyamoto, Stuart Henderson, Sarina Fazio,
Bruno Saconi, Heather M. Young*

MORE THAN A1C: TYPES OF SUCCESSES
EXPERIENCED BY ADULTS WITH DIABETES TYPE 2

*Sarina Fazio, Jennifer Jean Edwards, Sheridan Miyamoto,
Stuart Henderson, Madan Dharmar, Heather M. Young*

IMPACT OF THE P²E²T² TRIAL ON HEALTH
OUTCOMES AMONG ADULTS WITH TYPE 2 DIABETES

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

PATIENT & PROVIDER ENGAGEMENT & EMPOWERMENT THROUGH
TECHNOLOGY (P²E²T²) PROGRAM TO IMPROVE HEALTH IN DIABETES:
TRIAL RESULTS AND LESSONS LEARNED

PCORI Trial to Improve Health in Diabetes: Preliminary Results and Lessons Learned

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Purpose: This symposium will highlight results and lessons learned from a PCORI funded intervention using nurse coaching, mobile technology, and integration into the electronic health record to improve health for persons living with diabetes.

Background: Diabetes Type-2, is an increasingly prevalent condition and a major risk factor for serious chronic illnesses. Prevention and management involves behavior changes including physical activity, diet, stress reduction and sleep. Motivation and reinforcement are crucial elements in promoting successful adoption of lifestyle changes that improve chronic illnesses such as diabetes. Consumers increasingly are turning to mobile health (mHealth) technologies for illness management, yet these resources are rarely linked to traditional health care delivery. At the same time, clinicians usually rely on self-report for progress on behavioral changes as they care for individuals with chronic conditions. This study brings together mHealth technologies with nurse coaching, and creates an interface into the electronic health record, allowing integration of patient-generated data about behavioral health into primary care. This approach augments traditional efforts for diabetes management and has the potential to change the clinical conversation to a wellness focused, patient-centered discussion that recognizes behavior change.

Presentation: This symposium will feature the design, implementation, results and lessons learned from a PCORI-funded clinical trial. The first paper will discuss implementation issues in the clinical trial, including developing the technological integration and conducting the study in three primary care clinics. The second paper will address the acceptability and feasibility of the intervention from the perspective of the participants, many of whom had little prior experience with technology. The third paper will explore “success” beyond the traditional measures of laboratory values and clinical outcomes, and will report on perspectives of participants as they made behavioral changes important to them. Finally, the fourth paper will provide preliminary results from the randomized controlled trial that included over 300 adults with diabetes.

Conclusion: Chronic conditions require comprehensive approaches that promote sustainable behavior change. This symposium presents a novel approach to improve health in diabetes and provides information about feasibility and outcomes along with lessons learned. Person-centered approaches that reflect patient priorities greater potential to achieve behavioral changes and improved long-term health outcomes.

Funding: This study was funded by HIS-1310-07894, from the Patient-Centered Research Outcomes Institute (PCORI).

PATIENT & PROVIDER ENGAGEMENT & EMPOWERMENT THROUGH
TECHNOLOGY (P²E²T²) PROGRAM TO IMPROVE HEALTH IN DIABETES:
TRIAL RESULTS AND LESSONS LEARNED

P²E²T² Clinical Trial Implementation: Challenges and Lessons Learned

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Background: Chronic diseases, including diabetes mellitus, are the leading cause of mortality and disability in the United States. Current solutions focus primarily on diagnosis and pharmacological treatment, yet there is increasing evidence that patient-centered models of care are more successful in improving and addressing chronic disease outcomes.

Objective: The objective of this paper is to discuss implementation issues and lessons learned in a large practice-based clinical trial. The purpose of the clinical trial was to evaluate the impact of a mobile health and nurse coaching intervention that integrates patient-generated data into the electronic health record to improve health among adults with type-2 diabetes mellitus.

Methods: A randomized controlled trial was conducted at an academic health system in Northern California. Over 300 participants with type-2 diabetes were enrolled through three primary care clinics. Participants were randomized to either the usual care or intervention study arm. All participants received training on use of the health system patient portal. Participants in the intervention arm received six scheduled health coaching telephone calls with a registered nurse and received an activity tracker and mobile application that integrated data into the electronic health record to track their daily activity and health behavior decisions. All participants completed a baseline survey and follow-up surveys at three and nine months. Primary and secondary outcomes included diabetes self-efficacy, A1C, and quality of life measures.

Results: This paper discusses challenges in implementing the clinical trial, including designing the intervention with a diverse group of stakeholders, engaging primary care clinicians, gaining access in busy primary care clinics, recruiting a diverse sample of individuals with diabetes, training and support for a technology intervention, managing an equipment recall, and minimizing attrition. Thoughtful design of engagement opportunities for stakeholders, robust pre-testing of technologies, staged recruitment, and support staff were all essential to ensuring successful implementation of clinical trial recruitment, enrollment and intervention delivery.

Conclusion: This was a complex patient-centered intervention involving nurse health coaching, commercial health technologies, and integration of patient-generated data into the electronic health record with over 300 participants. While challenging, it is vital to advance and test innovative models for managing chronic illness to achieve sustainable behavior change.

Funding: This study was funded by HIS-1310-07894, from the Patient-Centered Research Outcomes Institute (PCORI).

PATIENT & PROVIDER ENGAGEMENT & EMPOWERMENT THROUGH
TECHNOLOGY (P²E²T²) PROGRAM TO IMPROVE HEALTH IN DIABETES:
TRIAL RESULTS AND LESSONS LEARNED

From Self-Management to Empowerment:
Technology and Health Coaching in Diabetes Care

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Purpose/Aim: The purpose of this study was to examine how nurse coaching and mHealth technology may impact diabetes self-management (DSM). First, prior to the implementation of a patient-centered intervention to facilitate health behavior change, we sought perspectives of persons living with diabetes to inform the design of the intervention. Second, following design and implementation of a randomized controlled trial testing this program against usual care, we engaged intervention participants who had completed the intervention to understand their views of the intervention.

Background: Diabetes self-management is recognized as a complex and burdensome task. Patient input in program design aligns with a person-centered approach. Understanding factors that influence DSM provides unique insights to the development of interventions tailored to the needs of this population.

Methods: Initial focus groups were conducted with 20 adults willing to share their experience of living with diabetes as well as barriers and facilitators to DSM. Participants were enrolled from a group attending a diabetes education class, as well as by direct referral from healthcare providers and all met eligibility for inclusion in the planned intervention study. The majority of participants were between 35-65 (80%) with one (5%) between 18-35 and 3 (15%) over the age of 65. The sample was 60% female; 50% white, 25% Latino, 10% African- American, and 15% Pacific Islander/East Indian/American Indian. The majority had completed some college (45%) or completed a college degree (40%). Half the sample had an income of less than \$50,000 and 15% had an income greater than \$100,000. Post-intervention focus groups were conducted with 24 adults who had completed the intervention arm of the RCT. Standard qualitative thematic analysis was used to compare and contrast findings between the groups and identify overarching themes.

Results/Outcomes Achieved: In the original focus group, participants described four themes highlighting their daily struggles with DSM: pervasiveness, vigilance, isolation, and control. For participants in the second group, who had the intervention, we saw new themes: perspective, awareness, support and ownership. These new themes suggest that intervention participation shifted individual's daily experience from one of burden and struggle to empowerment.

Conclusions/Implications: Gaining insight into daily experience and identified needs of those living with disease is important as interventions are designed to aid individuals in positive health behavior change. Designing and creating interventions that target patient-identified needs resulted in a shift in perspective and empowerment of individuals. Thoughtful engagement of persons living with chronic disease from program development through evaluation may offer the best opportunity for meaningful shifts in empowering individuals to self-manage disease.

Funding: This study was supported in full by HIS-1310-07894, from the Patient-Centered Research Outcomes Institute (PCORI).

PATIENT & PROVIDER ENGAGEMENT & EMPOWERMENT THROUGH
TECHNOLOGY (P²E²T²) PROGRAM TO IMPROVE HEALTH IN DIABETES:
TRIAL RESULTS AND LESSONS LEARNED

More than A1C: Types of Success Experienced by Adults with Type 2 Diabetes

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Purpose/Aim: The purpose of this study was to explore the different types of successes experienced by adults with type 2 diabetes participating in a randomized controlled trial intervention involving mobile health technology and nurse coaching.

Background: Success in clinical trials and care management among adults with type 2 diabetes is often defined as a statistically significant decrease in glycated hemoglobin (A1C). While reduction in A1C is an important factor in decreasing risk of diabetic complications, there are also numerous modifiable and non-modifiable factors such as underlying pathology, lifestyle, medication management and other health conditions that impact A1C. When healthcare professionals focus on A1C as the main indicator of diabetes management success, important changes in individuals' health and well-being may be overlooked or undervalued.

Methods: A qualitative review was conducted of nursing documentation from motivational interview-based health coaching sessions between study nurses and participants who completed the technology and nurse coaching intervention. An iterative thematic analysis approach was used to examine the types of successes experienced by trial participants.

Results: Of the 132 participant cases analyzed, the types of success experienced by participants predominantly fell into five categories: 1) change in *health behaviors*; 2) change in *mindset or awareness*; 3) change in *engagement with healthcare resources*; 4) change in *physical or emotional health*; and 5) change in *health indicators*. The nurse coaching and mobile health technology interventions also influenced change in each of the categories and served as catalysts for many of the positive changes experienced by participants.

Implications: Our analysis found participant experiences of success in diabetes are more varied and broader than the traditional A1C based outcome model accounts for. The findings suggest healthcare professionals and health technology can assist patients to achieve a wide range of successes in diabetes management and eventual A1C reduction through realistic goal setting and tracking, resolving barriers for change, and aligning goals with the factors that impact successful change. Future research should incorporate measurement of success types beyond A1C and investigate their long-term impacts on optimal management of diabetes and A1C reduction.

Funding: This study was supported in full by HIS-1310-07894, from the Patient-Centered Research Outcomes Institute (PCORI).

PATIENT & PROVIDER ENGAGEMENT & EMPOWERMENT THROUGH
TECHNOLOGY (P²E²T²) PROGRAM TO IMPROVE HEALTH IN DIABETES:
TRIAL RESULTS AND LESSONS LEARNED

Impact of the P²E²T² Trial on Health Outcomes among Adults with Type 2 Diabetes

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Purpose/Aims: To evaluate the impact of the P²E²T² intervention on a person's self-efficacy, quality of life, and clinical indicators such as HbA1C, compared to usual care for diabetes.

Background: The course of Diabetes Type-2 as a chronic disease can be changed dramatically with lifestyle modifications, such as healthy eating and increasing physical activity. However, traditional approaches (face-to-face counseling in clinics, individual visits with a diabetes educator, or group classes) are not often sufficient to improve and sustain health in patients with diabetes.

Methods: Eligible participants from three primary care clinics were selected from the diabetes registry in the Electronic Health Record (EHR) and randomized to either intervention or usual care group. Inclusion criteria were 18 years of age or older; diagnosis of diabetes mellitus type-2; most recent HbA1C > 6.5%; enrollment in one of the participating clinics; ability to read, write and speak English. Participants in the intervention group received six nurse health coaching sessions over a three month period, and used mobile health technology to collect physical activity, nutrition and/or sleep data, which was integrated into the EHR to inform the provider-patient interaction during clinic visits. Data were collected at baseline, three months (coinciding with the end of the intervention), and nine months. Descriptive analyses were performed and group comparisons used Student t test, Mann-Whitney U test, chi-square test for homogeneity or Fisher's exact test, as appropriate.

Results: 319 participants were enrolled in the study. Of these participants, 161 (50.4%) were allocated to usual care and 158 (49.6%) to the intervention. 155 (54%) participants in the control arm and 132 (46%) in the intervention arm completed the three months follow-up. Statistical analyses of demographic characteristics and outcome measures at baseline showed no statistical significant difference between participants in the usual care or intervention group. At three months, self-efficacy as measured through the Diabetes Empowerment Scale was significantly different between the two groups, with the intervention group having higher self-efficacy scores (3.15 versus 2.75, $p < 0.01$) when compared to the control group. In addition, the intervention group showed lower PHQ-9 scores compared to the control group.

Implications: This study demonstrates that a nurse coaching intervention along with mobile health technologies that integrate with the EHR can improve self-efficacy among adults with type-2 diabetes. Because improving health in diabetes requires sustained behavioral health change, building self-efficacy and providing useful tools have the potential to enhance long-term outcomes.

Funding: This study was funded by HIS-1310-07894, from the Patient-Centered Research Outcomes Institute (PCORI).

Abstracts of Symposium Presentations

PRECISION NURSING: DATA-DRIVEN NURSING TO
TRANSFORM HEALTH & SUPPORT HEALTH EQUITY

Moderator:

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PRECISION NURSING: DATA-DRIVEN NURSING TO
TRANSFORM HEALTH & SUPPORT HEALTH EQUITY

Uba Backonja, Jane M Carrington, Blaine Reeder

HEART FAILURE SIGNALS: TELEHEALTH DATA
FOR PRECISION READMISSION PREDICTION

Katherine K. Kim, Rayid Ghani

PRECISION NURSING FOR SYSTEMS-LEVEL
KNOWLEDGE DISCOVERY

Blaine Reeder, Karen H. Sousa

LINKING CLINICAL EVENTS AND HOSPITAL ACQUIRED
COMPLICATIONS TO TRANSFORM NURSING CARE

Jane M. Carrington, Mark Rein'l-Bautista, Monte L. Roberts

PRECISION NURSING: DATA-DRIVEN NURSING TO TRANSFORM HEALTH & SUPPORT HEALTH EQUITY

Overview: Precision Nursing: Data-Driven Nursing to Transform Health & Support Health Equity

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Purpose: This symposium presents an overview of Precision Nursing and provides examples through researcher-presented work in this innovative domain.

Background: Dr. Patricia Flatley Brennan, Director of the National Library of Medicine and Interim Associate Director for Data Science for the National Institutes of Health has challenged informatics researchers to reframe our approach to studying healthcare through data science. Precision Nursing has emerged recently as a natural element of the overarching concept of precision health. A general definition of Precision Nursing is “[h]ighly reliable, evidence-based and personalized nursing practice that supports quality outcomes” (*Nursing Knowledge: 2016 Big Data Science Conference Proceedings*, 2016), though this concept is evolving. Precision Nursing is guided by the Effective Nurse to Nurse Communication framework, Information and Symbolic Interaction theories, Human-Computer Interaction, and Participatory Design methods. This person-centered, data-driven approach stands in contrast to care guided purely by top-down national policies. A key to the success of precision health is equity in data gathering and use. While efforts exist to address inequities regarding whose data are collected (e.g., enrolling homeless individuals and populations underrepresented in health research) and how data are used, Precision Nursing must intentionally focus on inequities in order to eliminate them.

Symposium Organization: We present three examples of seminal work in Precision Nursing by researchers at three different institutions. Dr. Katherine Kim will report on using machine learning to understand the value of telemonitoring, patient reported, and hospital data to predict readmission, and when interventions could be used to prevent readmission. Dr. Blaine Reeder will describe work on systems-level knowledge discovery and hypothesis generation regarding disparities in nurse-sensitive patient outcomes. Dr. Jane Carrington will present results of a study to determine shared characteristics of patients who experience a clinical events and hospital-acquired complications, using data to drive patient care that supports individually nursing tailored care. Each presenter will describe how their work relates to equity in Precision Nursing.

Conclusion: This symposium demonstrates the potential impact of Precision Nursing through illustration of three different clinical problems using different data-driven techniques that focus on different patient populations. We describe emerging strategies to collect, analyze, and model data with the intent of discovering new knowledge and developing tailored nursing interventions that improve patient outcomes and eliminate health inequities.

References: *Nursing Knowledge: 2016 Big Data Science Conference Proceedings*. (2016, June 1-3, 2016). Paper presented at the Nursing Knowledge: 2016 Big Data Science, Minneapolis, MN.

PRECISION NURSING: DATA-DRIVEN NURSING TO TRANSFORM
HEALTH & SUPPORT HEALTH EQUITY

Heart Failure Signals: Telehealth Data for Precision Readmission Prediction

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Rationale/Conceptual Basis/Background: Heart failure is a chronic condition with 1 million hospitalizations annually, and one-third of patients readmitted within 30 days. Researchers seek to understand how telemonitoring can improve outcomes and reduce readmissions using different types of data. Yet, it is unclear what sources are useful and what levels of granularity are needed to accurately predict heart failure exacerbation. Thus, there are barriers to constructing precision nursing interventions such as care coordination, medication coaching, and self-management support tailored to individual needs.

Purposes/Aims: The purpose of this study is to determine whether signals could be discovered from the different data sources that are predictive of heart failure exacerbation; and to evaluate the value the data types for predicting readmission.

Methods: We applied machine learning to existing data from a heart failure randomized clinical trial—demographics, hospital admissions, telemonitoring, surveys using validated instruments—analyzed alone and in various combinations to develop predictive algorithms (two-arm trial comparing telemonitoring to usual care, n=1391, 623 in treatment group). Predictors from the raw data were generated to create a snapshot of each patient every day over a six-month period representing the current state of that patient. Predictors include those based on static attributes (demographics), as well as dynamic temporal aggregates (1-7 days before readmission) over different variables (length of stay, weight, blood pressure, heart rate, health status). These predictors were provided to various supervised machine learning methods including Random Forests, Support Vector Machines, Nearest Neighbors, Gradient Boosting, Decision Trees, and Logistic Regression to understand and evaluate their power to predict readmissions with respect to different prediction time horizons. IRB approved by UCLA.

Results: Hospital admission data has the most predictive signal for readmissions overall, followed by survey, then telemonitoring. However, area under the receiver operating curve (ROC) for all combinations of data sources varies depending on the readmission period. For 30-day readmissions, ROC ranged from 0.36 to 0.70; for 60-day, 0.36 to 0.66. For both periods, the combination of survey and hospital admission history is most useful, followed by the combination of survey and telemonitoring data. For maximizing accuracy among the top 10% of patients most likely to be readmitted, survey data is the most useful, followed by telemonitoring and hospital admissions history. For 180-day, ROC ranged from 0.35 to 0.69. The combination of tele-monitoring and hospital admission history data is most useful. For maximizing accuracy among the top 10%, all data sources combined perform the best, with the survey and telemonitoring data being the most useful.

Implications: While admission history is highly predictive of readmission, person-generated data including self-report and telemonitoring can improve predictions, especially for those most likely to be readmitted. Precision nursing such as tailored care coordination with higher intensity in-home interventions for patients most at risk may lead to reduced readmissions. Machine learning methods can support the identification of the subgroups for whom such interventions may be useful, and those for whom they are not. Future studies should evaluate the value of data such as symptoms, wearable sensors, and medication use.

Funding: By National Institute of Environmental Health Sciences (NIEHS) via the Training Coordination Center (TCC) of the Big Data to Knowledge (BD2K) Program (bigdataui.ini.usc.edu), grant U24 ES 026465, 2017 Data Science Rotations for Advancing Discovery (RoAD) Trip program.

PRECISION NURSING: DATA-DRIVEN NURSING TO TRANSFORM HEALTH & SUPPORT HEALTH EQUITY

Precision Nursing for Systems-Level Knowledge Discovery

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Aim: The aim of this presentation is to illustrate a systems-level knowledge discovery approach with pilot project results from the CUPID precision nursing system.

Background: *Precision Nursing* is an emerging area of research that is rapidly evolving as distributed systems with timely access to nurse-sensitive patient outcomes data are brought online. Within the CUPID project (Sousa, Reeder, Ozkaynak, Bondy, & Weiss, 2017), our definition of **precision nursing is an approach to improve organizational and patient outcomes through systems-level knowledge discovery and personalized nursing care**. CUPID integrates methods from the Knowledge Management discipline where knowledge discovery is defined as the development of “new knowledge from data and information or from the synthesis of prior knowledge” (Becerra-Fernandez & Sabherwal, 2014).

Outcomes: Precision nursing can inform knowledge discovery at the systems level for nurse leaders by identifying disparities in patient outcomes that inform new research and policy innovations. The CUPID pilot project used pain as a test case that also serves as a hypothesis generator. In one exemplar, first and last pain scores were charted by ethnicity to display overall distributions among units and visually assess where apparent differences were present (See Figure 1). The most obvious differences highlighted were those where Hispanic first and last pain scores were significantly lower in the oncology unit of one our hospital data partners (Mean - Hispanic: .4706, Non-Hispanic: 2.0175, Difference: -1.5470; Last Score (Mean) - Hispanic: .2353, Non-Hispanic: 1.1754, Difference: -.9401). This trend held true for all inpatient units but was strongest in contrast to the scientific literature which shows that Hispanics report higher pain sensitivity than Non-White Hispanics in experimental studies (Kim et al., 2017). These pilot results must be verified with larger studies to understand data quality, work context, and human-computer interaction with patient documentation systems.

Questions that arise from these pilot results:

- Are Hispanic patients reluctant to report actual pain levels?
- Does language play a role in reporting of pain for Hispanic patients?
- Is there a need for nursing cultural sensitivity training?

Conclusion: We illustrate a precision nursing approach at the systems level in contrast to the patient level. This type of systems-level knowledge discovery can inform patient-level interventions that enable hospital partners to honor initiatives such as the #123forEquity Pledge to Eliminate Health Care Disparities by identifying where disparities in patient outcomes exist in different units or patient populations.

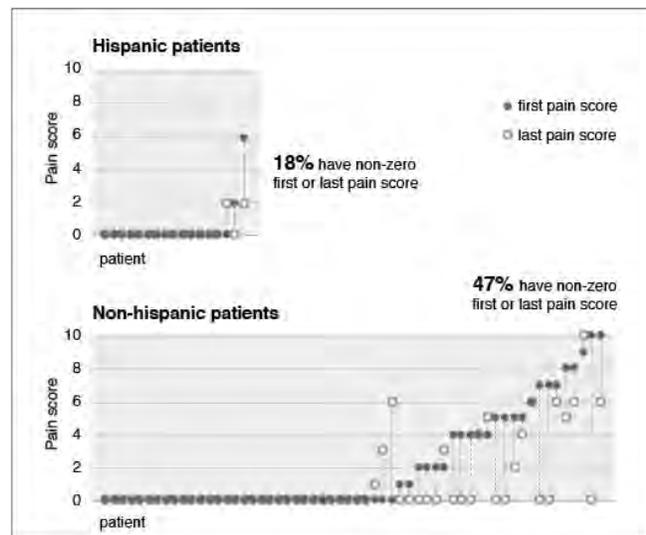


Figure 1. Ethnic disparities in pain data

PRECISION NURSING: DATA-DRIVEN NURSING TO TRANSFORM
HEALTH & SUPPORT HEALTH EQUITY

Linking Clinical Events and Hospital Acquired Complications to Transform Nursing Care

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Purpose: The purpose of this presentation is to report findings from a study that sought to use data to model patients at risk for hospital acquired complications using clinical events towards precision nursing.

Background: It has been well documented that nearly 100,000 patients lose their lives in our nation's hospitals each year due to errors and miscommunication. It has been hypothesized that effective communication of Clinical Events (CEs) would increase patient safety and outcomes. CEs have been described as changes in patient condition and include six high risk events: fever, pain, bleeding, changes in output, changes in respiratory condition, and changes in level of consciousness. Smart algorithms designed to increase the effectiveness of the electronic health record (EHR) as a communication can assist towards this goal. Here we explored CEs and hospital acquired complications (HACs) towards modeling patients at risk for extended hospital stay and added cost to health care organizations. HACs are conditions that the patients acquire during their hospital stay such as pressure ulcers, fractures due to falls, infection, surgical complications, unplanned ICU transfer, respiratory complication, venous thromboembolism, and renal failure.

Outcomes: 1,000 de-identified patient records were obtained from the clinical data warehouse following IRB determination of non-human research. Inclusion criteria included ICD-10 codes consistent for hospital-acquired complications (HACs) according to the 2016 list. Demographics of data: 707 (85%) female, 129 (15%) male; 642 (77%) Caucasian or white; 113 (14%) Black or African American, 39 (5%) American Indian or Alaska Native; 366 (44%) Not Hispanic or Latino, 466 (56%) Hispanic or Latino; and age at time data loaded 41.02 ± 21.89 , 38 (0-89). The first 100 cases were analyzed as test cases for CEs: 77% patients experienced pain; 54% experienced fever; 21% had changes in respiratory status; and 13% a change in output. Eight patients in the test case analysis didn't experience a CE.

Conclusion: This is the first phase of the analysis of 1,000 de-identified patient records towards modeling patients who experienced HACs by CEs. Precision data driven nursing care, holds promise for improved patient outcomes and equitable care.

Funding: 2016 University of Arizona Health Sciences Health Data and Analytics Award (UAHS-HDAPA).

Abstracts of Symposium Presentations

REDUCING HARM AMONG VULNERABLE POPULATIONS:
IMPLICATIONS FOR TRANSFORMATIVE ACTION

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REDUCING HARM AMONG VULNERABLE POPULATIONS:
IMPLICATIONS FOR TRANSFORMATIVE ACTION
Adeline Nyamathi, Candace W. Burton, Cecilia Farmer

SEXUAL AND REPRODUCTIVE HEALTH BEHAVIORS OF
YOUNG WOMEN WITH HISTORIES OF PARTNER ABUSE
Candace W. Burton

SUBSTANCE USE ABSTINENCE INTERVENTION AMONG
RECENTLY INCARCERATED HOMELESS WOMEN
Adeline Nyamathi

RAVE TO THE GRAVE: A SYSTEMATIC REVIEW OF
INTERVENTIONS TO REDUCE HARM WITH USE OF ECSTASY
Cecilia Farmer

REDUCING HARM AMONG VULNERABLE POPULATIONS:
IMPLICATIONS FOR TRANSFORMATIVE ACTION

Overview: Reducing Harm among Vulnerable Populations:
Implications for Transformative Action

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Purpose: The purpose of this symposium is to provide an overview of studies which highlight harm reduction among vulnerable populations, namely 1) young adults attending music festivals where drugs are heavily used; 2) formerly incarcerated, currently homeless women who have histories of drug and alcohol use; and 3) young women who have experienced emotional and verbal abuse. This discussion also highlights the leadership needed by nursing and public health professionals to address varied approaches to reduce harm that might occur among the groups.

Rationale: Continued risky behavior which emanates from or results in continued drug use is pervasive across the populations ranging from young adults to an aging population. The outcomes are often negatively impacting physical and psychological health, and resulting in ongoing emotional, verbal and physical abuse and ongoing recidivism. We sought to explore the experience of these life events among three vulnerable populations.

Methods: Three papers presented in this symposium utilize quantitative methods to examine the impact of harm experienced by three vulnerable populations. The first study presents an assessment of the state of the science of relatively unknown risk behaviors of young adults participating in music festivals in the US. Extensive data bases were searched (Farmer). The second study reveals the outcomes of a randomized controlled trial conducted with 130 homeless women enrolled in a three-month drug treatment program who received either a dialectical behavioral therapy (DBT) program or a health promotion (HP) program (Nyamathi). The third study selected 100 community-dwelling women, ages 18-35 who self-identified as having a history of Teen Dating Violence (TDV) (Burton).

Results: A dearth of studies revealed unique strategies employed at music festivals that require further testing to assess their impact on reducing harm in large congregations of young adults using ecstasy and other club drugs and which can lead to community-level interventions. Impact of the RCT on the DBT program as compared with an HP program reveal significant positive predictors of drug abstinence at six months. High rates of sexual risk behaviors were apparent among women experiencing emotional/verbal TDV.

Implications: Vulnerable populations are at continued risk for harm across the lifespan, leading and contributing to health disparities and poor health outcomes. Nurse-led research and policy development with these vulnerable populations needs to take into account adverse life events in the development of culturally-sensitive and targeted programs.

REDUCING HARM AMONG VULNERABLE POPULATIONS: IMPLICATIONS FOR TRANSFORMATIVE ACTION

Sexual and Reproductive Health Behaviors of Young Women with Histories of Partner Abuse

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Purposes: The health impact of intimate partner violence (IPV) during adolescence—or teen dating violence (TDV)—is not well described or contextualized in terms of developmental and biobehavioral outcomes. The unique intersection of growth, development, and socialization occurring in adolescence imbues TDV with unique and pernicious risks, both long and short-term. The goal of this study was to examine the mental and physical health of young adult women with a history of physical, sexual, emotional/verbal, and threatening behavior in the TDV domains. In particular, we sought to explore emotional/verbal abuse outcomes which are often difficult to identify and assess.

Background: Intimate partner violence has been shown to correlate with numerous mental and physical health conditions, but the long-term impact of TDV on health is not well described. The framing concept for this study was the allostatic loading model described by McEwen, which suggests that stress over time can lead to poor health outcomes. In this case the stressor was the experience of TDV, which is by definition a series of abusive experiences in an intimate relationship over time, specifically affecting an adolescent victim.

Methods: Participants were 100 community-dwelling women, ages 18-35 who self-identified as having a history of TDV. The setting was a rural area in the southeastern United States. The final sample was 33% African American, 60% Caucasian, and a combined 7% Asian or Other Ethnicity. Abuse experiences and severity were assessed using the Conflict in Adolescent Dating Relationships Inventory (CADRI) and engagement in risky behaviors using a modified version of the Risky Behaviors Questionnaire (RBQ). In particular, we assessed risky sexual behaviors with the abusive adolescent partner and with the most recent sexual partner in adulthood. A logistic regression modeling strategy was used to explore the relationship between the CADRI domains and the RBQ-identified risk behaviors. Relationships between emotional/verbal TDV and risky behaviors were assessed by Wald chi-square tests of association. Odds ratios and 95% confidence intervals were calculated to examine associations between emotional/verbal dating abuse and risky behaviors. A p -value ≤ 0.05 was considered significant.

Results: Participants reported engaging in many sexual risk behaviors both with the abusive partner and with the most recent partner, including substance use at the time of the first sexual encounter, not discussing STI prevention or past condom use history, not discussing pregnancy prevention or outcomes, and not discussing sexual limits before the first encounter. Odds ratios indicated as much as a 19-fold increase in likelihood of risky sexual behaviors when the participants reported experiencing emotional/verbal TDV.

Implications: The findings from this study stand to provide nurses and other health care providers with understanding of potential risks affecting young adult with histories of TDV. The results of this analysis demonstrate the importance of assessing women of reproductive age for past experiences of TDV or other IPV in order to assure comprehensive preventive sexual and reproductive health care.

Funding: Support provided by Robert Wood Johnson Foundation , Grant Number 74143.

REDUCING HARM AMONG VULNERABLE POPULATIONS:
IMPLICATIONS FOR TRANSFORMATIVE ACTION

Substance Use Abstinence Intervention among Recently Incarcerated Homeless Women

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Purpose: Compare the effect of a Dialectical Behavioral Therapy-Corrections Modified (DBT-CM) program with a Health Promotion (HP) program on achieving drug and alcohol abstinence among female parolees/probationers residing in the community.

Background: In California, the majority of women are incarcerated for drug-related non-violent crimes or intimate partner violence. These women are a vulnerable group with high prevalence of poverty and marginalization, abuse or trauma, mental health disorders, and dysfunctional relationships and coping behaviors. Illicit drug use and homelessness are contributing factor to incarceration, and recently released offenders continue to have unmanaged drug issues. Few gender-sensitive programs address substance use. Thus, it is critical for researchers to engage recently released homeless adults in behavioral interventions that reduce risky behaviors, such as drug and substance use.

Methods: A randomized controlled trial was conducted and 130 homeless women were enrolled into a three-month DBT or HP program, delivered by nurse/community health worker dyads. Inclusion criteria included: a) age 18-64; b) homeless when released from incarceration within the last six months; and c) reported a history of drug or alcohol use prior to incarceration. Structured instruments guided by a theoretical framework were utilized to assess socio-demographics, incarceration history, coping, substance use history, and mental health variables. The primary outcome was drug and alcohol use abstinence at six-month follow up. Six-month follow-up was 90%.

Results: Multivariable logistic regression revealed that the DBT-CM program remained an independent positive predictor of drug abstinence among the DBT-CM participants at six months ($p = .01$) as compared with the HP program participants. Being non-White ($p < .05$) and having higher depressive symptom scores ($p < .05$) were associated with lower odds of drug use abstinence (i.e., increased the odds of drug use) at six months. Similarly, participants in the DBT-CM group were more likely to become or remain alcohol-abstinent at six months (OR = 3.12; 95% CI [1.24, 7.85]; $p = .02$); the HP group did not change.

Implications for Translation to Practice: Our intervention focuses on an understudied and often hidden group that is navigating between prison/jail and community reentry. Building upon these findings will necessitate conducting this promising intervention in a larger sample size, and to gain a greater understand of mechanisms of action underlying these promising findings.

Funding: This study was funded by the National Institute on Drug Abuse (R34DA035409) and National Institute of Allergy and Infectious Diseases (K01AI118559).

REDUCING HARM AMONG VULNERABLE POPULATIONS: IMPLICATIONS FOR TRANSFORMATIVE ACTION

Rave to the Grave: A Systematic Review of Interventions to Reduce Harm with Use of Ecstasy

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Purpose: The purpose of this paper is to report findings from a systematic literature review to investigate the effectiveness of interventions to reduce the use of or harm associated with ecstasy and other club drug (EOCD) use.

Background: The drug 3,4 methylenedioxymethamphetamine (MDMA), also known as “ecstasy”, has become a popular drug of choice for young adults who attend the electronic dance music festivals known as raves. MDMA is a selective serotonergic neurotoxin appealing to youth for its mood lifting and empathy enhancing qualities. Adverse effects include intense dysphoria (anxiety, depression), elevated core body temperature, dehydration, hyponatremia, and cardiac arrhythmias. The typical rave environment increases the likelihood of negative side effects with all-night dancing, hot temperatures, and reduced food and water intake. Raves in the US and in Europe have reported deaths among attendees related to ingestion of MDMA. The rates of mortality and morbidity related to EOCD use is a growing public health concern in the United States. Previous systematic reviews of harm reduction strategies have recommended music festivals as a potentially useful venue for drug prevention education. This paper is the first systematic literature review of interventions reducing the harm associated with EOCD in a music festival setting.

Methods: This review focused on music festivals in Westernized countries that are primarily English-speaking. Keywords relating to music festivals, substance use, and harm reduction were applied to the following databases: Pubmed, Cochrane, PsycInfo, Web of Science, and CINAHL. The grey literature was searched via Google Scholar and a review of all references listed in the selected articles. Prospective Internet alerts were set up using Google Scholar Alerts through 2017 to capture the most recent articles. Results of the searches were organized using the online reference management tool Zotero.

Results: A total of 194 articles resulted based on the search strategy. A final total of 15 peer-reviewed articles were collected. The efficacy of using drug information, brief motivational interviewing, pill testing kits, harm reduction groups, and self-assessment questionnaires was discussed. Based on the results of this review, a community-level intervention consisting of onsite peer support, non-judgmental talk therapy, critical self-assessment of past drug use, persuasive Internet campaigns, and scientifically-sound educational materials may be the most effective.

Implications: The findings may assist event producers and harm reduction organizations in creating an evidence-based plan of care for attendees at music festivals. Drug testing onsite may have potential as a harm reduction tool. Health policy makers should direct funding towards addition of miniature mobile mass spectrometers for use at high risk events.

Abstracts of Symposium Presentations

SYMPTOM MANAGEMENT IN LATINAS WITH BREAST CANCER
AND THEIR INFORMAL CAREGIVERS

Moderator:

*Terry Badger, PhD, RN, FAAN
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SYMPTOM MANAGEMENT IN LATINAS WITH BREAST
CANCER AND THEIR INFORMAL CAREGIVERS

Terry Badger

A DYADIC ANALYSIS OF STRESS PROCESSES IN LATINAS
WITH BREAST CANCER AND THEIR CAREGIVERS

Chris Segrin

RANDOMIZED TRIAL OF SUPPORTIVE INTERVENTIONS
FOR LATINAS WITH BREAST CANCER

Alla Sikorskii, Terry Badger, Chris Segrin, Tracy Crane, Thaddeus Pace

BODY MASS INDEX IS ASSOCIATED WITH DEPRESSION
& STRESS IN LATINA BREAST CANCER SURVIVORS

Tracy Crane

SALIVA CRP & DIURNAL CORTISOL IN LATINA BREAST
CANCER SURVIVORS & INFORMAL CAREGIVERS

Thaddeus Pace, Terry Badger, Chris Segrin

SYMPTOM MANAGEMENT IN LATINAS WITH BREAST CANCER AND THEIR INFORMAL CAREGIVERS

Overview: Symptom Management in Latinas with Breast Cancer and Their Informal Caregivers

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Latinas with breast cancer have increased psychological distress (perceived stress, depression and anxiety) and severity of cancer- and treatment-related symptoms compared to non-Hispanic whites. Their informal caregivers often experience psychological distress at levels equal to or greater than patients themselves. Interdisciplinary care that focuses on relieving psychological distress among both patients and their caregivers may have benefits for other symptoms during cancer treatment, highlighting the importance of the intersection of oncology and psychosocial services during and following cancer treatment. The first presentation will report the results of a two-arm randomized trial of interventions to alleviate psychological distress among 220 Latinas with breast cancer and their caregivers and highlight the role of perceived stress at intake in the relief of global symptom distress, fatigue, and improvement of self-efficacy for symptom management. The second presentation will examine the new stress process model in the context of survivor-caregiver dyad to determine if one partner's experiences are predictive of the other's well-being. Disciplinary contributions to the management of psychological distress will be highlighted in the third and fourth presentations. The third presenter will focus on C-reactive protein and cortisol in relation to psychological distress and other symptoms experienced by the patients and caregivers. The fourth presenter will describe the associations of patients' body mass index (BMI) with depression and anxiety. This symposium will conclude with a discussion of the implications of these findings to identify patient-caregiver dyads in most need for psychosocial interventions to guide the translation of supportive care interventions for Latinas with breast cancer and their informal caregivers.

SYMPTOM MANAGEMENT IN LATINAS WITH BREAST CANCER
AND THEIR INFORMAL CAREGIVERS

A Dyadic Analysis of Stress Processes in Latinas with Breast Cancer
and Their Family Caregivers

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Objective: Breast cancer diagnosis and treatment negatively affect quality of life for survivors and their family caregivers. The stress process model has been useful for describing the cascade of social and psychological experiences that culminate in degraded quality of life for both survivors and their family caregivers. This study is designed to test theoretically specified predictors of negative psychosocial outcomes in a dyadic context.

Method: Participants were 230 dyads comprised of Latinas recently diagnosed with breast cancer and their primary family caregiver, who completed measures of socioeconomic status, stress, family conflict, depression, and anxiety. Data were analyzed following the actor-partner interdependence mediation model (APIMeM) in structural equation modeling.

Results: For both survivors and caregivers there were significant direct and indirect actor effects (through family conflict) of perceived stress on depression and anxiety. Several indirect partner effects were also evident in this sample. Specifically, caregivers' stress was predictive of survivors' depression and anxiety through survivors' increased perceptions of family conflict.

Conclusions: As predicted by the stress process model, stress and family conflict were predictive of psychological distress in breast cancer survivors and their family caregivers. Significant partner effects in the APIMeM suggest that there are some dyadic influences, particularly from caregivers' stress to survivors' perceptions of exacerbated family conflict. These findings show how strained family relationships can aggravate the well-being of cancer survivors and their family caregivers through this challenging experience.

SYMPTOM MANAGEMENT IN LATINAS WITH BREAST CANCER AND THEIR INFORMAL CAREGIVERS

Randomized Trial of Supportive Care Interventions among Latinas with Breast Cancer

Alla Sikorskii, Terry Badger, Chris Segrin, Tracy Crane, Thaddeus Pace

Objective: The burden of multiple cancer- and treatment related symptoms detrimentally affects quality of life and ultimately survival. We compare symptom management outcomes for two telephone-based supportive care interventions delivered to Latinas with breast cancer. We also assess the associations between perceived stress at the time of intervention initiation and subsequent symptom outcomes.

Methods: Two hundred and twenty Latinas with breast cancer (mean age 50, range 28-75) participated in two-arm randomized controlled trial of telephone interpersonal counseling (TIP-C) intervention versus supportive health education (SHE). Longitudinal data were collected at intake, immediately post 8-week interventions, and at 3 and 6 month follow-up. General symptom distress scale was used to measure global symptom distress and self-efficacy for symptom management. Patient Reported Outcomes Measurement Information System (PROMIS) short forms were used to assess fatigue, depression, and anxiety. The Perceived Stress Scale (PSS) was used to assess stress. Linear mixed effects models related three repeated measures of symptom outcomes post-intervention and at follow-up to study group, outcome value at baseline and the PSS score at baseline.

Results: Both interventions achieved similar significant reductions in symptoms over time. Symptom severity at baseline was a significant predictor of later symptom experience. In addition, after controlling for baseline symptom score, higher PSS score was significantly related to subsequent worse global symptom distress ($p=.03$), self-efficacy for symptom management ($p<.01$), fatigue ($p=.04$) and anxiety ($p=.02$). Baseline PSS score did not help explain later depression scores, over and above baseline depression.

Conclusions: Both interventions were successful in managing women's symptoms. While baseline symptom scores can be used to explain later symptom experience and identify symptom management needs, perceived stress is an additional important predictor of future symptom experience with the exception of depression.

SYMPTOM MANAGEMENT IN LATINAS WITH BREAST CANCER AND THEIR INFORMAL CAREGIVERS

Body Mass Index is Associated with Depression and Stress in Latina Breast Cancer Survivors

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Background: Breast cancer survivors are at a greater risk for both depression and obesity compared to the general population. Depression and obesity are independently associated with negative health outcomes with observed differences across ethnicities.

Purpose: We investigated the associations of body mass index (BMI) with depression, anxiety, stress, positive and negative affect, fatigue and other symptoms among Latina breast cancer survivors.

Methods: Ninety-one Latinas with breast cancer (mean age 52 years, range 30-71 years) had their body weight and height measured at intake into a trial of psychosocial interventions and BMI calculated. Patient Reported Outcomes Measurement Information System (PROMIS) 8-item short forms were used to assess depression, anxiety, and fatigue. General symptom distress scale was used to measure global symptom distress. The Perceived Stress Scale (PSS) was used to assess perceived stress. General linear models related to depression, anxiety, stress, fatigue, and global symptom distress and BMI categories of normal/overweight (18.5 – 29.9 kg/m²), obese (30 – 34.9 kg/m²) and very obese (≥ 35 kg/m²) were calculated controlling for other comorbid conditions.

Results: Sample mean BMI was 32.0 kg/m² (range 19.7-54.2), and 25% were very obese. Among very obese women, prevalence of elevated depression was 43%, compared to 20% among those in the not very obese category ($p = .04$). After controlling for other comorbid conditions, significantly higher depression scores were observed among very obese women (adjusted mean 55.4, standard error (SE) 1.9, $p = .03$) compared to obese (adjusted mean 50.0, SE 1.5), who did not differ on depression from those in the normal/overweight category (adjusted mean 51.5, SE 1.5). A similar pattern was seen in perceived stress scores, with very obese Latinas having significantly higher stress (adjusted mean 18.2, SE 1.6, $p = .03$) compared to normal/overweight women (adjusted mean 13.6, SE 1.3), who did not differ from those in the overweight category (adjusted mean 14.7, SE 1.3). No differences were found by BMI for anxiety, fatigue or global symptom distress.

Conclusions: Screening for elevated depression and stress is especially important among Latina breast cancer survivors with high BMI as obesity is a risk factor for the presence of these adverse outcomes.

SYMPTOM MANAGEMENT IN LATINAS WITH BREAST CANCER AND THEIR INFORMAL CAREGIVERS

Saliva CRP & Diurnal Cortisol in Hispanic Breast Cancer Survivors & Their Informal Caregivers

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Previous research suggests that cancer survivors exhibit changes in stress-associated immune and endocrine physiology, measurable as biomarkers of inflammation and diurnal cortisol rhythm (an indicator of hypothalamic-pituitary adrenal axis function). Biomarkers of immune and endocrine physiology have been related to impairments in various dimensions of health-related quality of life (hrQOL). This project explored the relationships between saliva concentrations of C-reactive protein (CRP), diurnal cortisol rhythm, cancer treatments, and measures of hrQOL (PROMIS Fatigue, Anxiety, Depression, and the Perceived Stress Scale) in 15 Latina breast cancer survivor and their informal caregivers.

Following assessments of hrQOL in both survivors and caregivers, saliva was collected from participants over 2 consecutive days in the home setting at waking and in the evening using cellulose swabs. Saliva samples were immediately frozen after collection, and transferred to the University of Arizona College of Nursing on dry ice. Samples were batch analyzed for concentrations of CRP in waking samples, and for cortisol in all samples, according to manufacturer instructions using immunoassay kits from Salimetrics (State College, PA). Diurnal cortisol slope was computed taking into account average times of sample collection. Correlations between biomarkers and hrQOL dimensions and biomarker differences between survivors and caregivers were analyzed with SPSS 24.

Saliva CRP concentrations were higher in survivors than in caregivers. Among survivors, CRP was higher in those undergoing treatment with chemotherapy. Although saliva concentrations of CRP were not associated with assessments of hrQOL, attenuation of diurnal cortisol slope was correlated with fatigue in survivors even when controlling for covariates, including chemotherapy.

These findings provide important insights into the relationship between endocrine-immune physiology, cancer treatments, and hrQOL in Latina breast cancer survivors and their informal caregivers. Stress-associated physiology, cancer treatments, and hrQOL impairments in Latina breast cancer survivors and their informal caregivers should be studied further to identify new risk factors and to develop new targeted interventions for this underserved group of survivors and caregivers.

Funding: Supported by the American Cancer Society, RSG-12-120-01-CPPB (PI: Badger, TA); V Foundation for Cancer Research, D2015-009 (PI: Badger, TA).

Abstracts of Podium Presentations

CALL THE MIDWIFE

PSYCHOMETRICS AND EXTERNAL VALIDITY
OF FETAL MOVEMENT AWARENESS SCALE

Ira Kantrowitz-Gordon, Emma Cunningham, Nicole Reynolds

DEVELOPING THE MIDWIFERY PRACTICE CLIMATE
SCALE: MODEL MISFIT AND ITEM REDUCTION

E. Brie Thumm

THE DUAL BURDEN OF SEVERE MATERNAL
MORBIDITY AND PRETERM BIRTH

Audrey Lyndon

CALL THE MIDWIFE

Psychometrics and External Validity of Fetal Movement Awareness Scale

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Purposes/Aims: The goal of this study was to test the factor structure and internal consistency of a novel self-report instrument for maternal awareness of fetal movement and to explore its relationship with maternal psychological factors and mindfulness.

Rationale/Conceptual Basis/Background: Decreased fetal movement is a common concern late in pregnancy that may be associated with increased fetal morbidity and mortality. Because the perception of fetal movement is highly subjective and may be influenced by many internal and external factors, there is a need to better understand what factors are related to a women's perception of fetal movement. Limited research suggests a relationship between maternal psychological factors and perception of fetal movement.

Methods: Participants for this study were drawn from a national anonymous online survey of stress in pregnancy administered in April-May 2015 to pregnant women recruited through a commercial pregnancy website, BabyCenter.com. 497 pregnant women were included who were at least 20 weeks gestation and feeling regular fetal movement. Data included validated measures of maternal-fetal attachment, prenatal anxiety, depression, mindfulness, perceived stress, and social support, as well as nine investigator-developed questions about maternal perception of fetal movement. Descriptive statistics included means, standard deviations, and ranges when appropriate. Relationships among variables were determined using Pearson's correlation coefficient, confirmed with Spearman's rho for non-normal variables. Internal consistency reliability of instruments was measured using Cronbach's alpha. Exploratory factor analysis of the fetal movement questionnaire was done using principal components. Hierarchical multiple regression was carried out to examine the relationships between independent variables of interest and fetal movement factors, controlling for demographic and pregnancy-related characteristics.

Results: Exploratory factor analysis of perceived fetal movement items using principal components analysis showed a two-factor structure, Noticing and Worrying, with internal consistency of $\alpha=.69$ and $.57$, respectively. Statistically significant predictors of Noticing using hierarchical multiple regression included gestational age, the observing facet of mindfulness, and maternal-fetal attachment ($R^2 = .35$, $F(18, 474) = 13.89$, $p < .001$). Predictors of Worrying included education, the nonjudging facet of mindfulness, and prenatal anxiety ($R^2 = .20$, $F(18, 475) = 6.71$, $p < .001$).

Implications for Translation to Practice/Further Research: Findings support the relationship between perception of fetal movement and mindfulness, maternal-fetal attachment, and prenatal anxiety. More research is needed to improve the internal consistency and fully test the validity of the fetal movement items before it can be used as a fetal movement awareness scale in research and clinical practice.

Funding: Supported by the University of Washington Center for Child and Family Well-Being and BabyCenter.com.

CALL THE MIDWIFE

Developing the Midwifery Practice Climate Scale: Model Misfit and Item Reduction

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Purpose: To create an instrument with internal consistency, structural validity, and construct validity to measure the practice climate of certified nurse midwives.

Rationale: A supportive practice environment is a key driver of workforce stability, care quality, and professional psychological well-being. Efforts to investigate and create supportive practice climates for midwives require a reliable and valid instrument. The Midwifery Practice Climate Scale was developed based upon adaptation of existing practice climate scales of related professions and a review of the literature. The initial 33-item scale was intended to measure 5 elements of the midwifery practice climate: practice leadership, midwife-physician relations, work control, resources, and support for the midwifery model of care. This study was undertaken to test the psychometric properties of the newly developed scale.

Methods: A national online survey of certified nurse midwives and certified midwives was conducted. 3,442 midwives (30.1% of the population) responded. Following data cleaning, the sample was split into 3 subsamples ($n=330/330/1673$) to perform sequential testing of the psychometric qualities of the newly developed Midwifery Practice Climate Scale. Exploratory and confirmatory structural testing were conducted, followed by item reduction based upon descriptive statistics of the items. Finally, the fit of the revised structure and construct validity of the scale were tested.

Results: The initial principle component factor analysis with varimax rotation revealed a 5-factor structure similar to the hypothesized structure. Four items, addressing feedback and resources, double loaded and created 2-item subscales. To address this, 2 scale structures were brought forward to the confirmatory phase that reflected (a) the empirical loadings and (b) the theoretical structure. When tested using a structural equation modeling framework, neither structure met the predetermined fit indices criteria ($\chi^2=1339.353$, $df=429$, $p<.001$, RMSEA= 0.080 [C.I. 0.075-0.085], CFI= 0.854; $\chi^2=1349.351$, $df=429$, $p<.001$, RMSEA= 0.081 [C.I. 0.076-0.086], CFI= 0.853). Co-varying pathways were established based on a combined assessment of theoretical relationships and modification indices in an attempt to improve the model fit, however the fit indices still did not meet pre-established criteria ($\chi^2=1019.562$, $df=411$, $p<.001$, RMSEA=0.067 [C.I. 0.062-0.072], CFI=0.903). Next, 23 items were removed due to limited generalizability, a high degree of covariance, and skew. A 10-item scale structure emerged with 2 subscales: Practice Leadership and Participation and Midwifery Model of Care. The revised Midwifery Practice Climate Scale demonstrated a good fit ($\chi^2=60.397$, $df=34$, $p<.001$, RMSEA= 0.49 [C.I. 0.028-0.068], CFI= 0.987) and excellent reliability ($\alpha=.92$). The construct validity was established with Practice Leadership and Participation and Midwifery Model of Care significantly predicted turnover intention ($p<.001$), and midwife-perceived quality of care ($p<.001$).

Implications: The revised Midwifery Practice Climate Scale is parsimonious with minimal measurement error allowing for rigorous investigation of the midwifery practice climate. Support for the midwifery philosophy of care is a unique and important element of the midwifery practice climate that must be strategically developed in practice settings. The MPCS enables midwives and administrators to quickly and accurately assess of the midwifery practice climate in order to guide cost-effective interventions with patient, provider, and system level implications.

CALL THE MIDWIFE

The Dual Burden of Severe Maternal Morbidity and Preterm Birth

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Purpose: To describe the prevalence and correlates of dual burden in California, defined as the combined birth outcomes of severe maternal morbidity and preterm birth.

Background: Prior studies documented associations between preterm birth and severe maternal morbidity. When the burden of prematurity is compounded by the burden of the mother's physical and emotional recovery from severe morbidity, as well as the partner's emotional recovery from experiencing a situation where the health and potentially the lives of both the mother and the baby were at risk, implications on families are significant. The scope and predictors of this problem have not been adequately evaluated.

Methods: The sample for this retrospective cohort study was drawn from all California livebirths in the years 2007-2012 with gestations 20-44 weeks linked to a birth cohort database maintained by the California Office of Statewide Health Planning and Development (n=3,059,156). Dual burden was defined as preterm birth (best obstetric estimate of gestation <37 weeks at birth) in addition to severe maternal morbidity (defined by Centers for Disease Control). Predictors for dual burden were evaluated by calculating unadjusted and adjusted relative risks using Poisson logistic regression, accounting for hospital variance.

Results: The rate of preterm birth was 876 per 10,000 births, the rate of SMM was 149 per 10,000 births, and the rate of dual burden was 37 per 10,000 births, accounting for 25% of women with SMM. Blood transfusion was the leading indicator of SMM among women both with and without preterm birth. Conditions such as disseminated intravascular coagulation, adult respiratory distress syndrome, eclampsia, acute renal failure, sepsis, and shock were more common in dual burden than in SMM without prematurity. Predictors for dual burden included age >35, non-White race/ethnicity, educational attainment ≤12 years, Medi-Cal or other government insurance, cesarean birth, multiple gestation, inadequate prenatal care, smoking during pregnancy, comorbidities of hypertension and diabetes, and pre-pregnancy body mass index <18.5 (underweight). The strongest predictors of dual burden were multiparous cesarean birth, multiple gestation, and preeclampsia superimposed on gestational or pre-existing hypertension.

Conclusions: Dual burden affects 1900 California families annually and accounts for one quarter of births with SMM. Affected families may be at high risk for distress and require proactive nursing support for their transition to home and long-term health. Research is needed to understand the unique challenges these families face and which interventions would most optimally support them.

Funding: This research was supported by the University of California, San Francisco, California Preterm Birth Initiative, funded by Marc and Lynne Benioff.

CANCER MANAGEMENT THROUGH THE LIFESPAN

PARENTS' REPORT OF PHYSICAL SYMPTOMS
IN YOUNG CHILDREN WITH CANCER

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VIETNAMESE AMERICAN WOMEN'S BELIEFS:
CERVICAL CANCER, SCREENING, AND THE HPV VACCINE

*Connie Kim Yen Nguyen-Truong, Kim Quy Vo Nguyen,
Thai Hien Nguyen, Tuong Vy Le, Anthony My Truong,
Keara Rodela, Rachael Allan, Sophorn Cheang*

REDUCING NIGHTTIME INTERRUPTIONS
FOR POST-SURGICAL ONCOLOGY PATIENTS

Melinda Patterson, Brett Little, Amanda Sue Keddington, Alexa K. Doig

INFLUENCES ON PROSTATE CANCER SCREENING
BEHAVIOR AMONG HIGH RISK BLACK MEN

Lisa R. Roberts

CANCER MANAGEMENT THROUGH THE LIFESPAN

Parents' Report of Physical Symptoms in Young Children with Cancer

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Purpose: The purpose of this study is to describe the physical symptoms in young children with cancer, as reported by their parents, and how parents distinguished symptoms and symptom severity.

Background: Although incidence rates for the most common types of cancer are higher among children less than six years of age, they are often excluded from symptom studies because of their age and inability to self-report. This leaves the symptom experience of young children with cancer largely unknown.

Methods: Twenty parents (90% mothers) of children ages 0-6 with cancer were recruited from the outpatient oncology clinic at Primary Children's Hospital. Data were collected over a 14-day period spanning three ambulatory clinic visits. The study used a cross-over design in which parents recorded their children's symptoms using either a paper-and-pencil diary or the smartphone-based diary to track their child's symptoms on a daily basis. At the second clinic visit, parents were given the other diary option to use until the third clinic visit. Each diary included nine physical symptoms along with a free-text option. At clinic visits two and three, short parent interviews were also conducted, using a tape recorder and pre-determined questions, to further explore how parents discerned symptom occurrence and how symptom severity was determined.

Results: Results from the symptom diaries were analyzed descriptively. Interview data were analyzed using content analysis to identify common themes related to symptom recognition and symptom severity.

Symptoms: Fatigue was the most commonly reported symptom (56.8%), followed by nausea (51.4%) and lack of appetite (37.8%). Of the three symptoms that were rated by severity, fatigue was most frequently reported as moderate or severe (17.5%), followed by nausea (6.4%), and pain (5%). Reported symptom occurrence did not differ based on the type of diary used and most parents reported persistent, low levels of symptoms rather than symptom-free days.

Parent Interviews: From the interviews with parent participants, common themes emerged from two semi-structured, open-end questions: 1) How did you know your child was having a certain symptom? and 2) How did you decide on how severe or mild the symptom was? Themes related to symptom recognition included: 1) Child's activity level, 2) Verbal cues, 3) Discussion with spouse and 4) Expected symptoms (i.e. after surgery). Themes related to distinguishing severity of symptoms included: 1) Symptom characteristics, 2) Child's activity level, 3) Verbal cues/asking child, 4) Discussion with spouse and 5) Intuition.

Implications for Future Research: This study addresses a significant gap in the science of symptom management for children with cancer. Little is understood about symptoms in young children with cancer and utilizing current technology as a resource to support parents in monitoring and reporting their child's symptoms. Future research could include actual implementation of the electronic diary to inform healthcare providers of child's status or symptoms that were experienced between outpatient visits.

CANCER MANAGEMENT THROUGH THE LIFESPAN

Vietnamese American Women's Beliefs: Cervical Cancer, Screening, & the HPV Vaccine

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Purposes/Aims: The purpose of this community-based participatory research (CBPR) qualitative descriptive investigation is to explore beliefs of Vietnamese American women about cervical cancer, cervical cancer screening, and the human papilloma virus vaccine (HPV) for cancer prevention.

Rationale/Conceptual Basis/Background: Cervical cancer remains commonly diagnosed in Vietnamese American women. Despite efforts to increase cervical cancer screening among Vietnamese American women, rates (69-81%) are persistently lower than the national goal of 93% of all women age 21 to 65. The Centers for Disease Control and Prevention recommends the HPV vaccine as an effective cancer prevention (including cervical cancer) strategy. However, 14% and 10% of Vietnamese American women reported having initiated the HPV vaccine and series completion, respectively. Vietnamese American women with limited English literacy skills, lower educational levels, and financial barriers, are less likely to have HPV vaccine acceptance and less likely to believe they are susceptible to developing cervical cancer. The Health Belief Model was utilized to frame an understanding of individual health beliefs and health behavior.

Methods: Principles of CBPR were used to create the community-academic partnership. Forty Vietnamese American women were recruited from a metropolitan area into four focus groups. Focus groups (90-120 minutes) were guided by an open-ended, semi-structured guide, audio recorded, transcribed verbatim in Vietnamese, verified, and translated into English. Using a process of directed content analysis, focus group transcripts were coded for main themes. Snowball sampling (referrals from participants and the partnership's community-participatory advisory council team) and purposive sampling (immigrant and refugee community-based organization and Vietnamese American community) were used to recruit participants. Trustworthiness was assured by checking the English translations against the Vietnamese transcriptions and credibility was ensured by team review of transcripts and peer debriefing.

Results: Participants' age range was 23-57 years and an average of 12 years having lived in the United States. Main themes identified were: fear of talking about cervical cancer; private areas – fear or shame of “being seen”; “abnormal bleeding or having abnormal discharge, I must have an examination”; cervical cancer knowledge (causes, risks, “women must keep it clean”); cancer prevention vaccine awareness, knowledge, and decision-making influences. Fear and misunderstanding dominated beliefs of Vietnamese American women about cervical cancer screening and prevention.

Implications: Collaborating with an immigrant and refugee community-based organization and members from the Vietnamese American community can help to ensure cultural and linguistic appropriate research. Healthcare providers, which includes nurses, should provide culturally tailored and linguistically appropriate risk information when counseling Vietnamese American women about cervical cancer screening and prevention rather than using a generic approach. Healthcare providers have a critical role in being proactive in interventions that create a safe communication interaction space, promoting opportunities to clarify misconceptions and myths. While healthcare providers' recommendations have been among the top influential factors for cancer prevention vaccine uptake, school nurses should take a more active role in HPV education within the context of organizational policies. These findings underscore the importance of having culturally-specific findings, which will inform a multicomponent intervention to promote cervical cancer screening and HPV vaccine uptake.

Funding: Washington State University Vancouver Research Mini-Grant and Washington State University Vancouver New Faculty Research Start-Up Grant.

CANCER MANAGEMENT THROUGH THE LIFESPAN

Reducing Nighttime Interruptions for Post-Surgical Oncology Patients

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Aims: To evaluate the effectiveness of a sleep protocol intervention that reduces night-time disturbances during an inpatient stay after surgery.

Background: Sleep is an essential element to health that is often a lower priority than patient monitoring and nursing/medical interventions in the hospital. Research has demonstrated that many patients experience poor sleep quality due to the environment (light and noise) and disruptions by nursing and other personnel. Few, if any studies have examined the relationship between sleep quality and patient outcomes, and no published research to date has examined the effects of an intervention designed to improve sleep quality during hospitalization.

Methods: One hundred and seventeen stable post-operative patients in a cancer hospital who met strict inclusion criteria were randomized to a control group who received usual nursing care overnight (n = 59) or an intervention group who received a sleep protocol intervention (n = 58). The sleep protocol intervention goals were to reduce interruptions between 10 PM and 5:30 AM. This was accomplished by scheduling vital sign acquisition, nursing care and medications before bed time or upon arising, delaying morning lab draws, and limiting the number of tests during the night. Continuous pulse oximetry with heart rate acquisition was connected to the call light system to alert the nurse to adverse events. Outcome measures used to determine the effectiveness of the sleep protocol included sleep quality (measured using the Richard-Campbell Sleep Questionnaire, scores ranging from 0 to 100), patient satisfaction with nursing care, patient perception of light and noise, and cancer patient symptoms such as pain, nausea, and fatigue.

Results: On average, patients in the sleep intervention group slept one hour longer than patients in the control group (6.1 vs. 5.1 hours, $p = .01$) and significantly reported fewer awakenings ($p = .018$). On the Richard-Campbell Sleep questionnaire, patients in the sleep intervention group reported greater overall sleep quality (mean score of 75.8 vs. 54.7, $p < .001$), depth of sleep (mean score of 66.50 vs. 52.4, $p = .005$), and sleep latency (mean score of 72.9 vs. 60.7, $p = .022$). Reported pain and nausea control, and satisfaction with nursing care were equivalent among the two groups.

Implications: Better sleep quality has the potential to improve the patient night-time experience following surgery without impacting patient safety or the control of symptoms such as pain or nausea. Implementing this night-time sleep intervention protocol could help hospital units better allocate staff to care for patients with greater acuity and nursing care requirements.

CANCER MANAGEMENT THROUGH THE LIFESPAN

Influences on Prostate Cancer Screening Behavior among High Risk Black Men

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Purpose: The purpose of this secondary analysis of data from a from a larger cross-sectional study is to identify barriers and facilitating factors that influence shared informed decision-making regarding prostate cancer screening with Black men and healthcare providers.

Background: Prostate cancer (PCa) is the most commonly diagnosed cancer among men in the U.S. (excluding skin cancer). Age, family history of PCa, and African ancestry are well-known risk factors. Black men (African American or Caribbean American) have the highest incidence of PCa in the world, and a higher grade and stage at a younger age at the time of diagnosis when compared to all other ethnicities. They are also more than twice as likely to die of PCa. This racial disparity is linked to unequal access to and use of high-quality health care, including cancer screening and prevention, early detection, and evidence-based treatment.

In 2012, the US Preventive Services Task Force (USPSTF) recommended against PSA for men of any age, which greatly decreased primary care provider use of PSA testing across all race and age groups. In the last five years, the new USPSTF recommendations have resulted in a sharper decline in screening, more advanced PCa and related metastases upon detection, and an increase in deaths for Black men. The American Cancer Society, the American Urologic Association, and the National Comprehensive Cancer Network recommend individualized screening decisions for men at elevated risk, which includes Black men. Therefore, understanding barriers and facilitating factors that may influence shared informed decision-making regarding PCa screening behavior among Black men is important.

Methods: Participants were recruited through community outreach and churches in California and New York, and included self-identifying Black men, ≥ 18 years of age. For this report, data for men ages 45 years old and above were selected for analyses.

Blood samples were collected for prostate specific antigen (PSA) and survey items included validated scales, and questions drawn from current literature that measured demographics, ...[list this report' study vars ; how were barriers assessed?].

Results: $N = 264$ Black men, 45 to 85 years old, residing in the U.S., who met the American Cancer Society criteria for prostate cancer screening, however, we found that only 49.6% had a history of ever having been screened. Additionally, the average PSA value was above the 2.5 ng/mL level recommended for annual screening by the American Cancer Society. Barriers to prostate cancer screening included lack of knowledge and intention, mistrust of health care providers and organizations, and fatalism. Provider discussion of screening pros and cons was a significant predictor of behavior.

Implications: Based on our results, shared informed decision-making for prostate cancer screening with Black men can be enhanced by advanced practice nurses' discussing pros and cons of screening. If nurses support the continued screening for Black men as a high-risk group, the current trend toward increasing later, more advanced disease presentation in this group may be reversed and health disparities addressed.

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CHALLENGES IN ADOLESCENT HEALTH

WHAT DO WE KNOW ABOUT HOW ADOLESCENTS AND
YOUNG ADULTS MAKE CANCER TREATMENT DECISIONS?

Kimberly Pyke-Grimm, Roberta S. Rehm

SCREEN TIME AND ADOLESCENT DEPRESSION

Cherry Y. Leung, Rosamar Torres

THE HEMODYNAMIC RESPONSES TO INTERMITTENT
WATERPIPE TOBACCO IN YOUNG ADULTS

Naomi Lungstrom, Kawkab Shishani

EATING BEHAVIORS, WEIGHT BIAS, AND PSYCHOLOGICAL
FUNCTIONING AMONG ADOLESCENTS

Rana Halabi Najjar, Lorraine Evangelista, Eufemia Jacob

ALTERNATIVE TO SUSPENSION FOR MARIJUANA USE:
ASSESSING STUDENT AND STAFF DATA

*Celestina Barbosa-Leiker, Michele R. Shaw,
Cristina L. Anderson, Allison L. Matthews*

CHALLENGES IN ADOLESCENT HEALTH

What Do We Know about How Adolescents and Young Adults Make Cancer Treatment Decisions?

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Purpose: The purpose of this integrative review was to determine: 1) the current state of knowledge about 15-21 year olds with cancer, 2) their perspective on and involvement in Treatment Decision Making (TDM), 3) factors influencing the Adolescent and Young Adult (AYA)s' TDM involvement such as their age, developmental stage and phase in the continuum of care, and 4) their TDM involvement within the context of their family and with their Health Care Providers (HCPs).

Background: There have been striking increases in survival rates of cancer patients in general, however improvement in outcomes specific to the 15 to 25 year old age group known as AYA have been minimal. Non-adherence rates approach 60%. Involvement in TDM improves adherence, but little is known about AYA involvement in TDM. For more than a decade, professional organizations including the American Academy of Pediatrics recommend that AYAs are or should be more involved in TDM than at previous times. However, there is little research on whether and how they actually might want to be involved in or benefit from TDM.

Methods: An integrative review was performed, using the protocol of Whitemore et al, to examine AYAs perceived or actual involvement in TDM. Medline, PsychINFO, CINAHL and Web of Science databases were searched up to June 8th of 2017. The literature search focused on AYAs between 15-21 years of age and their involvement in TDM, including factors influencing their involvement, and within the context of their family and with their HCPs. Twenty one papers met the criteria and were critically appraised.

Results: Five categories of results were identified reflecting the AYAs' involvement in TDM or influencing factors. These included: 1) AYAs' Preferred/Actual and/or Perceived Involvement, 2) Age and Cognitive Maturity, 3) Disease and Illness Factors, 4) Information and Communication and 5) Relationships, Roles and Perspectives: Parents and HCPs. AYA preferences for participation in cancer treatment decision making vary between individuals, perhaps based on their experience level and their unique circumstances. Findings suggest the AYAs' role in decision making is situational and may evolve over time to become more active. The findings highlight that most AYA value and rely upon parents and HCPs to advise them throughout their continuum of care.

Implications: Research is needed to further understand AYA's preferences for TDM, the type and degree of involvement of AYAs in TDM and the interactions between factors that contribute to or impede AYA involvement in TDM. Involvement in TDM is individually determined and clinicians must discuss preferences with both AYA and their families.

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CHALLENGES IN ADOLESCENT HEALTH

Screen Time and Adolescent Depression

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Aims: We examined the associations of 1) hours spent watching television and 2) hours spent using electronic devices with adolescent depression.

Background: With advances in technology, adolescents are spending more time using electronics, such as cellular phones and smart phones, and watching television and videos. There is a dearth of literature examining how screen time affects adolescent mental health, specifically depression. Adolescent depression is common but often unrecognized and is associated with future morbidity.

Methods: This study utilized data from the National Survey of Children's Health's (NSCH), a cross-sectional nationally representative public dataset. Our study included the data of 26,094 adolescents between 13-17 years of age. Hours spent watching television or using electronic devices during a weekday were categorized as none, less than 1 hour per day, more than 1 hour but less than 4 hours per day, and more than 4 hours per day. Depression was obtained by parent-report and determined by the response to the question "Has a doctor or health professional ever told you that your child has depression?" Multivariable logistic regression was used to estimate the relationships between 1) time spent watching TV or videos with parent-reported depression and 2) time spent using electronic devices with parent-reported depression. Analyses adjusted for age, sex, age/ethnicity, family structure, insurance type, parental educational attainment, household generational status, anxiety, concurrent chronic illness, and sleep.

Results: The prevalence of depression among U.S. adolescents was estimated at 7.92%. Increased time watching television was unrelated to adolescent depression. However, adolescents who spent more than 4 hours using electronic devices were at increased risk for depression [1.66 odds ratio (OR), confidence interval (CI) 1.24-2.22].

Implications: This study highlights the importance differentiating types of screen time (television vs. electronic use) with adolescent depression using a large representative sample. The results suggest that excess electronic device use is associated with depression, therefore reducing screen time may have benefits for adolescent mental health and well-being.

CHALLENGES IN ADOLESCENT HEALTH

The Hemodynamic Responses to Intermittent Waterpipe Tobacco in Young Adults

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Six million tobacco users die each year around the world despite of the growing knowledge around the harmful effects of smoking. Waterpipe smoking is characterized by long sessions of smoking, deep inhalation of tobacco smoke, and longer puffs compared to cigarette smoking. Clearly, waterpipe smokers are exposed to high levels of tobacco smoke. Waterpipe smoke contains carcinogens and toxicants, such as tobacco-specific nitrosamines, benzene, nitric oxide and heavy metals. Nicotine impact on hemodynamic responses is evident by increase in heart rate, constriction in blood vessels, and increase in myocardial contraction which contribute to acute cardiovascular events.

Methods: This secondary analysis was completed using data from a randomized clinical trial to investigate the direct effects of nicotine (published elsewhere). Twenty-four young adults smoked waterpipe tobacco for 45 minutes in a controlled environment. Carbon Monoxide was measured pre and post smoking. Heart rate was measured continuously during smoking. The two nicotine conditions were placebo (non-nicotine) and nicotine tobacco.

Results: Heart rate increased significantly over time while smoking nicotine containing waterpipe tobacco. The mean heart rate increased from 78 ± 12 (at baseline) to 86 ± 13 (post smoking) in the nicotine condition and from 72 ± 11 (baseline) to 77 ± 9 (post smoking) in the non-nicotine condition. CO levels increased significantly from pre smoking (1.18 ± 1.05) to post smoking (16.83 ± 12.45) in the nicotine condition and the increase was significant ($t = 6.18, p < .00$). Also, CO levels increased from pre smoking ($1.27 \pm .93$) to post smoking (19.62 ± 12.64) in the non-nicotine condition and the increase was significant ($t = 6.89, p < .00$).

Conclusion: Direct exposure to waterpipe smoking causes significant increase in heart rate (HR) and blood pressure (BP). It also leads to an increase in Carbon Monoxide (CO) levels. Increase in HR and BP cause an extra workload on the heart. The impact on the heart is even greater when combined with high levels of CO. As clinicians, we know that increased heart rate plays an important part in elevated BP. Elevated BP continues to be a leading cause of myocardial infarction and stroke. All three indices lead to increased risk for CAD, myocardial injury and necrosis. This does not take into account genetic predispositions to heart disease. We traditionally worry about hypertension and CAD with aging. Participants in this study were healthy young adults who smoked waterpipe intermittently. Our results raise concerns over the immediate effects of smoking on cardiovascular health in this population. Prevention research should consider multiple approaches. Young adults perceive waterpipe smoking as an enjoyable social activity. We need to consider the psychosocial conditions that influence young adults smoking behaviors. Waterpipe smoking is initiated at early stage, therefore, school nurses are urged to develop prevention strategies to empower middle and high school students and be able resist peer pressure.

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CHALLENGES IN ADOLESCENT HEALTH

Eating Behaviors, Weight Bias, and Psychological Functioning among Adolescents

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Aims: 1) Describe the incidence of disordered eating, weight bias, body dissatisfaction, and psychological distress in a sample of multi-ethnic low-income adolescents; 2) Examine the relationship between sociodemographic variables (gender, ethnicity, and income) and disordered eating, weight bias, body dissatisfaction, and psychological distress in a sample of low-income adolescents.

Background: Unhealthy weight control behaviors, disordered eating, and body dissatisfaction are highly prevalent among adolescents placing them at a higher risk for psychological distress including depression, anxiety, and suicidal behavior. The high incidence of disordered eating among adolescents has been shown to be predictive of obesity potentiating the progression towards a clinical eating disorder. Moreover, despite increasing rates of obesity, obese individuals are experiencing increasing levels of bias. Weight bias is the stigmatization, discrimination, or stereotyping of any individual based on their weight. Higher levels of weight bias are associated with unhealthy coping strategies, such as eating more food, higher body mass index, body dissatisfaction, and lower psychosocial functioning. Additionally, obese individuals experiencing weight bias are at increased risk for depression and other mental health disorders. Disordered eating, weight bias, and psychological distress, including body dissatisfaction, can all affect weight gain. There is a paucity of research on these variables in multi-ethnic low-income adolescents.

Methods: A cross-sectional study was conducted with 105 adolescents from low-income neighborhoods. Participants completed self-report questionnaires to assess eating behaviors, weight bias, body dissatisfaction, and psychological functioning. Height and weight were measured, and information on household income was collected.

Results: The participant's mean age was 16.31 ($SD = 2.8$) years, 66% female, 47% Hispanic, and 46% African American. The mean annual income was \$17,018 ($SD = 11,355$). Twenty-one percent of the sample was overweight, and 27% were obese. Twenty-eight percent self-reported having some form of disordered eating, and 15% reported an eating disorder. The group with eating disorder reported the highest levels of weight bias ($M = 93.4$, $SD = 109.6$), body dissatisfaction ($M = 94.6$, $SD = 47.6$), and psychological distress ($M = 1.4$, $SD = 0.97$).

Implications: This study was the first to examine disordered eating and weight bias in exclusively multi-ethnic low-income adolescent population. We found a high prevalence of eating disorders in both ethnic groups with eating disorder participants experiencing the highest levels of weight bias and psychological distress. Future studies are needed to identify and evaluate community and school-based interventions to minimize weight bias and disordered eating. Research strongly supports the inclusion of content on prevention of eating disorders and weight bias in school-based curriculum. Nurses are at the forefront of healthcare and should collaborate with educators, school counselors, administrators, coaches, parents, and students, to address weight bias and disordered eating in schools by implementing school-based policies.

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CHALLENGES IN ADOLESCENT HEALTH

Alternative to Suspension for Marijuana Use: Assessing Student and Staff Data

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Purpose: The goal of this study was to determine the feasibility and initial efficacy of an internet-based marijuana program for high school students who would normally be suspended for first-time marijuana policy infractions. This study is the first to test the intervention with high school students.

Background: Students who are suspended have higher school drop-outs, mental health issues, and poor academic and employment achievement. Ethnic and disability disparities also exist. Alternative to suspension programs diminish suspension-related harm and recidivism, maintain students in a learning environment, and offer consequences and education for substance-related infractions.

Methods: School districts used a self-administered, 4-hour online intervention course called Marijuana 101 by 3rd Millennium Classrooms. This course is used for students with marijuana policy violations. Within-student change was tested over time (pre-online education vs. post-online education) for knowledge-based questions relevant to marijuana. Descriptive statistics were used to describe self-report substance use and perceptions of risk of substance use. Interviews with school staff were analyzed using qualitative descriptive analysis.

Results: Two school districts utilized the online program in the first 6 months of data collection (Jan-June 2017), N= 37 students. Of those that completed the program, 24 (65%) returned informed consents and parent permission forms, all from a single school district. Of the 24 study participants, 18 completed the Marijuana 101 program (6 completed a related nicotine or alcohol course). Participants were 80% male, 69% White, and 17 years of age. Accuracy of knowledge-based questions increased from 52.5% pre-test to 82.2% correct post-test ($p<.05$). Students reported the program as easy to understand ($M=4.33$), interesting and helpful ($M=4.11$), and that it would help them avoid future problems ($M=3.89$). Students indicated using marijuana because “it would make me less tense and help me unwind” (95% endorsement), and “it would calm me down” (95% endorsement). Other benefits included reduced stress and thinking about problems, and improved sleep (70-90% endorsement). Eighty percent of students endorsed the importance of changing their use; 17% indicated no confidence in their ability to change their use. Staff interviews found the program easy to use, provided a consequence to the student, got the students back in school, and that students had buy-in.

Implications: This program offered schools an alternative to out-of-school suspension that provided students with personalized, knowledge-based, motivational-interviewing style intervention. Thus, this project has the potential to positively impact nursing science by exploring new areas of research in adolescent substance use. We found that an online program addressing marijuana was viewed favorably by school staff, and was able to increase knowledge of marijuana consequences in students completing the program. Longer duration of program use is expected to decrease substance-related suspensions at the school level. Future research will be conducted in which the parents and students will be interviewed to explore perceptions of the program.

Funding: The study received financial support from Washington State University Grand Challenge Seed Grant (Craft, PI).

CONCEPTS IN ACUTE AND CRITICAL CARE

HOSPITAL-LEVEL RISK-ADJUSTMENT REDUCES
HOSPITAL VARIATION OF PRESSURE INJURY RISK

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June L. Rondinelli, Vincent Liu, Gabriel J. Escobar*

NURSING CALL TO ACTION: EVALUATING
OUTCOMES IN INJURED MARIJUANA USERS

*Pamela W. Bourg, Kristin Salottolo, Jennifer Pekarek,
Jan Leonard, David Bar-Or*

RISK FACTORS FOR PRESSURE INJURY IN CRITICAL
CARE WHILE CONTROLLING FOR INTERVENTIONS

Anna Omery, June L. Rondinelli, Regina Valdez

NICU NURSES' ROLE IN COMMUNICATION
OF MULTI-GENE TEST RESULTS

*Deborah O. Himes, Laura A. Grenfell,
Janelle L. B. Macintosh*

STRESS MANIFESTATIONS IN PATIENTS
AND FAMILIES AFTER CRITICAL ILLNESS

*Diane J. Hamilton, Brenda M. Wilhite, Karen M. Grefe,
Kimberly D. Hart, Ruyun Jin*

CONCEPTS IN ACUTE AND CRITICAL CARE

Hospital-Level Risk-Adjustment Reduces Hospital Variation of Pressure Injury Risk

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Background: Research investigating risk factors for hospital acquired pressure injury (HAPI) has primarily focused on the characteristics of patients and nursing staff. Limited data are available on the association of hospital characteristics with HAPI.

Objective: We aimed to quantify the association of hospital characteristics with HAPI and their impact on residual hospital variation in HAPI risk.

Method: We employed a retrospective cohort study design with split validation using hierarchical survival analysis. We analyzed 1,661 HAPI episodes among 728,266 adult hospitalization episodes across 35 California Kaiser Permanente hospitals, an integrated healthcare delivery system, between January 2013 and June 2015. We derived 22 hospital variables and removed 10 variables during collinearity testing.

Results: After adjusting for patient-level and hospital-level variables, 2 out of 12 candidate hospital variables were statistically significant predictors of HAPI. These variables were mean hospital mortality rate and the hospital's proportion of diabetes patients. The hazard for HAPI decreased by 4.8% for every 0.1% increase in a hospital's mean mortality ([6.3%, 2.6%], $P < .001$), while every 1% increase in a hospital's proportion of patients with a history of diabetes increased HAPI hazard by 5% ([-.04%, 10.0%], $P = .072$). Addition of these hierarchical variables decreased unexplained hospital variation of HAPI risk by 35%.

Discussion: We found hospitals with higher patient mortality had lower HAPI risk. It may be that higher patient mortality decreased the pool of patients who live to HAPI occurrence. It also may be that such hospitals have nursing staff that is particularly skilled in the care of frail patient populations. Future research should aim to combine hospital datasets to overcome power limitations at the hospital level, and should investigate additional measures of structure and process related to HAPI care.

Funding: From the Maribelle & Stephen Leavitt Scholarship at UCSF, the Jonas Nurse Leaders Scholarship, the Kaiser Permanente Northern California Nurse Scholars Academy and the Kaiser Permanente Sidney Garfield Memorial Fund supported this study.

CONCEPTS IN ACUTE AND CRITICAL CARE

Nursing Call to Action: Evaluating Outcomes in Injured Marijuana Users

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Purpose/Aims: To observe the effect of pre-injury marijuana use on hospitalization outcomes among patients who were admitted after motor vehicle trauma.

Background: In the United States, approximately 60% of the population lives in a state where marijuana has been legalized for recreational and/or medicinal use. In Colorado, marijuana was first legalized for medical use in 2000, and then legalized for recreational use in 2012. As marijuana use becomes more “mainstream,” patients are more apt to self-disclose use. Knowing which patients used marijuana could have implications for nurses, such as enabling nurses to predict potential adverse outcomes. However, there is a paucity of nursing research on marijuana and its impact on patient outcomes. Studies suggest that the number of people driving under the influence of marijuana is increasing and that there is an increased crash risk when under the influence of marijuana. The trauma registry offers a unique data source to study the effects that marijuana may have on hospital outcomes.

Methods: We conducted a retrospective pilot study of all patients admitted to a Level I Trauma Center after a MVC (1/2016 – 4/2016). Marijuana status (MJ+ or MJ-) was identified by self-report or a urine drug screen (UDS). The association between marijuana use and demographics (age, sex, drug and alcohol use), injury characteristics (injury severity score [ISS], Glasgow Coma Score [GCS], type of MVC), and clinical outcomes (hospital and ICU length of stay [LOS], complications, mortality) were examined using chi-square and Wilcoxon Rank Sum tests. We also examined two subsets of patients: auto-pedestrians and MVC drivers.

Results: There were 141 patients admitted after a MVC, of which 33 (23.4%) were MJ+. Twenty (61%) MJ+ patients were identified by self-report, 6 by a positive UDS (18%), and 5 (15%) by both self-report and a positive UDS. The MJ+ patients were significantly younger (27 vs 47 years, $p < 0.001$), more likely to use other street/prescription drugs (33% vs 7%, $p < 0.001$), and more likely to be auto-pedestrians (27% vs 13%, $p = 0.05$). There were no differences in ISS, GCS, or outcomes between the MJ+ and MJ- groups. However, the MJ- group trended towards a higher ICU admission rate (57% vs 39%, $p = 0.07$), which is likely due to the significantly increased age in the MJ- population. These results persisted in the subset analysis of MVC drivers. There were no differences in demographics, injury characteristics, or outcomes between the MJ+ and MJ- auto-pedestrians.

Implications: Our pilot study suggests that the MJ+ patients admitted after a MVC were younger and more likely to use additional drugs than the non-marijuana users, but that pre-injury marijuana use did not impact hospital outcomes among this population. Future studies in additional trauma populations, such as those with falls or older adults, are warranted to see if the relationship between marijuana use and outcomes changes.

CONCEPTS IN ACUTE AND CRITICAL CARE

Risk Factors for Pressure Injury in Critical Care while Controlling for Interventions

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Purpose/Aims: Even within an environment of effective evidence-based preventive interventions, hospital acquired pressure injury (HAPI) still occurs in the critical care setting. Inquiry remains in identifying HAPI risk factors that are specific to the critically ill. The purpose of this study was to evaluate a multivariate model that identified (HAPI) risk factors in adult critical care patients in the presence of evidence-based preventive actions.

Rationale/Conceptual Basis/Background: Although there are reports of low (HAPI) rates due to application of preventive interventions, concern remains on the ability to sustain such rates, and if possible reduce to zero. The National Pressure Ulcer Advisory Panel (NPUAP) supports a clinical phenomenon diagnosed as an Unavoidable Pressure Ulcer (UPU), where a patient develops a pressure injury despite diligent application of evidence-based preventive actions. Generating evidence that would identify the risk factors of intensive care unit (ICU) patients who received recommended nursing preventive interventions may then support the clinical consideration of a UPU or alternatively, generate design of new interventions based in empirically corroborated risk factors.

Methods: A retrospective, case controlled, descriptive methodology was utilized. Data were extracted from the electronic health records of ICU patients ($n = 240$) who received care at one of 15 hospitals in Southern California, from July 2010 to January 2013. Analysis controlled for delivery of evidence-based nursing interventions.

Results: A multivariate hierarchical, logistic regression model demonstrated that the mean Braden score ($p < .001$, [OR 0.744, 95% CI 0.636, 0.871]), hypoalbuminemia three standard deviations from the lowest normal range ($p = .048$, [OR 3.639, 95% CI 1.011, 13.097]), and the number of vasopressors over time ($p = .004$, [OR 1.653, 95% CI 1.173, 2.328]) were statistically significant risk factors for ICU HAPI development. Of the 240 patients in the model, 134 developed a HAPI and 106 did not. For the HAPI patients, approximately half ($n = 72$, 54%) were in the category of deep tissue injuries (DTIs) and 34% ($n = 46$) of the HAPIs were related to a medical device.

Implications: Both hypoalbuminemia and the number of vasopressors over time are risk factors that may or may not be mutable; leading to the consideration of UPU development. However, investigators recommend withholding a UPU label until more evidence is produced. Debate remains in practice on the cause of low albumin levels, especially in the ICU, and thus the appropriate tailoring of interventions derived from this risk factor. Study results dictate an interdisciplinary approach to assess risk factor mutability and develop potential HAPI prevention strategies for ICU patients. For example, 34% of HAPI were related to medical devices, which leads to collaboration with respiratory therapy and physicians for potential intervention. For future research, investigators recommend further prediction models using larger ICU data sets. Creation of a large data set that pooled data on HAPI prevention could be crucial in addressing questions such as the validity of UPU as a diagnostic label, in addition to identifying ICU specific risk factors.

Funding: This investigation was partially supported by the National Kaiser Permanente Quality and Patient Safety Management Program, Oakland, California. The remainder of operations was supported through the Nursing Research Program, Patient Care Services, Kaiser Permanente, Southern California.

CONCEPTS IN ACUTE AND CRITICAL CARE

NICU Nurses' Role in Communication of Multi-Gene Test Results

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Purpose: The purposes of this study are to (1) evaluate the role nurses in the neonatal intensive care unit (NICU) currently play in educating families of NICU babies who have undergone genetic testing (2) determine how prepared nurses working in the NICU feel to be placed in this role, and (3) evaluate nurses' understanding of potential ethical hazards of disclosing incidental findings to families.

Background: Although many qualified clinicians provide care in NICUs, nurses are commonly identified as professionals who spend the most time teaching and explaining the baby's condition, and excellent sources of information. Whole genome sequencing (WGS) is a relatively new diagnostic tool. Many ethical concerns regarding incidental findings are currently being explored. One question involves whether incidental findings from WGS should be routinely disclosed to families.

Methods: This descriptive, cross-sectional study utilized electronic and paper/ pencil questionnaires to collect data. Participants included 195 nurses who attended the National Association of Neonatal Nurses conference in October, 2017. Participants were asked about their communication with families related to multigene testing, their preparedness for communicating about these topics, and their perceptions about potential harms or benefits related to disclosure of incidental findings.

Results: More than half (51.4%) of nurses have experience working with a baby undergoing WGS. Most nurses (72.7%) report feeling unprepared to discuss WGS results with family members. Nurses spoke rarely with families about test results with 63.2% reporting they did not discuss test results with family members. However, some nurses (6.9%) reported they spoke extensively with family members about WGS. Despite having a clear understanding of potential negative consequences, most nurses (83.6%) believed incidental findings in WGS should be disclosed to family members. Nurses gave a variety of rationales for this choice including: the family's ethical right to know, building a relationship between families and healthcare providers, and need for parents to monitor children for problems as they grow.

Implications: WGS is becoming more common in NICUs. More than half of nurses working in NICUs have worked with babies receiving WGS. Parents of NICU babies need information to make informed, autonomous decisions for their children. While parents have cited nurses as a common source of information, our study results indicate nurses need further preparation to feel comfortable discussing WGS test results. Future research should evaluate parents' perceptions of whether their educational needs are being met and whether they feel they are receiving the decisional support when consenting to disclosure of test results.

Funding: This study was funded by an Experiential Learning Grant from Brigham Young University College of Nursing.

CONCEPTS IN ACUTE AND CRITICAL CARE

Stress Manifestations in Patients and Families after Critical Illness

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Purpose: This study tested whether critical care patients and their families who participate in journaling during the critical care stay, compared to those who do not journal, experience lower stress manifestations following the critical illness.

Background: Few studies have clearly provided evidence evaluating the effectiveness of family-written journals in reducing stress and promoting recovery after critical illness. All studies have utilized journals authored either exclusively by critical care staff or by staff and family members, and this study intervention was uniquely patient and or family-only authored journals.

Methods: This is a non-randomized controlled trial conducted in two mixed medical surgical critical care units at Providence St. Peter Hospital. Critical care patients who required mechanical ventilation for more than 24 hours and with a CCU stay of more than 72 hours between May 2016 and April 2017, along with one of their family member were enrolled after providing consent. Unit A offers the participant with journaling option and Unit B didn't offer. At one month, two months and four months after CCU discharge or patient death, the study patients living and designated family members were asked questions from the Post Traumatic Stress Scale (PTSS-14) questionnaire and were asked about journaling.

Results: Study participants enrolled were patients (n=44) and an associated family member (n=39). Participants without follow-up survey (n=31) were excluded from the analysis. Eleven patients had one-month interview (n=4 in Journal group and 7 in no journal group). The mean PTSS-14 score were 31.8 vs 38.1 (p=.776). Twelve patients had four-month interview (n=6 in each group). The mean PTSS-14 score were 32.2 vs 34.7 (p=.543). Eighteen family members had one-month interview (n=9 in each). The mean PTSS-14 score were 26.9 vs 43.7 (p=.111). Nineteen family members had four-month interview (n=11 in Journal group and 8 in no journal group). The mean PTSS-14 score were 28.0 vs 24.4 (p>.999). Patients CCU Memories of nightmares, severe anxiety/panic, physical pain and feeling breathless compared at one and four months had no statistically significant difference.

Implications: Contact was lost with 31 of the 83 participants enrolled in this study and no interview was conducted. Due to the small sample sizes of participants with interviews, this study does not have statistical power to drive significant conclusions. Results show CCU patients and family who participate in journaling while in the critical care unit did not report fewer stress manifestations compared to those who do not participate in journaling. Recall of specific distresses was not statistically different between patients with or without journals nor between time intervals. Research is needed with larger sample size.

CULTURAL PERSPECTIVES IN MANAGING CHRONIC ILLNESSES

BARRIERS TO LATENT TB TREATMENT AMONG
VIETNAMESE IMMIGRANTS: A QUALITATIVE STUDY

Fayette K. Nguyen Truax

SOCIAL SUPPORT, COLLECTIVISM, AND PHYSICAL
ACTIVITY IN KOREAN AMERICANS

Cha-Nam Shin, Michael Belyea

ADHERENCE & BARRIERS TO MANAGEMENT OF T2D
AMONG IMMIGRANT LATINAS: A CBPR APPROACH

Sharon K. Titus, Merle R. Kataoka-Yahiro, Gina Quiles-Pollard

EFFECTS OF MIDDLE EAST RESPIRATORY SYNDROME
ON REGISTERED NURSES IN SOUTH KOREA

Younglee Kim, Vivien Dee

CULTURAL PERSPECTIVES IN MANAGING CHRONIC ILLNESSES

Barriers to Latent TB Treatment among Vietnamese Immigrants: A Qualitative Study

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Purpose: The purpose of this qualitative study was to explore barriers to latent tuberculosis infection (LTBI) treatment acceptance, initiation, and completion among Vietnamese immigrants.

Background: Successful treatment of LTBI in high-risk foreign-born populations is an important strategy towards TB elimination in the United States (US). In the US, Vietnamese immigrants are disproportionately affected with TB disease compared to other Asian ethnic minority groups. Since 2010, Vietnam has consistently ranked as one of the top four countries with the most TB cases reported annually. A better understanding of the barriers unique to this population can assist health care providers tailor current LTBI programs to improve treatment completion.

Methods: A diverse group of 17 Vietnamese immigrants from various backgrounds and birth regions in Vietnam were interviewed. Interviews conducted were transcribed verbatim from Vietnamese to English and analyzed using the systematic inductive techniques of grounded theory to identify key themes related to barriers to treatment. Theoretical saturation was achieved after seventeen interviews were analyzed. Open, axial, and selective coding were used in addition to the constant comparative method for analysis.

Results: Of the 17 Vietnamese immigrants interviewed, 13 (77%) encountered barriers related to LTBI treatment acceptance, initiation, and completion. Three major categories related to treatment barriers emerged from the data: 1) scheduling issues, 2) busy life, and 3) medication side effects. Sub-themes identified included: inflexible clinic scheduling, rigid medication regimen, lack of time to invest in treatment plan, lack of self-determination, and various medication side effects from taking Isoniazid.

Implications: Results can inform clinicians of potential barriers that may impact LTBI treatment acceptance, initiation, and completion among Vietnamese immigrants living in the US. Clinicians should be trained on common Vietnamese cultural beliefs related to medication side effects. More education should emphasize the risks involved with not treating LTBI to increase patients' perceived threat of the infection. In addition, county clinics can take a proactive approach and offer patients more flexible scheduling opportunities. Tackling the barriers identified can improve the rate of LTBI treatment completion which will have long-term impacts on reducing both TB and latent TB reactivation cases and help move the US towards the goal of TB elimination.

Funding: This work was supported by the National Institute of Health (NIH)/Nursing Research (NINR) T32 NR007077.

CULTURAL PERSPECTIVES IN MANAGING CHRONIC ILLNESSES

Social Support, Collectivism, and Physical Activity in Korean Americans

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Purpose: The purpose of this study was to examine the relationship between social support, demographics, collectivism, and physical activity.

Background: Physical activity leads to decrease in preventable chronic conditions and related health care costs to society. Despite the critical role of physical activity, physical inactivity is prevalent. In particular, ethnic minority populations are at higher risk of physical inactivity due to social, cultural, and environmental transition in a new country.

Methods: A prospective, cross-sectional design study guided by Social Cognitive Theory was conducted in a sample of 112 Korean Americans residing in the southwestern United States. We used a survey questionnaire to assess social support (family participation and family rewards), collectivism, and demographics. Physical activity was measured by the International Physical Activity Questionnaire (IPAQ)-short form and accelerometers (GT3X). Data were analyzed using zero-inflated negative binomial/Poisson MET-minutes/week. We also tested for possible interactions between the demographics, collectivism, and social support from family and friends for physical activity. Values of $p \leq .05$ were considered as statistically significant. SAS 9.4 software was used for the statistical analyses.

Results: The sample was 66% female with a mean age of 54 (± 10.6), and college educated (85%). Family participation and family rewards positively related with walking, with a predicted rate coefficient of 1.21 and 4.64, each. Gender (female) and collectivism (lower level) were moderators of the relationship of both family participation and family rewards on the walking. Family participation and gender predicted moderate physical activity, with a predicted rate coefficient of 1.30. Age (younger age) was a moderator of the relationship between family participation and moderate physical activity. Family rewards was positively related to vigorous physical activity, with a predicted rate coefficient of .20. Age (younger age) and collectivism (lower level) were moderators of the relationship between family participation and vigorous physical activity. Family participation and collectivism were related to total physical activity MET-minute/week, with a predicted rate coefficient of 1.26 and 1.13, each. Collectivism (lower level) was a moderator of the relationship between family participation and total physical activity.

Implications: This study expand our understanding of the influence of social support and collectivism on physical activity. The findings indicated that age, gender, and collectivism played a moderating role between family support and different levels of physical activity. Physical activity interventions for Korean Americans should mobilize family support (family participation and family rewards) and tailor to age, gender, and collectivism, which will lead to optimal level of physical activity and decreased chronic conditions.

CULTURAL PERSPECTIVES IN MANAGING CHRONIC ILLNESSES

Adherence & Barriers to Management of T2D among Immigrant Latinas: A CBPR Approach

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Purpose: This study will describe the cultural/ethnic/racial perception behind the adherence and barriers to management of Type 2 diabetes (T2D) voiced by Latina immigrant women who have lived in rural Washington State for more than two decades.

Background: Studies show Hispanics are twice as likely to be diagnosed with T2D and are 1.5 times more likely to die from diabetes than non-Hispanics whites. Furthermore, the prevalence of diabetes is associated with the ability to adhere to the management of T2D.

Methods: This is a qualitative study using a Community-Based Participatory Research (CBPR) approach. Employing purposive sampling, three focus groups were conducted using a semi-structured interview-guide. Latinas were asked, “*What do you do to take care of your health?*” Data were collected through the triangulation method: observations, field notes, and interviews. Data analysis included descriptive statistics and use of conventional content analysis. Member check was used to validate data.

Results: Sample included Latina immigrants (N=16), (a) between ages 18–65 years old, (b) living with T2D for over a decade (Mean=9.31 years; SD=9.98 years), (c) who were U.S. citizens (46.2%) living in the U.S. for more than two decades (Mean=27 years; SD=12.52 years), and (d) of which a majority were employed. Nine participants (56.3%) had health insurance, whereas seven (43.8%) reported none. Nearly all (81.3%) utilized two community health clinics for their diabetic needs. A theme - *Taking care of my diabetes* had two major categories (*adherence, barriers*). The category of adherence was further defined into 3 subcategories (*exercise, control of diet, medications*) and the category of barriers had 3 subcategories (*balance of cultures, lack of self-control, and cost of diet*). Latinas desired to adhere to self-care activities to manage their disease, but since immigrating to the U.S., many reported “all they do is work!” All identified unique barriers that emerged the longer they lived in the U.S. Their perceived work-related fatigue has made them less capable of healthy self-care behaviors, including time to exercise and prepare diabetic diets. Participants recognized they must adhere to a medication schedule, but found it “difficult.” There were too many medications, too costly, or they forgot to take them. They “struggled” with their inability to balance food options from the traditional diet they held in Mexico, which they believed was healthier. In America, they could afford and consume fast-foods, but at times they could not control the purchasing or types of foods to consume. A nutritious diet was considered too costly. To control their diets, family support was critical for adherence; yet, family support at times was a barrier and lack of family support was also a barrier.

Implications to Practice: The CBPR approach provided an ideal environment for Latinas to freely share their perception of adherence and barriers to management with T2D. Latina immigrants believed healthcare providers did not understand their needs to managing T2D. These findings underpin the importance of a need for culturally competent healthcare provider and diabetes educator/dietician who work in rural communities.

CULTURAL PERSPECTIVES IN MANAGING CHRONIC ILLNESSES

Effect of Middle East Respiratory Syndrome on Registered Nurses in South Korea

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Purpose: To investigate the effects of Middle East Respiratory Syndrome Coronavirus outbreak on symptoms of Post-Traumatic Stress Disorder and burnout among registered nurses.

Background: The unprecedented nationwide outbreak of the Middle East Respiratory Syndrome Coronavirus from June, 2015 to July, 2015 took the Korean healthcare system unexpectedly and created physical and psychological stress and trauma to Registered Nurses unprepared to deal with the viral outbreak.

Methods: A descriptive cross sectional study by self-administered survey among registered nurses working in the emergency room, intensive care unit, and operating room during the period of the outbreak was performed. A convenience sample of 112 participants was utilized. The study participants completed two survey instruments: Impact of Event Scale-Revised Korean version for screening symptoms of Post-Traumatic Stress Disorder and the Maslach Burnout Inventory-Human Services Survey for burnout during the data collection period from June 30- July 10, 2015. Chi-square, t-test, ANOVA and Pearson correlation coefficient were also performed.

Results: The age range of the sample was 22 to 42 years and the mean age was 28.70 (SD = 4.43). All study participants had at least six months of work experience as a registered nurse at the hospital. Overall prevalence for symptoms of Post-Traumatic Stress Disorder was 50% in our sample. There were no associations between sociodemographic/working history variables (age, marital status, education, working unit, and working period as a registered nurse) and Post-Traumatic Stress Disorder. There were also no associations between sociodemographic/working history variables (age, marital status, education, working unit, and working period as a registered nurse) and Burnout. However, the total score for symptoms of Post-Traumatic Stress Disorder was significantly correlated to the total score of burnout ($p = .000$; $r = .480$), emotional exhaustion ($p = .000$; $r = .533$), and depersonalization ($p = .000$; $r = .497$).

Implications: Our study findings on the effects of a major Middle East Respiratory Syndrome Coronavirus outbreak and its impact on nurses' mental health warrant future anticipatory guidance and management on this very important issue. Nurses often stand at the forefront of a dangerous scene and face traumatic problems during an outbreak or disaster. Public health and safety on the national stage must address quality health outcomes for both patients and their care givers alike.

Abstracts of Podium Presentations

DATA IN A TECHNOLOGICAL AGE

PERSPECTIVES OF NURSE LEADERS
ABOUT VIRTUAL COMMUNICATION

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MANAGING SECONDARY DATA ANALYSIS FROM
ELECTRONIC HEALTH RECORDS: LESSONS LEARNED

Claudia R. Amura, Mustafa Ozkaynak, Sara Deakyne

USING SOCIAL MEDIA TO CO-DESIGN RESEARCH:
RESULTS OF A PCORI PROJECT

*Deborah Greenwood, Michelle L. Litchman,
Mila Ferrer, Jimmy Ferrer, Perry Gee*

FOUR YEARS LATER: NURSES' PERCEPTIONS
OF THE ELECTRONIC HEALTH RECORD

*Elizabeth Schenk, Nicole Marks, Kelli Hoffman,
Linda Yearous, Lola Goss*

DATA IN A TECHNOLOGICAL AGE

Perspectives of Nurse Leaders about Virtual Communication

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Purpose: The purpose of this qualitative, exploratory study was to examine the perspectives of nurse leaders regarding virtual communication based on the principles of e-Leadership.

Background: E-leadership is an innovative, technological-connected paradigm used in Europe to support leadership development and communication but has not yet been well explored in the US healthcare setting. The principles of e-Leadership include establishing a “presence” when leading virtually, tending to the social-emotional aspects of the team, establishing communication norms, and using technological tools timely to address concerns. With the development of technological advances in healthcare, it has been necessary for nurse leaders to be adept in communicating virtually and leading virtual teams. Therefore, we are interested exploring how e-leadership skills may benefit nurse leaders in health systems.

Methods: This is an exploratory, qualitative study of nurse leaders in a large healthcare system in the West. Approval from the study was received from the IRB of both the researchers’ university and the healthcare institution. The sample was recruited from a regional team of over twenty nurse managers and directors of local hospitals within the healthcare system. Twelve nurse leaders were interviewed using a semi-structured interview guide about their perspectives of virtual communication. Interviews were audio recorded and transcribed. We utilized a descriptive, exploratory qualitative design to uncover themes regarding the perspectives of nurse leaders regarding e-Leadership and virtual communication.

Results: Three major themes emerged from the qualitative data. The first theme was that technology is a friend and a foe. Technology is a friend because the nurse leaders need technology in order to do their jobs, and when technology is well-organized, it saves times and effort for nurse leaders and helps improve patient safety and outcomes. In contrast, technology is a foe as there is too much, it is overwhelming. The nurse leaders reported over twenty apps or programs they need to access for their job, that they sometimes have to carry five or six devices, and that they receive over 200 emails a day. The second theme was that the leaders needed mentoring in how to effectively use technology, especially for those beginning a new leadership role. The nurse leaders stated there may be software programs that can aid their job but they did not know about them or how to use them. They reported they wasted time trying to learn how to use the different pieces of technology and often could not find the support they needed. The third theme was that communicating virtually makes it difficult to establish and maintain relationships, which is a key component to nursing leadership.

Implications for Further Research: The qualitative findings in our study demonstrated that nurse leaders rely on technology to communicate in their jobs but that the amount of email and devices, and the difficulty using the technology, caused barriers in successful communication. Future research in this area should explore ways to assist nurse leaders in quickly mastering technology in order to improve their ability to lead and communicate virtually.

Managing Secondary Data Analysis from Electronic Health Records: Lessons Learned

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Aim: To develop an EHR data quality approach to prepare secondary data for analyzing medical utilization and nurse sensitive patient outcomes among children visiting the emergency department.

Background: Since the deployment of Electronic Health Records (EHR), secondary use of EHR data is increasingly requested for health services and clinical research. This report outlines our experience in extracting, cleaning and curating data for secondary analysis of workflow in child asthma-related encounters in six emergency departments of the Colorado Children's Hospital system. This case study presents the challenges related to managing EHR data quality prior to secondary data analysis and discuss some strategies to solve these issues.

Methods: The Children's Research Informatics unit queried their data warehouse to mine EHR elements collected between 2008 and 2016. Given its large size and the number of variables (N=116), the raw data was divided into seven independent datasets (N=number of records): Patients (demographics, N= 386997), Encounters (N= 1273644), variables including all workflow times, i.e. arrival, triage, etc., N= 1273644), Events (N=24925705), Orders (procedures, N=752682), Medications (N=6299922), Flowsheets (6251811), Problems (N=108895). Encounters with a positive asthma diagnosis were extracted according to the 9th version of International Classification of Diseases, Clinical Modification (ICD-9-CM) and its corresponding codes (493.0-493.9). All data manipulation was accomplished using SPSS v24.

Results: Our methodology includes 8 iterative steps, logically organized to ensure quality of data: Request, Query, Output, Data Transfer, Data Cleaning/Curation, Extraction, Statistics Analysis and Reporting. While some issues were encountered during data transfer, most of the challenges were with Data Cleaning (i.e., Coding and Incorporation of Data Dictionary; Data Integrity; Editing; Integration of Sources; Data Transformation; Identification of missing data). For example, while Asthma-related Encounters had been flagged *a priori* (6.67 % of all ER visits, N=76492), only 35% presented an ICD9 primary diagnosis for asthma (63% in secondary diagnoses #1-5, the remainder in diagnoses 6-74), and only a portion matched documentation in the Complaints or Problem list. Similarly, the analysis revealed various ways of registering medications (under 'Generic name', 'Description', or an acronym substituting the drug names in either of the two fields- i.e., in i.v. mix lines-). Frequency analysis and creating new variables was required to solve these issues. Additionally, up to 100% missing data was detected in some variables (e.g. Complaints) or time periods (i.e. 2014-2016), which required new data requests, cleaning, and integration.

Implications: Using EHR systems for secondary data analysis has huge potential for improving interprofessional effectiveness and patient care. Determining how to extract data requires extensive knowledge of system's architecture and an understanding of how the data will be used. Data processing prior to use can be a painstaking yet vital task, necessary for avoiding discrepant or redundant data entries that could lead to errors in interpretation. Although we developed this systematic approach in the context of a specific patient population, it offers insight to efficient research data capture and effective strategies for secondary use of EHR data.

Funding: This research was funded by the College of Nursing Office of Research and Scholarship Intramural funds.

DATA IN A TECHNOLOGICAL AGE

Using Social Media to Co-Design Research: Results of a PCORI Project

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Background: Peer support in people with diabetes (PWD) improves self-management and self-efficacy. A 2014 meta-analysis concluded that online peer support improved A1C significantly in people with type 2 diabetes (T2D). Diabetes requires self-management 24 hours per day, 7-days per week and 99% of the time this occurs outside of the healthcare system. The diabetes online community (DOC) creates a safe place where people can share experiences, learn from one another, in plain language, and never feel alone.

Purpose: The intercultural Diabetes Online Community Research (iDOCr) council was formed through a PCORI Pipeline-to-Proposal award to bring together researchers and individuals affected by diabetes interested in studying the benefits of online peer support. In partnership with DOC stakeholders, a comparative effectiveness research (CER) question was developed. The iDOCr council includes researchers, English- and Spanish-speaking DOC users with type 1 diabetes (T1D) and T2D, advocates, clinicians, caregivers, and individuals from nonprofit and industry organizations.

Methods/Process: In Tier I and Tier II, the iDOCr council hosted 1-hour of a pre-existing 24-hour tweet chat held on World Diabetes Day in 2015 and 2016. This tweet chat engaged a global DOC community (1,888 tweets, 235 participants, 8 countries) and focused on issues impacting PWD. Findings from the tweet chat (lack of education, judgement, and use of stigmatizing language inhibit people with T2D from engaging in the DOC)) supported the development of CER questions. Participation in the tweet chat increased DOC awareness of iDOCr, and this was augmented through a Facebook page and website. The leadership team disseminated findings to other researchers, clinicians and PWD at national meetings. In Tier III, the iDOCr council identified a research area of interest addressing people with T2D, English- and Spanish-speaking, using continuous glucose monitors to improve glucose management with and without online peer support.

Outcomes: The results of the PCORI project include: (1) established an Advisory Board with multiple diverse stakeholders; (2) raised awareness of iDOCr, which resulted in support from key opinion leaders within the DOC, increased trust within the community to support future research endeavors, and increased partnerships for research and funding; (3) interacted with English- and Spanish-speaking DOC users through social media, supporting knowledge attainment; (4) developed a CER question; and (5) designed a clinical research study.

Conclusions: The true outcomes of the partnership include relationship building with engaged patients who want to advance the science and improve outcomes in PWD. Patients have actually reached out to the iDOCr council requesting to be involved. A fascinating outcome is that a team that represented a majority of people affected by T1D identified a research study focusing on T2D. The impact of the DOC on engaged DOC users, mostly represented by T1D, is so significant that people want to identify opportunities to increase engagement of people with T2D and Spanish speaking individuals. The iDOCr council creates an opportunity for a diverse group to learn from each other, ensuring the voice of the person affected by diabetes is heard and issues important to all stakeholders are addressed.

Funding: PCORI Pipeline-to-Proposal Award Project #3413076.

DATA IN A TECHNOLOGICAL AGE

Four Years Later: Nurses' Perceptions of the Electronic Health Record

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Purpose/Aims: The purpose of this study was to examine nurses' perceptions of a comprehensive electronic health record (EHR) after four years of use, compared with the same measurement methodology conducted four years earlier before adoption of the technology, and one year after adoption the EHR. This study of nurses' perceptions of the EHR over a four-year period at three measurement points helps describe the arc of technology adoption over time, including challenges and benefits.

Rationale/Conceptual Basis/Background: Electronic Health Records are in frequent use in hospitals across the United States, and their impacts on nurses' work, focus and time management can be substantial. It is assumed that nurses adapt to new electronic tools such as EHRs over time. Yet, little has been reported regarding the trajectory of acceptance over an extended period. At the time of adoption, EHRs can lead to enhanced communication and standardization, and at the same time cause tremendous change and upheaval. Understanding the impacts of an EHR on nurses is important in order to help support staff, maintain quality outcomes and deliver safe care through the transition to a new EHR, and also through ongoing use of the EHR. In an earlier study, the investigators measured changes in nurses' perceptions of the EHR before adoption and one year after adoption of the comprehensive EHR. When querying the literature to learn about nurses' perception of the EHR over time, few research studies were available that described the expected lifecycle of technology adoption. In this study, investigators repeated the mixed methods study performed earlier in order to measure nurses' perceptions at a third point in time, four years after adoption of the comprehensive EHR.

Methods: Clinical RNs were surveyed about three domains; Ease of Use, Usefulness, and Attitude, regarding their perceptions of the EHR. The survey was adapted from Masrom, which was based on the Technology Acceptance Model. Additionally, a subset of the surveyed nurses was interviewed for a more in-depth exploration of the perceptions at the point in time of the study. Survey data were analyzed using descriptive and comparative statistics. Interview data were analyzed using thematic analysis.

Results: Four years after adoption of the EHR, nurses scored higher on ease of use, mixed on usefulness, and higher (better) on attitude compared to one year after adoption of the EHR. In the interviews, nurses expressed that some aspects of the EHR were easier and some were more difficult; that the EHR was comprehensive, but not without risks; and that they had ambivalence about using it.

Implications: Nurses are very impacted by the EHR, and their perceptions of the ease of use, usefulness and attitude toward the EHR are important to understand. Use of the technology changes over time, yet the lifecycle of the EHR is not well-reported. This study adds to the body of knowledge, contributing to a deeper understanding of nurses' perceptions of a comprehensive EHR over a four-year time span.

ELDER CARE ACROSS THE CONTINUUM

PREPAREDNESS ASSESSMENT FOR THE TRANSITION
HOME AFTER STROKE PSYCHOMETRIC PROPERTIES

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HOSPITAL-TO-HOME BRIDGE INTERVENTIONS
AMONG OLDER ADULTS: A SYSTEMATIC REVIEW

Paige L. Burtson

TRANSITIONAL CARE MEDICAL HOUSE CALL:
A PILOT PROJECT

Ron Billano Ordon, Cara Gallegos

ELDER CARE ACROSS THE CONTINUUM

Preparedness Assessment for the Transition Home after Stroke Psychometric Properties

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Purpose/Aims: The purpose of this study is to describe the development of and psychometric properties of the Preparedness Assessment for the Transition Home after Stroke (PATH-s) instrument.

Rationale/Conceptual Basis/Background: Care transitions for individuals with disabling conditions, such as stroke, are often ineffective and inefficient, resulting in unmet patient and caregiver (CG) needs, increased safety risks, high rates of preventable readmissions, and increased health care costs. This is problematic for stroke survivors (SS) transitioning from an institutional setting to home. There is no assessment instrument designed to evaluate a family member's commitment and capacity to assume the caregiving role following discharge. This is critically needed to facilitate the development of tailored care plans and interventions to mitigate risks associated with the crisis of stroke and the associated health effects on the CG and SS. Instruments developed from qualitative research provide rich data about complex phenomena. The PATH-s instrument was developed based on the foundational qualitative research and resultant conceptual framework of B. Lutz.

Methods: The PATH-s items were generated and refined for content validity with input from 8 experts. Cognitive interviews of 22 CGs for SS with moderate to severe disability following stroke during an inpatient rehabilitation facility (IRF) admission determined the optimal format (Likert versus descriptive responses) and guided further development of the PATH-s. Additional cognitive interviews of 20 CGs was conducted to optimize clarity by refining the items and establishing content validity. These qualitative data were thematically analyzed. Lastly, a convenience sample of 180 CGs were enrolled to establish the psychometric properties of the PATH-s instrument and identify the PATH-s correlation with other measures (PHQ-9, Perceived Stress Scale, Global Health Questionnaire).

Results: The PATH-s was developed from qualitative research using a structured procedure for development, including input from experts to establish content validity. Cognitive interviewing was used to identify the format of the instrument, and further to establish the relevance, reliability and clarity of the instrument from participants' responses to the items in the target population. This resulted in this 25-item valid and reliable self-administered instrument. The development, psychometric evaluation of validity and reliability of the PATH-s will be described, in addition to the PATH-s correlation with other measures. The analysis of qualitative findings revealed that the administration of the PATH-s is, in itself, an intervention to assist with anticipating the caregiving role.

Implications: Maintaining the voice of the participant in the instrument development process supports consumer-focused research. This novel instrument can support a primary prevention strategy to identify gaps in preparedness for SS-CG dyads following the complex transition from IRF to home, with the long-range goal to mitigate the effects of suboptimal preparation and the associated adverse health effects associated with this transition. Once gaps are identified, care plans can be tailored to better prepare caregivers. This optimized approach to transitions management through the use of the PATH-s will address the National Quality Strategy "Triple Aim" to improve quality of care, improve health, and reduce costs for the care delivery system.

Funding: Grant funding provided by the Gordon and Betty Irene Moore Foundation and The Rehabilitation Nursing Foundation.

ELDER CARE ACROSS THE CONTINUUM

Hospital-to-Home Bridge Interventions among Older Adults: A Systematic Review

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Background: In the United States, the baby boom generation first reached Medicare eligibility in 2011, increasing costs and demands for a population approach to older adult health. Preventing avoidable hospital readmissions among older adults is one key strategy to improve health while reducing costs, prompting the Centers for Medicare and Medicaid Services to fund transitional care management within 30 days of hospital discharge.

Aims: To inform program development, a systematic review was completed to evaluate the evidence for hospital to home bridge interventions designed for the older adults. Particular attention was given to the type(s) of health professionals and interventions used. The primary quality outcome was hospital readmissions rates; secondary outcomes included health, quality of life, patient satisfaction, health-related behaviors and costs.

Methods: A single researcher reviewed articles initially based on title and abstract; followed by a full-text review to extract a standardized set of data variables. Nineteen studies were selected. Program activities were categorized into taxonomy of care transition interventions based on the ecological model among three domains: intrapersonal, interpersonal, and community level (institutional and community). A meta-analysis of results was not possible due to the inconsistency in type and time period of hospital readmissions. However, where reported effect sizes were compared. A risk of bias was completed using the six risk domains outlined in the Cochrane handbook.

Results: When comparing effect sizes that were reported for 168-180 day readmissions, a registered nurse (RN) and physiotherapist (PT) partnership strategy demonstrated the greatest relative effect. The next most effective strategy was comprehensive discharge planning and follow-up by an advanced practice nurse (APN). A standardized care transition intervention followed, but a statistically significant difference was not demonstrated at 180 days. These three strategies also reported statistically significant effects on health, quality of life, patient satisfaction, health-related behaviors or cost. A strategy of high-intensity, in-home support utilizing volunteers or unlicensed staff in the community setting also demonstrated a statistically significant effect, but the effect size was not reported. A RN and pharmacist partnership model was effective in the short term (30 days), but pharmacy alone in both the hospital and community setting was not effective. A medical doctor and registered dietitian partnership was also not effective to reduce readmission rates. Finally, the geriatric assessment and inter-professional follow-up strategy was not effective in reducing readmission rates, but did achieve significant cost savings, improve health, and quality of life.

Implications: A nursing role in risk assessment, care planning, and care coordination emerged as a common theme in several interventions. Geriatric expertise was also prominent. A dual inter-professional partnership model was more effective than the inter-professional team model. This may be because communication is simplified in a partnership model, and key skills to successfully implement an inter-professional collaborative model may not yet be fully developed. An important role for physiotherapists and pharmacists in older adult care transitions also emerged. Finally, findings support a strategy of high intensity support initially after discharge, with a weaning process toward monthly contact to sustain gains.

ELDER CARE ACROSS THE CONTINUUM

Transitional Care Medical House Call: A Pilot Project

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Background: Vulnerable, homebound older adults are highly susceptible to unplanned 30-day hospital readmission and health care expenditures for this population continue to increase. Studies have shown that transition of care programs when complemented with a home based primary care delivery may improve patient outcomes.

Purpose: The purpose of this quality improvement pilot project was to implement a medical house call as a component of Transitional Care Management (TCM) and measure patient outcomes such as unplanned 30-day readmission rates, polypharmacy before and after the visit, and correlate predictors of readmission. As a secondary outcome, the project explored point of care concerns encountered during the medical house call visit conducted by a provider with prescriptive authority, a nurse practitioner (NP).

Methods: Medicare beneficiaries, 65 years and older, who were discharged from skilled nursing facilities (SNFs) to home were identified by convenience sampling through referral and offered a home visit by a NP. Prior to discharge, patients' acuity was assessed and a LACE score was assigned. Unplanned 30-day readmission to the hospital was measured and correlated to point of care conditions found during the medical house call visit such as: number of days to see the patient; common distribution of LACE scores; number of medications (polypharmacy) before and after the visit; prescriptions required; co-morbidities; and time to Primary Care Provider (PCP) visit.

Results: A total of 145 patients were seen by the NP. LACE scores ranged from 11-15 (M= 12.6; SD = 2.9). Readmission rates were 19.2% which was higher than 18.5%; however, patients' LACE scores indicated high acuity. Majority of patients experienced two (2) co-morbidities with hypertension being the most common. Regression analysis demonstrated that heart failure (HF) was a significant predictor for unplanned 30-day hospital readmission. HF patients were five times more likely to be readmitted than patients with other co-morbidities. Medications were reduced after medication reconciliation from 17 to 11 which was statistically significant ($z = -7.497, p < .001$). Almost half of patients required prescriptions during the visit and more than half were unable to see their PCP for 14 days or more.

Conclusion: This project has shown that older adult patients discharged from a higher level of care can benefit from Transitional Care Management through medical house call by a NP within 14 days after discharge. The visit significantly reduced polypharmacy, provided a way to get prescriptions that would otherwise unobtainable from the PCP until 14 days or more, and addresses high readmission risks. Further study is highly recommended to support system redesign and policy change as it relates care delivery by NPs in care transitions.

Keywords: readmission reduction, transitional care management, medical house call

Abstracts of Podium Presentations

FOCUS ON SUBSTANCE ABUSE

A GROUNDED THEORY OF THE TRANSITION FROM
PAIN INITIATION INTO SUBSTANCE USE TREATMENT

Michele R. Shaw, Marian L. Wilson, Mary Lee Roberts

PAIN AND DEPRESSIVE SYMPTOMS OF PATIENTS
RECEIVING OPIOID RISK REDUCTION INITIATIVES

*Manu Thakral, Rod L. Walker, Kathleen Saunders,
Susan M. Shortreed, Michael Parchman, Ryan N. Hansen,
Evette Ludman, Karen J. Sherman, Sascha Dublin,
Michael Von Korff*

SUBSTANCE USE EXPERIENCES OF BLACK MEN
WHO HAVE SEX WITH MEN (MSM)

Austin Nation

CORRELATES OF SUBSTANCE USE AND DEPENDENCY
AMONG MIDDLE-AGED AND OLDER HOMELESS WOMEN

Benissa E. Salem, Benjamin Rogers

FOCUS ON SUBSTANCE ABUSE

A Grounded Theory of the Transition from Pain Initiation into Substance Use Treatment

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Purpose: The purpose of this research study was to examine the process and identify predominant categories involved when adults first initiate the use of opioids to treat their pain through their enrollment in an outpatient medication-assisted treatment (MAT) program.

Background: Opioid use disorder among U.S. adults has drastically increased in recent years with a concurrent rise in MAT program enrollment. Limited understanding exists regarding how and on what basis people enter (MAT) programs for opioid use disorders, particularly those who initiate opioid use to treat a painful condition. There is a gap in the literature describing participants' unique perspectives about the steps involved with opioid initiation, living with pain, and eventually choosing to enter into MAT programs for opioid use disorder.

Methods: Grounded theory methodology was used to guide this study. The research team used an interview guide with open-ended questions to illicit information from 10 participants about their journey from initial opioid use through their current participation in MAT for opioid use disorder. Participants included patients who were enrolled in a single outpatient MAT program in the Pacific Northwest. Inclusion criteria were adults in MAT reporting that their initial use of opioids was to treat their pain. Interviews were carried out by the research team in a private room located inside the MAT program facility. Interviews were digitally recorded and then transcribed. Corbin and Strauss' approach to theory development was followed. Once the theory was finalized, the research team contacted three of the participants who had been previously interviewed for a follow up interview to member-check study findings. The participants expressed satisfaction with the overall theory, including the descriptions of the core category, categories and concepts.

Results: A newly-developed theory titled *Living with Persistent Pain: From Opioid Initiation to Substance Use Treatment* was supported by three predominant categories emerging from the data: "addiction pathway," "becoming normal," and "relationship spectrum." The theory's overarching core category "living with pain" was described as a complex and tumultuous process spanning the emergence of pain, to the initial use of opioid medicines, through opioid addiction and participation in MAT. A notable aspect of this process was the turning point to enter MAT, which was both helped and hindered by significant relationships.

Implications: The decision to enter MAT for opioid use disorder was key to helping participants gain a sense of normalcy. Insights gained from participants' experiences, particularly in relationships with healthcare providers, can be used to guide treatment approaches by nurses in a variety of settings.

Funding: By Washington State University's Alcohol and Drug Abuse Research Program.

Pain and Depressive Symptoms of Patients Receiving Opioid Risk Reduction Initiatives

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Background: Dose reduction and risk mitigation initiatives have been recommended to reduce opioid-related risks among patients receiving chronic opioid therapy (COT), but there is still debate over whether initiatives to limit opioid prescribing could have deleterious effects on pain control and quality of life for many patients

Purposes/Aims: This study aimed to determine whether COT patients from clinics implementing opioid dose reduction and risk mitigation initiatives differed in pain status and depressive symptoms from COT patients in clinics without these initiatives. We also compared perceptions of pain relief and side effects of COT patients from the two healthcare settings.

Methods: In 2014-15, we interviewed 1588 adult COT patients within a healthcare system in Washington State and compared those who received dose reduction and risk mitigation initiatives in primary care clinics (intervention) to patients in comparable healthcare settings without initiatives (control). The primary outcomes were pain assessed by the PEG, a 3-item scale to assess global pain intensity and interference, with secondary measures including depression (Patient Health Questionnaire-8 (PHQ-8) scale) and perceived helpfulness of opioids and perceived bothersomeness of side effects. Generalized estimating equations for linear regression models were used to estimate differences in mean scores between intervention and control sites. Ordinal logistic regression models were used to estimate the odds of perceiving less helpfulness in pain relief and more bothersomeness of side effects in intervention versus control clinics.

Results: Of all interview respondents, a majority reported moderate to severe pain intensity and pain-related interference with activities (88.9%); widespread pain (81.2%); and that opioids were “very or extremely helpful” (62.5%) and side effects were “not at all or a little bothersome” (85.7%). Estimated differences, adjusted for patient characteristics and weighted for non-response, between patients at intervention and control clinics were not clinically significant for the PEG (-0.03, 95% CI -0.25, 0.19) or PHQ-8 (-0.64, 95% CI -1.19, -0.08). COT patients receiving dose reduction and risk mitigation initiatives reported similar perceived pain relief from opioids (AOR 1.11, 95% CI .89, 1.40) and bothersomeness of side effects (AOR 1.19, 95% CI .87, 1.64) relative to COT patients at control clinics adjusted for baseline covariates and weighted for non-response.

Implications: We did not observe clinically meaningful differences in pain or depressive symptoms among COT patients from clinics that implemented dose reduction and risk mitigation strategies relative to COT patients from care settings that did not implement these initiatives. Furthermore, COT patients in clinics implementing policy initiatives to limit high-dose prescribing did not perceive opioids as providing less pain relief than those from clinics without initiatives. We also found COT patients endorsed both high levels of pain-related impairment and perceived pain relief which has implications for implementing recommendations that opioid therapy be continued only if there is clinically meaningful improvement in pain and function that outweighs risks to patient safety. Further study is necessary to better understand the relation between perceptions of treatment efficacy of opioids and self-reported chronic pain outcomes.

Funding: This research was supported by a grant the Patient-Centered Outcomes Research Institute (R-IHS-1306-02198, Von Korff). The contribution from Dr. Thakral was supported by National Institute on Aging, grant number: T32-AG-0276-7709.

FOCUS ON SUBSTANCE ABUSE

Substance Use Experiences of Black Men Who Have Sex with Men (MSM)

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Purpose: The purpose of this presentation is to understand the substance use experiences of HIV-positive and HIV-negative young Black MSM.

Background: The prevalence of HIV among young Black men who have sex with men (MSM) is three to four times higher than white MSM. Young black MSM are run-aways and homeless, forcing them to survive on the streets by becoming sex workers, engaging in unprotected anal intercourse because either they or their partner is under the influence of drugs or alcohol. Previous studies cite crack cocaine use, sex while high on crack cocaine, marijuana and alcohol, or sharing needles for injection drugs as strongly associated with HIV infection among young black MSM.

Methods: This narrative qualitative study, obtained from participant interviews, offers insights about the range of factors and enhance our understanding about the role that substance use plays in the lives this population

Results: The themes that emerged from this study describe an across-case experiential trajectory with a summary of the significant experiences of this population. The narratives describe experiences with substance use related to the following:

- (1) early substance use exposure and initiation in family - Young Black MSM are exposed to substance use in their family, with family members who are also using drugs.
- (2) for coping with gay sex and being gay – Participants how substance use allowed them the freedom to explore gay sex and their sexuality, including how they bottom (be the receptive anal partner) when under the influence of drugs.
- (3) peer pressure in new community to fit in with others - Participants describes meeting new people through social media and how substance use is a part of that experience
- (4) exposure to lots of methamphetamine in San Francisco – Participants describe the prevalence of methamphetamine in the dominant gay community, in this case White gay men, who are often times use the drug to control young Black MSM.
- (5) to numb feelings- Participants discover the benefits of methamphetamine for numbing, masking feelings and coping,
- (6) sexual enhancement and survival sex – Participants discover the *sexual enhancement* benefit and this leads them to engage in high risk behaviors, often times as a way to obtain food, clothing and shelter.

“There was a lot going on in the homes of these participants.” Almost all of the young Black MSM discussed early substance use exposure in their family, including parents who were also drugs. The young men shared about broken family structures, including abuse and neglect. These social and environment factors contribute directly to their own early substance use initiation (median age 15), as well as early sex initial (median age 15), at times with parents providing the drugs. Mean age for participants is 26.

Implications: Clinicians and researchers in practice settings will encounter HIV-positive and HIV-negative young Black men and need to understand the prevalence of substance use among this population. It is also important to take a thorough family history, social history, as well as a sexual health and risk behavior assessment.

Funding: Funding for this research project was made possible (in part) by Grant Number 2T06SM060559-04 (PhD/DNP) from SAMHSA. The views expressed in written training materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. government. Additional funding support was provided by Global Life Works and the National Black Nurses Association.

FOCUS ON SUBSTANCE ABUSE

Correlates of Substance Use and Dependency among Middle-Aged and Older Homeless Women

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Purpose/Aims: The purpose of this exploratory analysis was to assess correlates of substance use (i.e., alcohol use) and drug dependency among middle-aged and older homeless women.

Background: Across the United States, the population of homeless adults is aging with metropolitan cities such as Los Angeles experiencing a 55% increase in homelessness among women in the last four years. In general, homeless individuals have a higher frequency of substance use disorders (SUD) as compared with the general population; in particular, approximately 18% met the criteria for a SUD. However, less is known about correlates of substance use (i.e., alcohol use) and drug dependency among middle-aged and older homeless women.

Methods: A cross-sectional study was conducted and enrolled middle-aged and older, homeless women (N=120) in Central City East, Los Angeles ('Skid Row'). Selection of instruments for inclusion in the structured questionnaire was guided by the Frailty Framework among Vulnerable Populations and the Trauma Process Model. Each questionnaire was administered to participants and assessed individual, situational, health-related, resource and behavioral factors. Unadjusted bivariate relationships were assessed using Fisher's Exact Tests for categorical measures and T-Tests for continuous measures. A multivariable regression model was estimated for alcohol use and drug dependency.

Results: The average age was 52.3 years (SD 6.56, range 40-66); more than half of the sample (60.8%) was African-American/Black, followed by White/Caucasian (20%), more than one race (15%), American Indian/Alaskan Native (3.33%), and Asian (0.83%). Over half (60.8%) had used alcohol in the last 30 days and over three quarters (88.3%) had used alcohol in the last year. In this sample, 42.5% had harmful alcohol use and 44.2% met the criteria for drug dependency. In the last 30 days, the most frequently used drugs included marijuana (36.7%), crack/freebase (24.2%), and heroin (10.8%). In the last year, the most frequently used drugs included marijuana (55%), crack/freebase (37.5%) and cocaine (20%). Multivariable regression models revealed that alcohol use was significantly associated with lower levels of education ($p=.035$) and post-traumatic stress disorder (PTSD) symptoms ($p=.044$). Likewise, significant predictors of higher drug dependency scores were living on the street ($p=.006$) and PTSD symptoms ($p=.048$).

Implications for Translation to Practice/Further Research: Middle-aged and older homeless women are increasing in large metropolitan cities; however, gender-sensitive interventions tailored for this population are lacking. These findings illuminate the importance of developing an intervention which will address PTSD symptoms, housing, along with substance use (i.e., alcohol use) and drug dependency among this vulnerable population. Future research should utilize principles of community-based participatory research and work with community-based partner sites in the development, implementation and evaluation of a trauma-informed intervention.

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Abstracts of Podium Presentations

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CHILDHOOD FOOD SCARCITY AND COGNITIVE
DECLINE IN OLDER HISPANICS

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MANAGING PET KEEPING RESPONSIBILITIES
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TRAINING OF IN-HOME SUPPORTIVE SERVICE
CAREGIVERS ON OLDER ADULT CARE

*Jung-Ah Lee, Bernadette Milbury, Tiffany Nguyen,
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MULTIMORIDITY AND COGNITIVE FUNCTION IN
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PERSPECTIVES ON THE COMMUNITY REINTEGRATION
HEALTH NEEDS OF OLDER ADULT PAROLEES

*Jolene Tan Smeltzer, Anthony Leslie, Linda R. Phillips,
Janet C. Mentos, Ebere P. Ume, Sharon Fay Cobb*

INNOVATIONS IN GERIATRICS

Childhood Food Scarcity and Cognitive Decline in Older Hispanics

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Purpose/Aim: To estimate the association between childhood food scarcity and subsequent cognitive decline in adulthood using data from the Sacramento Area Latino Study on Aging (SALSA), a longitudinal cohort study of Mexican Americans.

Background: Childhood food scarcity is an early-life exposure which may influence adult cognition, but a limited number of longitudinal studies have assessed this association and even fewer have examined this association in US Latinos. Food scarcity experienced in childhood may be associated with lower cognitive function in older adults.

Methods: We examined data from 1,223 individuals 60 years of age or older who participated in SALSA, a population-based cohort study conducted from 1998-2008. Data were collected by questionnaire and clinical measurements taken at home visits every 12-15 months and semiannual phone calls for updates on health events and sociodemographic risk factors. Food scarcity was measured by self-report at the first health visit. Cognitive decline was measured in 12-15 month intervals for up to 10 years using the Modified Mini-Mental State Exam (3MSE) and the Spanish and English Verbal Learning Test (SEVLT). The longitudinal association between childhood food scarcity and cognitive decline was examined using mixed-effects models adjusted for other sociodemographic characteristics.

Results: Nearly a quarter of participants (23.1%) reported experiencing food scarcity in childhood. Childhood food scarcity was significantly associated with poorer cognitive functioning at baseline, measured as increased errors on the 3MSE and poorer word recall on the SEVLT (3MSE: $\beta = 0.14$ [log error], $p = 0.03$; SEVLT: $\beta = -0.55$, $p = 0.02$). However, the rate of cognitive decline slowed for those who experienced childhood food scarcity, which was associated with fewer errors and improved word recall over time (3MSE $\beta = -0.03$ [log error], $p = 0.01$; SEVLT $\beta = 0.12$, $p < 0.01$).

Implications: Results from this longitudinal study suggest that early childhood experiences of food scarcity are extremely prevalent among US Latinos. We found differences in cognitive decline between those who experienced childhood food scarcity and those who did not, with poorer cognition at baseline for participants who reported food scarcity. Contrary to what we expected, food scarcity in childhood was associated with an *improvement* in cognitive functioning over time. Results support prior literature that early-life food scarcity may negatively influence cognitive function but have a protective effect on cognitive decline in later life.

Funding: This work was supported by the National Institutes of Health (grant numbers DK087864, AG12975, and DK60753).

INNOVATIONS IN GERIATRICS

Managing Pet Keeping Responsibilities in Older Adulthood

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Purpose: To describe pet keeping responsibilities of older adults managing chronic conditions.

Background: Nearly one-third of older adults have pets. Living with pets provides a variety of health benefits such as increased physical activity, decreased loneliness, and increased well-being. Being able to care for a pet independently requires older adults to maintain physical abilities and reside in a pet-friendly community.

Methods: Constructivist grounded theory was used to explore the relationship older adults had with their pets. Semi-structured, individual interviews were conducted with 20 participants aged 60 or older, living with a pet, and managing at least one chronic condition. An inductive/abductive data analysis process incorporated constant comparative analysis, coding, categorizing, and early theorizing.

Results: The emerging theory *Filling the Empty Spaces: A theory of human-animal interactions in older adults* represents the experiences and decisions of older adults with pets. Maintaining responsibility is one category in this theoretical framework. Maintaining responsibility is defined as integrating pets into everyday life and ensuring the pet is cared for according to the standards set forth by the participant. This category has four processes: deciding to have a pet, providing enriching pet care, managing financial responsibility, and arranging care for the pet. Maintaining responsibility is about a deep sense of responsibility people have to provide care for their pet. Participants' reported seeking specific characteristics in a pet, such as the pet's age, size, length of fur, and personality. These preferences related to the participant's ability to care for a pet. Being responsible for a pet also required a financial commitment. Pets relied on them to provide pet care such as food, water, housing, veterinary care, and enrichment activities such as walking or playing with the pet. Participants rarely expressed feeling burdened by the responsibility to care for their pets. When participants described a burden it was often downplayed or excused as an inherent part of being a pet owner.

Implications: Understanding older adults' relationship with, and responsibility for, their pet will help nurses understand the complexities of pet keeping in older adulthood and assist patients when making recommendations to acquire a pet in older adulthood.

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INNOVATIONS IN GERIATRICS

Training of In-Home Supportive Service Caregivers on Older Adult Care

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Background/Aim: The older adult population in Orange County, Southern California has fast growing from 16.5% of the total population in 2010 to projected approximately 24.4 % by 2020. Our current healthcare delivery system is ill-equipped to meet older adult care needs, especially among underserved populations. The Orange County Social Services Agency's In-Home Supportive Services (IHSS) program has over 14,000 caregivers of underserved clients over 65 years of age. IHSS caregivers provide personal care for individuals who are unable to live at home safely without help. Given that the IHSS caregivers receive little practical training, our intervention aimed to enhance the geriatric knowledge and skills of IHSS caregivers to improve health outcomes and quality of care for older adults.

Methods: Nursing students under the supervision of nursing faculty developed curriculum for two-hour training sessions for IHSS caregivers on topics prioritized by the IHSS leaders, including diabetes management, bowel and bladder care, communication skills, dementia care, and fall prevention. Pre-post anonymous education surveys including questions related to training content were performed in each session.

Results: We held a total of five two-hour interventional sessions to IHSS caregivers over a year. A total of 101 IHSS caregivers participated in one or more training sessions. There were significant differences of pre-post knowledge tests in bowel and bladder, fall prevention, and dementia care sessions (all p-values <.05), showing increasing knowledge after training. The overall training evaluation including content, methods, presenter effectiveness, and satisfaction with the training for each session showed more than 4.5 of 5 (1= very poor, 5=excellent). Some participants requested that education materials be available in other languages such as Spanish, Chinese, Korean, Vietnamese, or Farsi. IHSS caregivers wanted additional training in areas including wound care, late stage dementia care, end-of-life care, disability care, substance abuse, and stress management.

Conclusion/Implications: Overall, the pre-post evaluation showed improved comfort levels in performing basic caregiver skills. The findings identified specific educational needs for caregivers, validated the nursing-student model of education, and established priorities for future education of those caring for our vulnerable geriatric populations.

Funding: We would like to express our gratitude to the University of California, Irvine Undergraduate Research Opportunities Program (UROP) for financial support. This project is also supported by the Health and Resources Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under 1 U1QHP2872-01-00, Cultivating a Culture of Caring for Older Adults, for \$2.5 million.

INNOVATIONS IN GERIATRICS

Multimoridity and Cognitive Function in Later Life: Benefits of Meditation and Prayer

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Purpose: Drawing from a racially heterogeneous subsample from Health and Retirement Survey (HRS), this study investigated the longitudinal effect of meditation and prayer use on cognitive function of older adults with multimorbidity.

Background/Rationale/Conceptual Basis: Currently, more than 68% of adults aged 65 years and older have multiple chronic conditions and the prevalence of multimorbidity increases with age. Compared to individuals with only one disease, people with multimorbidity show greater decline in health status and are prone to cognitive decline, disability, frailty, and death. Human beings, from time immemorial, have used meditation and prayer to reduce psychological distress and promote healing. Primarily based on racially homogenous smaller clinical studies, previous research has suggested positive influences of meditation and prayer use on memory and brain functioning associated with cognition. Despite extensive research on its role in enhancing mental health, there has been relatively little attention paid to its significance in buffering the adverse effect of multimorbidity on cognitive function of older adults over time. This study is guided by the Theory of Self-Transcendence, which states that during vulnerable condition (i.e. multimorbidity), human beings have ability to self-transcend to wellbeing state (i.e. better cognitive function). This self-transcendence could be attained by contemplative practices such as meditation and prayer.

Methods: The HRS data from Wave 2000 to 2012 (N = 1046) was used for this study. The data were collected every two years. Meditation and prayer use were self-reported measures, whereas cognitive function was measured by episodic memory (immediate and delayed word recall). Multimorbidity index was formed by combining eight chronic health problems. Generalized estimating models were used to investigate average change in cognitive function overtime.

Results: There was a statistically significant negative effect of multimorbidity on cognitive function ($b = -.19, p < .001$). The interaction between multimorbidity and prayer use, although not statistically significant, showed that the respondents who had multimorbidity and used prayer had a 0.21-point increase in their cognitive function score over time ($b = .21, p > .05$). Similarly, the interaction between multimorbidity and meditation use, although not statistically significant, showed that the respondents with multimorbidity and who used meditation had a 0.14-point increase in their cognitive function score over time ($b = .14, p > .05$).

Implications: This study indicates potential cognitive health benefits of contemplative practices (meditation and prayer) among older adults with multimorbidity over time. With rise in older adult population, challenges of managing multimorbidity, rise of cognitive decline among older adults, and failure of pharmacological interventions in preventing cognitive decline, it is imperative that better self-management techniques be explored and utilized. This study provides much needed research evidence to design effective community level non-pharmacological interventions to reduce the risk of cognitive decline associated with age and multimorbidity.

INNOVATIONS IN GERIATRICS

Perspectives on the Community Reintegration Health Needs of Older Adult Parolees

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Purpose: To explore the parole and probation officers' views on the community reintegration services and to identify post-release services that will help with the successful reintegration of older adult parolees into society.

Background: Older adult parolees face multiple challenges such as underlying mental health issues, substance abuse, low literacy, unemployment, unstable housing conditions, and limited health and social resources for successful community reintegration. Assembly Bill 109 reduced state prison overcrowding and shifted the rehabilitation responsibility of low-level felons to the county level. Older adults are at a higher risk for anxiety, mental health crises, and cognitive impairments. Parole and probation officers are crucial in supporting their transition because they are the first to identify these risks and they are positioned to link parolees to successful community reintegration resources.

Methods: This descriptive qualitative study recruited 4 probation and 2 parole officers in Los Angeles, California who have worked with older adult parolees aged 55 years and older for over one year. Demographic data and data from semi-structured interviews were collected. Interviews were tape-recorded, transcribed and content analyzed. Data was coded and organized into themes based on their relevance to the research questions and theory of self-care management of vulnerable populations model.

Results: Six major themes were identified: (1) Post-release service barriers; (2) Critical post-release services for successful reintegration; (3) Providing high quality of care; (4) Differences between older and younger adults; (5) Vulnerability; and (6) Intrapersonal factors. Existing barriers for coordination of care were attributed to limited resources in the state and county systems. Older adults need critical services like board and care housing but there are limited spaces; jobs that are not labor intensive or job training that will supplement their limited skills or education; and timely health services. Officers who were able to provide high quality personalized case management ensured successful reintegration such as visiting older adults at home. Officers expressed that older adults with longer incarcerations were more likely to change behavior and comply with supervision versus young adults. Older adults were more vulnerable due to a lack family support impacted by aging families. Officers find they are more likely to reduce recidivism and negative incarceration effects upon health if they can provide stability and accountability.

Implications: This study increases understanding in the interactions between age and health needs of older adults. Parole and probation officers operate in multiple roles, but more collaboration is needed with healthcare providers like geriatric trained nurses. Nurses can enhance health promotion and recovery practices for geriatric parolees returning to unequipped communities. There is a need for more contracts with agencies that can provide age-appropriate housing and jobs in safe and drug-free environments to prevent relapse and recidivism. Though longer incarcerations have been associated with negative health outcomes, age is a positive factor in the older adults' propensity to change self-care behavior. As the health needs of this growing and greying population are increasing, nurses are needed in an area of community health research that is dominated by other disciplines.

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INTERPROFESSIONAL APPROACHES TO COLLABORATIVE TEAMWORK

TEAM PEACE:

A MODEL FOR INTERPROFESSIONAL HEALTH EDUCATION

Kupiri Ackerman-Barger, Karen M. de Sola-Smith, Angela E. Usher

EFFECT OF AN INTERPROFESSIONAL EDUCATION
COURSE ON UNDERGRADUATE STUDENTS ATTITUDES

Katreena Merrill, Pauline Williams, Jonathan Jacobs, Aubrey Burton

AN IPE PILOT: WHAT NURSING AND VETERINARY
MEDICINE STUDENTS CAN LEARN FROM EACH OTHER

Susan L. Adams, Brett McNabb, Damian Genetos, Birgit Puschner

THE IMPACT ON COLLABORATION OF HEALTH
STUDENTS USING A COMMUNICATION SIMULATION

Marianne Murray

NURSING AND SOCIAL WORK STUDENTS: HOW THE
SOCIAL DETERMINANTS OF HEALTH AFFECT PRACTICE

Janet U. Schneiderman, Ellen F. Olshansky

INTERPROFESSIONAL APPROACHES TO COLLABORATIVE TEAMWORK

Team Peace: A Model for Interprofessional Health Education

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Purposes/Aims: To present on a dynamic, interprofessional health education course. Based on adult education frameworks, Team PEACE seeks to promote innovative interprofessional collaboration via small group co-learning format in which participants discuss the complexity of health disparities, negotiate new meanings, and envision solutions to common problems.

Rationale/Background: Current, robust healthcare research provides evidence of the pernicious nature of widespread health disparities. Future healthcare professionals desiring to provide equitable treatment need to understand the upstream context that contributes to inequity in individual and community conditions. Co-learning with students from varied backgrounds and professional tracks supports greater understanding of the value of collaboration among diverse groups. By recognizing strengths of diverse communities, healthcare professionals can work collaboratively to leverage combined knowledge and skills toward positive change.

Methods: Team PEACE is a five session course designed to develop skills related to professionalism, ethics and cultural enhancement (PEACE). ‘Team’ refers to the interprofessional approach to co-learning. Over 200 students participate simultaneously in small groups facilitated by diverse health-professions instructors. All nursing, physician assistant, nurse practitioner, and medical students participate in the course during the first year of their respective programs. Intentionally proactive, this course is offered early in the education curricula before students begin viewing healthcare primarily in the context of treating individual conditions. The theoretical underpinnings for this course are grounded in both developmental and group-process psychological frameworks, which acknowledge that students enter the course at differing developmental stages and with unique life experiences. As such Team PEACE strives to validate the knowledge each student in prioritizing and developing collaborative approaches to improving healthcare.

Results: Course evaluation is conducted using Likert-scale survey items and free text responses to assess learning and satisfaction with content. After each Team PEACE course a debrief session is held with facilitators where the classroom experiences are analyzed. From these sessions, data is utilized for course improvement. Additionally, a Team PEACE curriculum committee meets monthly to assess and update the curriculum. Due to student interest in the Team PEACE course, the group ‘Supporting Educational Excellence in Diversity’ was established as a mechanism for in-depth conversations between student and faculty to improve curriculum content and instructional strategies. Course evaluation data indicate that many students would like to see more content, deeper conversations, and for this material to appear throughout their education. However, in some instances, students report not perceiving a value of this course and view the course as taking time away from learning hands-on clinical work.

Implications: Individual skills and interests are varied when students enter the team PEACE classrooms, impacting the instructional strategies. As such, facilitators must be flexible in order to meet learners where they are in their development. Because Team PEACE emphasizes relational rather than technical skills, a meaningful connection among students and facilitators is required to understand how course content translates to being better clinicians. The long term goal is to have integrated curriculum that offers more content and greater frequency of sessions across curricula and across programs.

INTERPROFESSIONAL APPROACHES TO COLLABORATIVE TEAMWORK

Effect of an Interprofessional Education Course on Undergraduate Students Attitudes

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Purpose: Evaluate the effect of interprofessional education (IPE) on undergraduate students' attitudes towards healthcare teams, their ability, value and comfort working in interprofessional teams and ratings of interprofessional interactions, learning, relationships and teamwork

Background: IPE programs are mostly implemented in Academic Health Centers (AHCs) such as universities with a medical school. The majority of healthcare students, however, are educated at universities without an AHC. Therefore, research is needed on the effectiveness of IPE at universities without an AHC.

Methods: In 2014, a 1-credit IPE Course was offered at a university without an AHC for students majoring in health related fields. A pre-post descriptive survey design was used which included a 62-item survey plus demographics and consisting of the following three validated instruments: Attitudes Towards Healthcare Teams (ATHCT), with two subscales (quality of care; time constraints); Interprofessional Socialization & Valuing Scale (ISVS), with three subscales (ability to, value in, and comfort in working with others); and The University of West England Interprofessional Questionnaire (UWE IPQ), with 4 subscales (Interprofessional interaction, interprofessional learning, interprofessional relationships and communication and teamwork). Data were analyzed in SPSS using a paired t-test.

Results: Over 3 years, a total of 110 undergraduate students completed questionnaires at the beginning and end of the course. Subjects included students from nursing, dietetics, medical lab science, pre-professional, public health, exercise science, and other health-related professions. Student responses following the course indicated significant increases in IPE scores with two of the three instruments. Overall student ATHCT increased significantly (M baseline = 3.75; M follow-up = 4.17; $p = .000$; 5-point scale). Students also responded that working in interprofessional teams resulted in higher quality and was time efficient (M baseline = 3.86; M follow-up = 4.31; $p = .000$; M baseline = 3.38; M follow-up = 3.65; $p = .003$ respectively). Students also reported significantly increased overall ISVS following the course (M baseline = 3.72; M follow-up = 5.35; $p = .000$; 7-point scale). Additionally, a significant increase in ability to work in an interprofessional team (M baseline = 4.22; M follow-up = 5.78; $p = .000$), increase in value of interprofessional teams (M baseline = 3.63; M follow-up = 5.04; $p = .000$) and an increased comfort in working in those teams was reported (M baseline = 3.76; M follow-up = 5.72; $p = .000$). The results of the UWE IPQ were mixed. Students reported significantly increased scores in interprofessional relationships (M baseline = 3.42; M follow-up = 3.92; $p = .000$; 5-point scale). However, no significant increase in the interprofessional interaction, learning, and communication and teamwork scores was reported.

Implications: A 1-credit IPE course in a non AHC university with undergraduate students majoring in in health-related professions can significantly affect student attitudes towards healthcare teams, their ability, value and comfort working in interprofessional teams. However, this course may not contribute to overall improved interprofessional interactions, learning and teamwork. These findings indicate that IPE may serve as a good augmentation toward interprofessional collaboration of future health professionals, but cannot substitute for real hospital interaction.

INTERPROFESSIONAL APPROACHES TO COLLABORATIVE TEAMWORK

An IPE Pilot: What Nursing and Veterinary Medicine Students Can Learn from Each Other

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Purposes/Aims: The purpose of this project was to bring graduate Master's Entry Program Nursing (MEPN) students together with students from Veterinary Medicine in an interprofessional (IP) case-based learning experience and evaluate the experience.

Rationale/Background: The Institute of Medicine (IOM) (2010) and the American Association of Colleges of Nursing (AACN) (2011) recommended building competencies in IP collaborative education and practice. Evaluation is a necessary component for determining the benefits and challenges of IP educational approaches (McPherson, Headrick & Moss; 2001). There are limited reports in the literature which systematically evaluate IP educational experiences for graduate students in the health care professions (Chakraborti, Boonyasai, Wright & Kern; 2008).

An IP approach to education provides potential beneficial outcomes in knowledge, understanding about IP roles, communication and collaborations with teams in the clinical setting (Brock, Abu-Rish, Chiu, et al., 2013). Differentiating between multi-professional education where students from different professions learn side by side with limited interaction and IP education where students learn with, from and about each other in an interactive learning environment is key (Freeth, Hammick, Reeves, et al., 2005). In order to ensure meaningful student experiences, the process should be analyzed and challenges evaluated and resolved, including availability and coordination of institutional resources, fiscal considerations, physical teaching spaces, and the impact of course load on the students.

Addressing issues such as readiness for learning may be a key factor in determining success (Talwalkar, Fahs, Kayingo, et al., 2016). Simply placing students from different professional programs together without contemplating where they are in their professional development or knowledge could be ineffective and perhaps detrimental in the developing attitudes about IP collaboration (Eisler and Potter, 2014). For these reasons, IP educational efforts should be evaluated in order to determine which approaches enhance knowledge, improve communication and team building and utilize resources most efficiently.

Undertaking/Best Practice/Approach/Methods/Process: Twenty-four MEPN students and 13 Veterinary Medicine students attended a full day seminar which was divided into two half day case-based sessions. Widowed, 90 year old George Palo, and his 13 year old retriever, Max was the case used over the course of the day. Students received 10-15 minute lectures on four topics: 1. assessment and management of pain in non-verbal mammals (animal and human); 2. identification of cross-species infections; 3. benefits of the human-animal bond and 4. caring for human and animal partners during grief and loss experiences. Following the mini-lectures, students were divided into small IP break-out groups and worked through the case scenarios with reports back to the larger group.

Evaluations were based on pre-class and post-class questionnaires and reflective essay style writing. Questionnaires were anonymous, coded and provided in electronic format for student convenience. The protocol was reviewed by the IRB and determined to be exempt.

Outcomes Achieved/Documented: Students expressed satisfaction and demonstrated an increase in knowledge. Institutional barriers with class schedules and faculty resource availability and coordination created challenges.

Conclusions: Students expressed a high level of satisfaction with the experience. However, the institutional barriers continue to create challenges for implementation.

INTERPROFESSIONAL APPROACHES TO COLLABORATIVE TEAMWORK

The Impact on Collaboration of Health Students Using a Communication Simulation

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Purpose/Aims: The purpose of this research study was to create an interprofessional communication handoff simulation that represented a collaborative healthcare practice environment and gather quantitative data on the attitudes and perceptions of participating students to determine readiness for further interprofessional learning.

Rationale/Conceptual Basis/Background: According to The Joint Commission the failure of healthcare professionals to communicate and collaborate in the healthcare setting is one of the root causes of inappropriate surgeries, delays in treatment, and medication errors (The Joint Commission [TJC], 2014). The research indicates that practice errors can be reduced and quality of patient care can be increased by implementing interprofessional collaborative practice (*Core competencies*, 2011). The present educational structure between healthcare professional students in the university setting has remained very isolated which has perpetuated the professional cloistered communication which has led to poor patient outcomes (The Joint Commission, 2014). IPE educational interventions can be instrumental in abolishing age old assumptions related to separating all professional healthcare practice into factions.

Methods: This study was a comparative research design evaluating the effect of an intervention (IPE simulation). The sample population included 43 nursing students, 18 medical students, and 15 physician assistants (PA) students. The research design was a quasi-experimental, quantitative, pre/post survey pilot project, evaluated by a Wilcoxon Signed Rank test. The measurement tool used for this project was the Readiness for Interprofessional Learning scale (RIPLS). The IPE Sim required nursing students to report their patients deteriorating condition using the Situation Background Assessment Recommendation (SBAR) communication tool. The MD/PA students were instructed to agree, disagree, or suggest treatment options for the patient after listening to the report from the nursing student

Results: The sample scores on the RIPLS survey were lower pre IPE communication simulation (Mrank = 18.59) compared to post IPE communication simulation (Mrank 21.22). The difference between the pre and post RIPLS comprehensive scores was significant $z = -2.768$, $p = .006$ suggesting the involvement in an IPE communication simulation had an impact on students RIPLS scores.

Implications for Further Research: In a previous study by Hertwick et al (2012) ($n = 158$) the students who had experience in healthcare had a higher mean pre RIPLS score. In this study experience in healthcare over 10 years had a negative impact on RIPLS score compared with students who had no experience or less than 10 years' experience. Could experience hinder IPE readiness?

In this study nursing students had been educated using SBAR as a communication framework but neither the PA students nor Medical students had prior knowledge of this communication framework. Tews, Marc Lui and Treat (2012) attest that the inclusion of SBAR in medical student resident education as a method to teach interphysician communication skills yielded statistically significant improvements in retention and delivery of information. Thus the use of SBAR as a global communication framework in healthcare may increase patient safety and better patient outcomes.

INTERPROFESSIONAL APPROACHES TO COLLABORATIVE TEAMWORK

Nursing and Social Work Students: How the Social Determinants of Health Affect Practice

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Purposes/Aims: 1.) To explore the perceptions of nursing and social work graduate students regarding the Social Determinants of Health (SDOH); 2.) To analyze the commonalities and differences in these perceptions in order to develop a beginning explanatory framework.

Rationale/Conceptual Basis/Background: SDOH, which include but are not limited to factors related to the environment, economy, and access to care, have a critical impact on health, and provide an important foundation for health care. The professions of both nursing and social work are tackling the issue of how best to incorporate SDOH into their education, practice, and their healthcare settings. Both professions overtly state that SDOH is a vital part of health and there is much emphasis on inter-professional collaboration as a way of more strongly addressing SDOH. For such professional collaboration to flourish, a better understanding of the meaning of SDOH as understood by different professions is needed.

Methods: A qualitative study, using grounded theory methodology, was conducted. Twenty-five graduate students (13 nursing and 12 social work students), educated using a virtual platform, were interviewed by phone using a semi-structured interview guide. The nursing graduate students were in the Family Nurse Practitioner track and the social work graduate students were part of the Children, Youth and Families Department. The interview domains included: 1) their own definition of SDOH; 2) how SDOH affects their patients; 3) how SDOH affects their practice; and 4) how SDOH affects health and healthcare in general. Interviews lasted approximately an hour and were transcribed verbatim. Data collection and analysis were iterative and ongoing processes. Data analysis was guided by the procedures of grounded theory, beginning with open coding, moving to selective coding and eventual theoretical integration.

Results: There were many similarities in nursing and social work students in their perceptions of SDOH, with a general perception that SDOH are central factors affecting health. One particularly strong similarity was the emphasis on economics, especially the role of health insurance, as an important SDOH. Some subtle differences, however, were discovered. Nursing students repeatedly mentioned that SDOH can affect health in both positive and negative ways, while social work students tended to focus on the negative aspects that affect vulnerable populations. Both nursing and social work students were acutely aware of the influence of vulnerability on individuals, families and communities, and they often noted their own “privilege” in terms of their life contexts.

Implications for Translation to Practice/Further Research: Although there is agreement about the importance of the SDOH between nursing and social work students, the emphasis on how SDOH affect their delivery of care differed. Understanding that professional identities affect the context of applying the SDOH framework to practice and thus, interprofessional practice is vital. There is much opportunity for nursing and social work collaboration in health care.

Funding: This study was funded by the University of Southern California Suzanne Dworak-Peck School of Social Work, Department of Children, Youth, and Families Department.

Abstracts of Podium Presentations

JOURNEYS IN ACADEMIA

PARTICIPANT PERCEPTION OF THE IMPACT OF A
WRITING RETREAT ON SCHOLARLY PRODUCTIVITY

Joanne Noone, Heather M. Young

PARTNERSHIP BETWEEN ACADEMIA AND PRACTICE:
QSEN COMPETENCY IN CAPSTONE PROJECTS

Lynette M. Savage, Lisa M. Harmon

THE THEORY OF MORAL DISTRESS IN NURSING ACADEMIA

Erin C. Stratton, Dia Campbell-Detrixhe

AN ONLINE RESOURCE TO ENSURE COMPLIANCE
WITH EDUCATIONAL REGULATORY MANDATES

Basia Belza, Anne Hirsch, Sarah Alkire

COURSE, PROGRAM & AACN ESSENTIALS:
A RUBRIC TRIFECTA

Linda M. Veltri

JOURNEYS IN ACADEMIA

Participant Perception of the Impact of a Writing Retreat on Scholarly Productivity

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Purposes/Aims: The purpose of this study was to describe participants' perceptions of the impact of a structured writing retreat on scholarly activity, manuscript publication, and career progression.

Rationale/Background: Scholarly dissemination of knowledge through manuscript publication is an expected aspect of an academic faculty role and of importance to academic career progression. A variety of strategies to increase publication rates appear in the literature, including writing workshops, collaborative writing groups, writing retreats or a combination of these. A writing retreat is a structured time to write and receive peer review of writing occurring over multiple, sequential days. Benefits of a writing retreat are that the structure and support can facilitate overcoming common barriers to writing progress, including uninterrupted time to write, and can provide mentoring and peer support to increase confidence, motivation, and writing output. This paper reports on an annual multi-day writing retreat originally consisting of four days and three nights and expanding to five days based on participant request with average attendance of 19 faculty (range 14-23) from multiple universities.

Methods: This was a mixed method descriptive study. Participants from the last seven writing retreats from 2010-2016 were contacted via email to complete an on-line quantitative and qualitative survey. The online survey consisted of a Likert type scale and open-ended questions. Descriptive statistics were measured and summarized. Participants from the current 2017 writing retreat were invited to participate in a focus group discussion. A semi-structured interview guide was used to guide the focus group. The session was audio recorded. Qualitative comments from the on-line survey and the focus group transcript was analyzed by two coders in Nvivo 11 using thematic analysis procedures developed by Braun and Clarke (2006).

Findings: Fifty-three of the 56 participants from the last seven years were contacted for the online survey; 31 responded for a response rate of 59%. Eleven participants attended the focus group. The majority of participants agreed that the writing retreat enhanced their overall scholarly activity and reported their self-confidence and motivation to write increased as a result of participation. Participants valued the dedicated time for writing, peer review of writing, and structured time for discussions about writing and publishing. This was especially true for participants who attended two or more times. Additional benefits included the ability to network with colleagues which participants found helpful to their career progression. Barriers to receiving full benefit from the writing retreat were the inability to fully disconnect from personal and professional responsibilities and one's self-confidence in writing.

Conclusions: The social and emotional support and sense of camaraderie among participants were strong components of the success of this structured writing retreat in addition to the opportunity to make writing a priority. Preparing new participants through the development of a "Frequently Asked Questions" guide was helpful to engaging those new to the writing retreat. This strategy has value in supporting faculty to complete dissemination of research and to accomplish academic promotions.

JOURNEYS IN ACADEMIA

Partnership between Academia and Practice: QSEN Competency in Capstone Projects

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Purpose/Aims: The purpose of this innovative curricular design incorporating a three-semester Capstone project in an RN-BSN program is to enhance Quality and Safety Education for Nurses (QSEN) competency integration in both the academic setting as well as the clinical practice setting.

Rationale/Background: Nurses can experience a disconnect between quality improvement processes and their daily nursing practices. The University partnered with a healthcare system to create a connection between practice and quality through use of intra-and inter-professional teamwork expertise.

Brief Description: Students, who are all employed nurses within healthcare system, were provided a menu of quality projects, pre-approved by the system-wide nursing executive team in terms of urgency and applicability using the National Database of Nursing Quality Indicators core performance standards.

A key emphasis on the experiential learning method of FOCUS Plan-Do-Study-Act provided the underpinning to the students' Capstone projects. Over three semesters, students select their desired projects, assemble inter-professional stakeholder teams, collect pre-intervention data to assist with performing needs assessments, design project interventions with input from stakeholder sensing sessions, and implement their projects. Students then collect post-intervention data, evaluate their findings, determine gap analyses, which may lead to various PDCA cycles to improve the processes, and share project outcomes at work or in the classroom.

Outcomes Achieved: Directly related to QSEN's Quality Improvement Core Competency knowledge component of the 'approaches for changing processes of care,' the year-long Capstone course provides the skills and tools students need in the workplace to align aims, targeted goals, outcome measurements, and resultant effects of change. Current 214 students who have successfully completed 170 healthcare related Capstone Projects (2016-217).

Conclusions: The three predominant themes emerged: (a) the overwhelming sense of empowerment to make a positive difference in quality outcomes, (b) the immense sense of fulfillment of learning to work within an inter-professional context, and (c) the 'reigniting' of professional nursing joy.

This work has implication for educational practices to consider more joint projects integrating the academic setting with the clinical practice. Teaching a student, the theoretical foundation and ideas about how to implement a project is one thing. Being able to have an environment where the student can go and practice those new skills is critical to engaging and supporting nurses to grow.

Future research would be to track the nursing students 12-24 months after graduation to see what skill sets from this work has enhanced their nursing practice, how many have gone on to complete other facility based projects, and what other strategies would have better prepared them for the work environment.

JOURNEYS IN ACADEMIA

The Theory of Moral Distress in Nursing Academia

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Purposes/Aims: The purpose of this study was to increase the understanding of the phenomenon of moral distress in the academic environment. Specific aims were to determine how moral distress in the academic environment develops, how nursing faculty members manage moral distress, and the results of experiencing moral distress in the nursing academic environment.

Background: The phenomenon of moral distress has evolved over the past several decades; however, there is little known about this phenomenon in the academic environment. A better understanding of the effect of this phenomenon upon nursing faculty members has implications for increasing job satisfaction and improving faculty retention rates. This understanding is critical to developing and implementing strategies aimed at reducing the national nursing faculty shortage.

Methodology: A grounded theory approach was used to produce theory and a model describing the experience nursing faculty members go through when encountering moral distress in the nursing academic environment. Open coding, memo writing, and axial coding were used to fully develop the theoretical concepts, theoretical framework, and model. Theoretical and conceptual saturation was reached after data were analyzed from twelve participant interviews.

Results: Data analysis resulted in the development of the core category, the moral distress experience. Study results determined there are three subcategories or main components that must be present for moral distress to develop in the academic environment. These included the moral self, influencers, and a continual insult. The experience of moral distress in the academic environment included physical, emotional, and psychological responses identified by participants in which positive and negative coping strategies were used to manage the feelings of distress. Results of experiencing moral distress in the academic environment included a sense of strength and empowerment as well as resignation from morally distressing academic positions.

Implications: The theory of moral distress in nursing academia provides a framework for understanding the experience nursing faculty members go through when moral distress is present. A deeper and more thorough understanding of this experience provides a starting point from which to develop a deeper understanding of the phenomenon in this environment and strategies to decrease the effects of moral distress, therefore improving retention of nursing faculty members. Utilizing these study findings to develop strategies for improving the environment of nursing faculty members can have a positive impact on the overall national nursing faculty shortage. More research is needed to continue to understand the complex relationship between moral distress in the nursing academic environment and the effect of faculty retention, job satisfaction, and program outcomes.

JOURNEYS IN ACADEMIA

An Interactive Online Resource to Ensure Compliance with Educational Regulatory Mandates

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Purposes: The purpose of this project was to establish an interactive and online tool to enable communication of the new Washington Administrative Code (WAC) and track compliance.

Rationale: To assure safe and quality nursing care, the Nursing Care Quality Assurance Commission defines the scope and standards of practice and determines necessary qualification for competency in authorizing individuals the right to practice nursing. In 2017, new WACs were enacted that require nursing programs to establish processes and procedures to ensure compliance with the new regulations. New requirements for reporting and recordkeeping resulted in a knowledge deficit for nursing education administrators, faculty and students, necessitating an approach to ensure present and future compliance. Communication was key, thus an open, Intranet site with multiple access points was necessary.

Description of the Methods: The WACs included new requirements for administrators, faculty, and students. This presentation focuses on incident reporting and recordkeeping. Our WAC compliance project site and Clinical Incident Report are available at our internal Intranet using SharePoint Online. After the WAC compliance project was completed, the documentation was available as reference materials. Resources were developed in collaboration with the SoN Learning & Information Technology team. All three UW campuses documented progress for WAC compliance on the site that includes 33 SharePoint pages and 89 additional information objects. An Incident Reporting Process was developed based on the Just Culture Model that uses SharePoint Online by collecting the information through a customized form and submitting the data to a SharePoint list. Once the form is submitted, it generates an alert through the use of Microsoft Flow and the appropriate people are notified, with a link back to the SharePoint list. The report can be reviewed and modified by the faculty who submitted the report and the faculty reviewers, while the root-cause analysis is conducted and the corrective action plan and/or remediation plan is put into place. Educational videos using animation and framed in a Just Culture Model were developed for faculty and students regarding what to do when an incident occurs.

Outcomes Achieved: An evaluation of the educational video and a quiz were sent to 705 students enrolled in SoN undergraduate and graduate programs. Two hundred and eighty-seven students responded (41% response rate). Overall, 86% of the students (N=247) responded that they found the learning activities, including the video and the quiz, to be helpful/very helpful and informative/very informative. The quiz passage rate in one to two attempts was 93%.

Conclusions/Implications for Educational Practices: It is imperative that all students understand the importance of patient safety and the need for continuous improvement of nursing care. The implementation of an innovative learning activity that included an animated video and quiz were found to be helpful, informative and effective. As a result of this project, students are knowledgeable and faculty are supported in their efforts to establish a Just Culture Model that ensures the efficient collection of information, timely incident reporting, and the development of remediation plans based on a Root Cause Analysis.

JOURNEYS IN ACADEMIA

Course, Program & AACN Essentials: A Rubric Trifecta

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Purpose: Demonstrate how one undergraduate nursing program used well-designed rubrics to evaluate final course assignments and assess student achievement of select course/program objectives and AACN's (2008) *Essentials of Baccalaureate Education for Professional Nursing Practice*.

Background: Schools of nursing are accountable for assessing and providing evidence of students' academic achievement to their accrediting bodies and stakeholders. Rubrics are a tool widely used at all educational levels to evaluate student learning. Well-designed rubrics include critical criteria to be assessed and performance descriptions linked to a level of performance scale. Educators use rubrics to: communicate student performance and expectations; provide feedback on assignments; consistently, explicitly, and systematically assessing student learning and; determine the degree to which students achieved course and program objectives (Brookhart & Chen, 2015; Ciorba & Smith, 2009; Loveland, 2005). University wide adoption of TaskStream, a centralized information gathering and communication software program, required each degree program to develop a yearly assessment plan. The RN to BSN program developed an assessment plan based on its end of program objectives. Aggregate data from final course Signature Assignments (SA), evaluated using rubrics, provides evidence for how these objectives are achieved.

Problem: When the RN to BSN program was initially launched individual adjunct nursing faculty teaching in the program developed rubrics used to assess SAs. This practice resulted in use of a wide variety of assessment criteria, performance descriptions, and performance scales across courses. These 1st rubrics failed to yield meaningful data related to achievement of end of program objectives and AACN Essentials or provide useful evidence for the program's annual assessment plan, university required 3-year program review, or national re-accreditation report.

Practice Change: Using Wiggins and McTighe's (2005) Backward Design approach end of program objectives were revised. Following, RN to BSN course objectives and assignments were revised and aligned with end of program objectives and AACN Essentials. SA grading rubrics in all courses were redesigned to: use a standardized level of performance scale; include appropriate course objectives and end of program objectives as critical criteria to be assessed; consistently assessed writing and American Psychological Association (6th ed.) skills and; were aligned with appropriate AACN Essentials.

Outcomes: Implementation of redesigned, standardized SA grading rubrics yielded: meaningful data to inform the RN to BSN program's annual assessment, upcoming 3-year program review, and national reaccreditation reports; clearly depicted where end of program objectives and select AACN Essentials were addressed in the curriculum; allowed for assessment of student's written communication skills across courses; and provided students feedback on their performance.

Conclusion: Well-designed grading rubrics, while time consuming to develop, provide valuable and useful data nursing programs can use to assess and inform multiple areas of their program of study as well as provide students with feedback on their performance.

Abstracts of Podium Presentations

NEW BEGINNINGS: MATERNAL-BABY BONDING

MOTHER-INFANT SLEEP ARRANGEMENT, AGE,
AND SLEEP DISTURBANCE IN EARLY POSTPARTUM

Rosamar Torres, Caryl Gay, Kathryn Lee

COMPUTER-BASED EDUCATION: BREASTFEEDING
SELF-EFFICACY/DURATION IN RURAL LATINAS

*Trina Aguirre, Ashish Joshi, Ann Koehler,
Elias Rodriguez, Susan Wilhelm*

WHAT IS HAPPENING AT THE FRONTLINE? EVALUATION
OF BEDSIDE MATERNAL CARE IN RURAL INDIA

*Krystal Bodily, Brittany Kemp, Rinku Chovatiya,
Meghna Patel, Elisa Vandervort, Bernhard Fassl*

A QUALITY IMPROVEMENT PROJECT
TO IMPLEMENT FAMILY BONDING TIME

Jane Grassley

NEW BEGINNINGS: MATERNAL-BABY BONDING

Mother-Infant Sleep Arrangement, Age, and Sleep Disturbance in Early Postpartum

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Purpose: The purpose of this study was to compare mother-infant sleep arrangements in four age groups of women: late adolescent (18 – 20 year olds), young adult (21 – 24 year olds), adult (25 – 34 year olds), and advanced maternal age (AMA; 35+ years); and to determine if the effect of mother-infant sleep arrangement on sleep disturbance differs between the four age groups.

Background: Mother-infant sleep arrangements remain a controversial topic in the U.S. and most research focuses on safety issues surrounding bed-sharing. Although, there is also concern for maternal sleep quality, little is known about the association between sleep arrangement and maternal sleep disruption, or if differences between age groups exist.

Methods: One-hundred-twenty-seven ethnically diverse women between the ages of 18-47, recruited during their 3rd trimester included 6 participants in the late adolescent group, 22 in the young adult group, 71 in the adult group, and 28 in the AMA group. Women were eligible for the study if they were over the age of 18, expecting their first child, had no previous mental health condition and were English literate. Mothers recorded the time, duration, and location of their own and their infant's sleep between 2400 and 0600 at 1, 2 and 3 months postpartum (T1, T2, T3). Participants were categorized into one of three sleep arrangement groups: bed-sharer, room-sharer, or separate room sleepers. A chi-square test of independence was conducted between sleep location and age group.

Participant subjective sleep disturbance was measured with the General Sleep Disturbance Scale (GSDS) at T1, T2, and T3. A two-way ANOVA was conducted to determine if there is an interaction between mother-infant sleep arrangement and age on sleep disturbance.

Results: There was a significant association between room-sharers and age group at T2, ($\chi^2(9) = 82.504, p = 0.028$). There was no significant interaction between sleep arrangement and age on sleep disturbance at T1, T2, or T3. However, there was a significant main effect of sleep arrangement on sleep disruption at T1, ($F(2,104) = 3.14, p = 0.047$, partial $\eta^2 = 0.06$). There were also significant main effects for age on sleep disruption at T1, ($F(3,104) = 3.607, p = 0.016$, partial $\eta^2 = 0.09$) and at T2, ($F(3,99) = 4.013, p = 0.01$, partial $\eta^2 = 0.11$).

Conclusions: To our knowledge this is the first study to examine the interaction between age and maternal-infant sleep arrangement on sleep disruption in the early postpartum period. At 1 month postpartum, mothers sleeping separately from their infants had higher GSDS scores compared to mothers who slept in the same bed or same room as their infants. AMA mothers also had higher GSDS scores compared to younger women at 1 and 2 months postpartum. However, by 3 months postpartum, there was no difference in GSDS scores between the four age groups. Further research is needed to understand the antecedents and correlates of sleep disruption first time mothers with AMA.

Funding: The study was funded by a T32 postdoctoral training grant awarded to Rosamar Torres through UCSF, School of Nursing, Research Center for Symptom Management (NINR T32 NR07088-20) and NIH-NINR grant (R01 NR05345) awarded to Kathryn A. Lee.

Computer-Based Education: Breastfeeding Self-Efficacy/Duration in Rural Latinas

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Purposes/Aims: We developed and evaluated a bilingual, computer-based breastfeeding education program to promote breastfeeding by rural Latinas. Here we report the results of a secondary analysis that further examined breastfeeding self-efficacy and duration of breastfeeding.

Rationale/Conceptual Basis/Background: Breastfeeding is the most important first health promotion strategy available for infants and provides many benefits for both mother and child. The American Academy of Pediatrics recommends breastfeeding exclusively for the first 6 months, continuing with breast milk as the primary food for at least 12 months. National goals are to have 81.9% of infants ever breastfed and 60.6% breastfed for six months (25.5% exclusively) by the year 2020. Although most American Latinas initiate breastfeeding, duration and exclusivity remain low, influenced in part by cultural attitudes/beliefs (e.g. many consider chubby infants to be healthy, introduce solid foods early, and feed both breastmilk and formula (los dos), believing it provides the best nutrition and ensures against hunger). Breastfeeding rates also tend to be lower among rural than urban residents. A contributing factor may be access to care as many rural areas have a shortage of health care professionals. To address these issues, our research team developed and evaluated an interactive, bilingual, computer-based breastfeeding educational support program to promote breastfeeding by rural Latinas (primarily Mexican-American) in western Nebraska.

Methods: This study was conducted using a two-group repeated measures quasi-experimental design. Participants were randomly assigned to receive breastfeeding education through either our computer-based program (intervention, n=23) or printed materials (control, n = 23). Assessments were performed at baseline and 3 and 7 days, 2 and 6 weeks, and 3 and 6 months postpartum.

Results: Duration of breastfeeding did not differ between mothers in the intervention and control groups ($p=0.962$). The greatest decline in breastfeeding occurred between weeks 2 and 6 and months 3 and 6. Top reasons for discontinuing breastfeeding were issues with milk supply, returning to work, and latch. Mothers who were breastfeeding at 6 months tended to have greater self-efficacy scores than mothers who were not, significantly so at week 6 and months 3 and 6 ($p < 0.001$). One concern was that over a third of intervention mothers (35%) did not access the program after enrollment. Intervention mothers using the program tended to breastfed longer than those who did not and a greater proportion were still breastfeeding at 6 months. Intervention mothers who were still breastfeeding at 6 months tended to use the program more frequently than those who had discontinued breastfeeding.

Implications for Translation to Practice/Further Research: Our bilingual computer-based breastfeeding education support program showed potential as a means to improve breastfeeding self-efficacy, in this rural Latino population. Future efforts will need to take steps to improve program use, perhaps by adapting the program for smartphone delivery and introducing the program to mothers prenatally. Enhancing the content to better address common reasons for discontinuing breastfeeding could also improve the program's value for new mothers.

Funding: This study was supported by the Agency for Healthcare and Research Quality (AHRQ) under grant #HS02132101A1.

NEW BEGINNINGS: MATERNAL-BABY BONDING

What Is Happening at the Frontline?: Evaluation of Bedside Maternal Care in Rural India

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Background: In an effort to reduce maternal mortality (MM), India initiated one of the largest maternal health programs worldwide in 2005. Despite a 29% increase in facility-based deliveries, India did not achieve a correlating reduction in maternal mortality rates (MMR) and did not meet Millennium Development Goal 5 (a 75% MMR reduction by 2015). India remains at an average MMR of 174/100,000 with some rural regions reaching rates as high as 310/100,000. There is an urgent global need to address stagnant maternal mortality rates by not only shifting deliveries from homes into facilities, but ensuring that facilities and birth attendants have the requisite skills, knowledge, supplies and systems to safeguard lives.

Purpose: The purpose of this project is to explore current intrapartum and postpartum care practices at a rural hospital in Gujarat, India. Barriers to implementing best practices and opportunities for quality improvement will be identified to improve care, with solutions sought collaboratively alongside local stakeholders.

Methods: This project took place at the Mota Fofalia Community Health Center (MFCHC) in Sinor Taluka, Gujarat. Maternal care practices were observed and compared to WHO care standards for seven weeks in June-August 2017. During this same period, 22 maternity charts from May 2017 were reviewed for care documentation, and 10 nurses completed self-assessment surveys and interviews in perceived knowledge and skills of basic emergency obstetric care.

Outcomes: Nurses are the primary caregivers for normal peripartum care in this setting. The MFCHC averages 30-50 births per month, most of which are not accompanied by doctors. Observations and chart reviews revealed that care does not currently adhere to WHO peripartum care standards. Chart reviews revealed only 23% (5/22) of laboring mothers had blood pressure, less than 5% (1/22) had pulse, 45% (10/22) had fetal heart tones, and 0% (0/22) had temperatures recorded at any time during their care. These charting gaps were mirrored by observed practices for 23 deliveries. Numerous opportunities for improvement were revealed, while some care met WHO care standards. Of note: 100% (23/23) of women were accompanied by family or community support during the first stage of labor and 100% (13/13) of women received uterotronics immediately after delivery.

Of the nurses who completed the aptitude survey: 70% were not confident in partograph use, 78% were uncomfortable with PPH management and 67% were not confident they could recognize signs of pre-eclampsia. No nurses were confident in shoulder dystocia recognition or management.

Conclusions: This assessment identified significant gaps in knowledge and obstetric care delivery among frontline nurses in rural India. A series of interventions to improve maternal care quality are highly recommended. Addressing the knowledge gap among frontline nurses is of the highest priority. The next phase of this collaborative project will focus on capacity building of frontline nurses while engaging and empowering them in the QI process.

NEW BEGINNINGS: MATERNAL-BABY BONDING

A Quality Improvement Project to Implement Family Bonding Time

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Purposes/Aims: The purpose of this quality improvement project was to plan and implement Family Bonding Time, (e. g. a daily quiet time), on a *mother/baby care unit* (MBCU) and evaluate its effects on interruptions to mothers, their perceptions of these interruptions, and exclusive breastfeeding rates.

Rationale/Background: A hospital system chart review revealed that staying more than one night in the hospital and being born at night doubled the odds of a healthy breastfeeding newborn receiving supplementation before hospital discharge. Interruptions from visitors were identified as barriers to mothers' ability to breastfeed and to rest during the day. Night nurses suggested Family Bonding Time as a strategy for limiting unnecessary interruptions from visitors or staff.

Project Description: This project was conducted in three phases. During phase one data were collected about number and duration of interruptions and if they were MBCU staff, other hospital staff, or visitors; mothers' perceptions of these interruptions; and unit exclusive breastfeeding rates. Family Bonding Time was launched in phase two between 2pm and 4pm; mothers and their partners were encouraged to rest together with their newborns. The project was designed to promote exclusive breastfeeding and rest by limiting interruptions to those that were requested by a patient, urgent, or medically necessary. Phase three began 12 weeks after implementing Family Bonding Time. Data again were gathered on the three outcome variables. Two teams of MBCU nurses were formed to conduct this project; a planning team of four nurses met during phase one to inform hospital staff about Family Bonding Time, which they successfully implemented in phase two. In phases one and three, an evaluation team of five nurses and a nursing faculty collected data about interruptions by observing unit hallways between noon and 4pm over 12 days in phase one and 10 in phase three. Sixty mothers completed the perceptions of interruptions questionnaire (30 each in phases one and three). Unit exclusive breastfeeding rates during phases one and three were compared.

Outcomes: Outcome data were analyzed using descriptive statistics, a repeated measures ANOVA, t-test, and Chi-Square. Analysis of interruptions by the unit nursing staff indicated a decrease in interruptions between 2pm and 4pm that could be attributed to Family Bonding Time ($F(1,58)=7.50, p=0.008$). Analysis of interruptions by other hospital staff and visitors indicated a significant interaction of time with interruptions; interruptions decreased in both phases between 2pm and 4pm ($F(3,174)=4.83, p=0.0029$; $F(3,174)=2.95, p=0.034$). Exclusive breastfeeding rates increased significantly ($\chi^2(4)=21.27, p=0.0003$), but mothers' perceptions indicated no significant differences.

Conclusion: Mothers experience many interruptions during their hospital stay, particularly when visitors arrive in large groups and stay more than 60 minutes. Documenting specific sources of interruptions facilitates planning and implementing an effective quiet time intervention. Addressing concerns of unit and hospital staff before implementation and providing on-going staff orientation can facilitate project sustainability. Further study of the effect of *Family Bonding Time* on exclusive breastfeeding rates is needed.

Abstracts of Podium Presentations

NURSING EDUCATION AND THE USE OF TECHNOLOGY

DIFFERENCES IN PERSPECTIVES OF STUDENT-STUDENT
INTERACTION IN ONLINE SETTINGS

Denise Wall Parilo, Tara J. Sharpp, Jan Sampson

USE OF TEXTBOOKS AND VIDEOS BY NURSING
STUDENTS WHEN LEARNING NURSING SKILLS

Michael D. Aldridge

RN TO BSN STUDENTS' COMMUNICATION SATISFACTION:
AV VERSUS TEXT DISCUSSION RESPONSES

Vicki L. Denson, Leslie M. Shurts, Anita C. Gallardo

NURSING EDUCATION AND THE USE OF TECHNOLOGY

Differences in Perspectives of Student-Student Interaction in Online Settings

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Purpose: The purpose of this study was to compare the perspectives of prelicensure undergraduate nursing students to RN-BSN students about student-student interaction in an online/ hybrid setting in writing-intensive courses.

Background: Nursing faculty have recognized differences in learning needs and collaboration among peers between prelicensure and RN-BSN undergraduate nursing students. Growth of the use of technology in nursing courses has increased need of creating a collegial learning environment online. Faculty can use student-student interactions, one of the components of online education, to engage students and encourage peer collaboration.

Methods: Faculty in writing intensive classes in an RN-BSN program and a prelicensure program assigned several assignments where students needed to interact with each other online. We received IRB approval to conduct a mixed-methods study to examine the perspectives of students' completing an online assignment where they are required to provide feedback and interact with each other. We developed a one-page survey with Likert-type scale and open-ended questions and used qualitative content analysis to identify themes regarding students' perspectives about interacting and providing feedback online.

Results: A total of 81 students in the two programs (prelicensure and RN to BSN) completed the surveys. The qualitative findings showed a difference between perspectives of prelicensure nursing students and RN-BSN students when interacting online. The theme *A second pair of eyes*, expressed by prelicensure students, described how students appreciated the feedback from their peers and felt more confident about their assignment after receiving reassurance and advice. In contrast, the theme *Uncertain about own writing abilities*, was more commonly expressed by RN-BSN students who stated they did not feel confident providing feedback on their peers' writing as they were unsure about their own writing or ability to complete online assignments.

Implications: Student-student interactions are an important component of online education, but faculty should consider the unique needs of students' abilities to interact online. Prelicensure students may spend several semesters together in a cohort, which creates a sense of community that may translate into an investment in each other's success. RN-BSN students may need additional encouragement to engage in online assignments, as returning to the classroom after a long absence may cause them to struggle more with the technology and academic rigor needed to be confident in written assignments.

NURSING EDUCATION AND THE USE OF TECHNOLOGY

Use of Textbooks and Videos by Nursing Students When Learning Nursing Skills

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Purpose: The purpose of this presentation is to describe how undergraduate nursing students use resources, such as textbooks and videos, when learning nursing skills.

Background: Nursing faculty members typically require students to purchase textbooks and subscriptions to commercially made videos as a part of a nursing skills course. It is largely unknown how students use these resources when learning nursing skills.

Methods: These findings are part of a larger phenomenological study that asked, "How do undergraduate nursing students learn to perform psychomotor skills within the full complement of nursing skills?" Nine senior nursing students from a nursing school in the south central United States participated in this study. In-depth interviews using open-ended questions were conducted, recorded, transcribed by the researcher, and then analyzed using Colaizzi's method to identify recurring themes. These themes were validated with the participants using a member checking process. An audit trail was kept to enhance dependability and confirmability.

Results: Of the six themes that emerged from the data, this presentation focuses on the theme "learning through technology" and the sub-theme "knowing how I learn." When asked what the experience of learning nursing skills was like, participants described challenges with current pedagogical tools often used as a part of skills courses. Participants stated that when they began their nursing coursework they were required to purchase a nursing skills textbook and to buy a subscription to a commercially available set of videos that depicted nursing skills across the curriculum. Participants described challenges with using videos because the videos were lengthy and detailed, so participants tended to lose focus. There were also discrepancies in the steps of the procedures and the equipment used in the video compared to what was used in the students' skills laboratory. Participants had similar concerns about the textbook. Several participants stated that they rarely looked at the skills textbook, and tended only to use it as a source for checklists rather than content. Some believed the textbook was out of date, that the equipment shown in the book did not match what they used in the skills laboratory, and that there were contradictions between the text and their instructor. Participants described the need for a single method for performing a skill and found multiple variations confusing and inhibiting to skills learning. Ultimately, participants viewed their faculty member as the most trustworthy resource, since the faculty member would be evaluating the students' performance.

Implications: Standard practice in nursing education centers on textbooks and other teaching tools. Findings from this study suggest that students may not use these resources as faculty expect, which raises the question of how students learn information that is covered only in these resources. As nursing education moves to interactive teaching strategies and as valid and reliable internet resources become available, nursing faculty must reassess the utility and effectiveness of "business as usual." It is critical for nursing faculty to evaluate changes in education tools on student performance and learning outcomes.

NURSING EDUCATION AND THE USE OF TECHNOLOGY

RN to BSN Students' Communication Satisfaction: AV versus Text Discussion Responses

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Purpose/Aims: The purpose of this study was to compare RN to BSN students' communication satisfaction using audio-video versus text-based responses in asynchronous online discussion forums.

Rationale/Background: RN to BSN online programs exist to prepare a more educated nursing workforce to meet increasingly complex healthcare challenges. Asynchronous text-based discussion forums are prevalent in these programs, although absence of face-to-face communication can leave students feeling a sense of disconnect from faculty and classmates. Evidence suggests that interactivity between students in online programs leads to course satisfaction and increased retention, yet scant studies have examined communication satisfaction as it relates to asynchronous audio-video discussion responses specifically in RN to BSN student populations.

Methods: This study was conducted at a southwest university school of nursing. The Asynchronous Discussion Communication Satisfaction Scale (ADCSS), was used to measure satisfaction with text-based discussion responses in a convenience sample of RN to BSN students ($N = 16$) at the end of the fall semester. Audio-video discussion responses were then implemented for spring semester. Students were re-invited to participate in a post-survey ($N = 17$) measuring satisfaction with audio-video discussion responses. After confirming normalcy of data, t -tests were conducted with Cohen's d .

Results: The ADCSS demonstrated good internal reliability for pre-survey subscales ($\alpha = 0.913$ to $.919$) and post-survey subscales ($\alpha = 0.853$ to 0.911). Scores ranged from 1 = strongly disagree to 5 = strongly agree. The Horizontal Communication subscale post-survey group mean ($M = 4.02$, $SD = .57$) was significantly higher than the pre-survey mean ($M = 3.55$, $SD = .95$); $t(15) = -2.39$, $p = 0.031$, $d = 0.56$ indicating students were reaching satisfaction with the extent to which communication was positive, accurate, and free flowing. The Communication Climate subscale post-survey group mean ($M = 3.92$, $SD = .75$) was higher than the pre-survey group mean ($M = 3.73$, $SD = .77$); $t(15) = -.92$, $p = 0.37$, $d = 0.25$ indicating that students were increasingly approaching satisfaction with the extent to which communication in educational asynchronous online discussion forums motivated and stimulated learners to meet course goals and identify with the online discussions. The Leading Communication subscale post-survey group mean ($M = 4.19$, $SD = .63$) was negligibly lower than the pre-survey mean ($M = 4.22$, $SD = .79$); $t(15) = .095$, $p = 0.93$, $d = 0.04$ demonstrating students' experiences of satisfaction with instructors' openness to ideas, attention to discussion content, and offering of guidance remained consistent with both text-based and audio-video discussion responses.

Implications: Results suggest that when RN to BSN students use audio-video discussion responses, their satisfaction with the extent to which communication is positive, accurate, and free flowing increases. Although limited by a small sample size and power, this study provided important information related to students' communication satisfaction with asynchronous online discussion forums. Future studies could investigate a combination of audio-video and text-based responses or provision of student choice in using audio-video or text-based responses to further improve communication satisfaction in RN to BSN students participating in asynchronous online discussions.

Funding: Internal grant from Western New Mexico University, Research Committee.

Abstracts of Podium Presentations

OPPORTUNITIES IN CHILD HEALTH

INTEGRATING ACES AND TRAUMA-INFORMED
CARE INTO NURSING CURRICULA

Annette Garner

LET'S FOCUS ON THE POSITIVE: LIFE
SATISFACTION IN CHILDREN WITH ADHD

Patricia Ann Barfield

TEXT MESSAGES IMPACT ON STUDENT NUTRITIONAL
LITERACY AND PHYSICAL ACTIVITY LEVELS

Kholoud Khalil, Christine Costa, Olga Korosteleva

PARENTAL KNOWLEDGE OF RECOMMENDED SUGAR
INTAKE AND CHILDREN'S CONSUMPTION OF SSB'S

*Rachel Michelle Hayes, Elizabeth Marie White,
Gabriel Martinez-Lin, Kathleen Gilchrist*

OPPORTUNITIES IN CHILD HEALTH

Integrating ACEs and Trauma-Informed Care Concepts into Nursing Curricula

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Purpose/Aims: Describe a method of integrating the concepts of adverse childhood experiences (ACEs) and trauma-informed care (TIC) into nursing curriculum and professional practice.

Rationale/Background: The seminal 1998 ACEs study by Kaiser Permanente and the Center for Disease Control and Prevention found a strong relationship between early childhood trauma and risk factors for chronic illness and early death. Continued research has strengthened that claim, especially in light neuroscience studies that show persistent brain structure and neurobiological system changes linked to childhood trauma. Health care providers are faced with the challenge of identifying early childhood trauma while minimizing triggering those early traumas in patients care setting. Nursing curriculum has an opportunity to integrate these concepts while exploring supportive practices to create a trauma-informed nursing practice.

Approach: Faculty consulted professional colleagues with experience in ACEs and TIC training at the beginning of designing the curricular spiral between two clinical courses. Additionally, the student health services mental health professional agreed to be named as a resource for students should one feel triggered by the content. The content spiral was designed for nursing students in an online baccalaureate completion (RNBS) program. ACEs was introduced in a population health course using early research describing the risk for chronic health issues and early death. The capstone course took a deeper dive into ACEs research and added principles of trauma-informed care concepts in a synchronous faculty-led conversation. Students used the Trauma Informed Organization Assessment (TIOA) survey to gain an understanding of the elements important to providing trauma-informed care. The 100 item survey identifies important components of a trauma informed organization, pointing to strategies that could be incorporated, or advocate for, in professional nursing practice. An asynchronous forum discussion was used for students to share the identified strengths and gaps from the surveyed organization and begin exploring potential strategies for addressing these gaps. The final learning activity had students use an identified gap from the TIOA survey to describe an evidence-based intervention to begin to narrow the gap.

Outcomes Achieved: RNBS student engagement with the learning activities was strong. The vast majority described no previous exposure to ACEs or TIC concepts. A number of students reported being asked by their employers to assist in developing staff training for their work colleagues. One of the more common comments by students was that the ACEs and TIC content encouraged them to feel more compassionate towards patients with early childhood trauma and/or chronic illness.

Conclusion: The time has come for ACEs and TIC to enter nursing education. The content is well received by students who see immediate opportunities to enhance their nursing practice, and the patient experience, by being trauma-informed.

OPPORTUNITIES IN CHILD HEALTH

Let's Focus on the Positive: Life Satisfaction in Children with ADHD

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Purpose/Aims: The purpose of this child-centered study was to explore how children with ADHD evaluate their life satisfaction.

Rationale/Conceptual Basis/Background: Children with ADHD are primarily evaluated and understood through an adult-proxy lens focused on disease-based symptoms. Adults (parents/teachers) report children's symptoms of inattention, hyperactivity, and/or impulsivity to clinicians. Clinicians evaluate the child using the adult-proxy reports. Treatment is more often aimed at mitigating ADHD-related symptoms and problems by pharmacological means, than by building on the children's innate strengths and resources. It is possible, that our adult-driven and disease-focused approach to evaluating and treating children with ADHD limits our ability to recognize and capitalize upon their innate strengths and to develop child-centered nonpharmacological interventions.

Life satisfaction is a positive construct that reflects how well an individual thinks their life is going. High life satisfaction is associated with healthier psychological outcomes and resilience, whereas low life satisfaction is associated with increased psychological risk. To date, little is known about how children with ADHD evaluate their life satisfaction and how including a measure of life satisfaction might enhance current approaches to assessment/treatment or alter clinical outcomes.

Methods: A parallel convergent mixed-methods design was used to collect data from a purposive sample of children with ADHD ($N = 20$) ages 7 to 11 years old. This presentation focuses solely on the quantitative data obtained through semi-structured interviews with each child using the Multidimensional Student Life Satisfaction Scale (MSLSS). The MSLSS data were analyzed using descriptive statistics and the results were compared to normative data. Nonparametric tests were used to examine the association between each child's MSLSS data set and their parent's independent report of demographic and ADHD-related variables.

Results: Children rated their multidimensional life satisfaction on a scale of 1 (low) to 4 (high) in order of *Friends* ($M = 3.24, SD = .60$), *Living Environment* ($M = 3.14, SD = .51$), *Family* ($M = 3.08, SD = .51$), *School* ($M = 3.0, SD = .65$), and *Self* ($M = 2.93, SD = .60$). The children's total life satisfaction ($M = 3.08, SD = .35$) was comparable to normative data ($p < .05$). There were no associations between child demographics and life satisfaction. Parent-reported ADHD symptoms of hyperactivity and impulsivity were negatively associated with children's satisfaction with *Friends* ($r_s = -.514, p = .021$). ADHD treatment was negatively associated with children's satisfaction with *School* ($r_s = -.451, p = .046$) and *Living Environment* ($r_s = -.562, p = .010$).

Implications: Incorporating a measure of life satisfaction added child-specific contextualized information; thereby extending what might be known about each child beyond their ADHD-related symptoms and problems. Taking an integrated and tailored approach to understanding children with ADHD may help clinicians to better recognize areas of child-specific strength/resources (e.g., high satisfaction) and areas of possible psychological vulnerability (e.g., low satisfaction). Further research is indicated to better understand how a measure of life satisfaction might enhance our current approach to assessment and treatment of children with ADHD so that they may live well.

Funding: Sigma Theta Tau International (STTI), Beta Psi Chapter, Naomi Ballard Nursing Research Award and OHSU SON Doctoral Dean's Award for Doctoral Dissertation.

OPPORTUNITIES IN CHILD HEALTH

Text Messages Impact on Student Nutritional Literacy and Physical Activity Levels

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Background: The tripling in obesity rates over the past 30 years have led experts to predict a shorter life expectancy, as well as increased public health burden. Overweight college students are more likely to become overweight adults. The goal of Healthy People (2020) is to promote health and reduce the risk of chronic disease through the adoption of healthy diets while achieving and maintaining healthy body weights. Health literacy, regarding new nutritional labeling and policies, is poor among low-income populations and communities of color. The U.S. government has mandated restructuring of nutrition labeling and designed electronic nutritional applications, such as MyPlate, to inform consumers about nutrition and guide dietary behaviors. In order to design effective educational interventions, barriers to accessing these tools need to be assessed. MyPlate may be an effective tool, which can provide sustainable individualized education and improve health literacy.

Purpose: To examine the effectiveness of receiving daily text messages on the change of students' nutritional literacy, level of physical activity, and eating behaviors.

Methods: Two hundred university students participated in an eight-week interventional control group study. The participants were randomly assigned to the control or intervention group. At the beginning of the study, all participants were emailed a brochure with nutritional and physical activity information. The experimental group participants received a daily motivational text message through their MMS supported cellular devices. The text messages are intended to encourage participants to follow certain nutritional and physical activity instructions. All participants were required to complete a self-administered paper copy survey at the beginning of the study and another survey eight weeks later. The survey consists of four parts (1) demographic information, health & diet, physical activity, and eating habits. Standardized tools were utilized to assess the participants' responses.

Results: Majority of participants (90%) fall in 18-22 years old age group and reported absence of chronic health conditions. Two thirds are female, 98% are single, 75% are Asian and Hispanic. BMI showed no significant difference between pre-and post-intervention among both control and intervention groups. There was an increase in the number of participants who consuming 5 daily fruits and vegetables, also in the post survey there was an increase in the amount of thought regarding the healthfulness of food consumed and physical activity. Student recognition of the MyPlate icon post intervention was doubled. additionally, there was an increase in the number of days the intervention group participants engaged in vigorous and moderate physical activity. Paired t-test showed that both groups scored a significant decrease in the uncontrolled eating (UE) score, the mean decrease in UE score was by 3.23 points, $p = 0.004$, at 5% level of significance.

Implications: The study will help increase the body of knowledge regarding the use of social media to target behavior changes among young adults. Educational programs should be tailored carefully to account for potential differences in knowledge and attitudes towards health. Utilization of motivational text messages to enhance nutritional literacy and promote healthy nutrition and physical activity behaviors among millennials.

OPPORTUNITIES IN CHILD HEALTH

Parental Knowledge of Recommended Sugar Intake and Children's Consumption of SSB'S

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Purpose: Assess parental knowledge of their pre-school child's (2-5) maximum sugar intake of sugar sweetened beverages (SSB's) on a daily and weekly basis according to the recommendations per the American Academy of Pediatrics (AAP).

Background: Pre-school children 2-5 years old, consume an average of 69 kcal/day from sugar-sweetened beverages. Approximately 17% of US children 2- 9 years old and 10% of infants and toddlers under age 2 are obese. Data are lacking on parental knowledge of their child's SSB intake and their knowledge of the current AAP recommendations for sugar intake.

Methods: A quantitative, exploratory, pilot tested study, recruited participants from a Mothers of Pre-school Aged Children (MOPS) group at a local church. Using an online questionnaire developed by the researchers, participants answered the questionnaires on-line through SurveyMonkey®. Once the online questionnaire was completed and data were collected, each participant was provided a researcher-created brochure. The brochure contained information regarding the current recommendations and strategies for decreasing intake of SSB's. Data were analyzed utilizing frequency statistics.

Results: Out of 100 attendees, 32 mothers participated in taking the questionnaire. One-hundred percent were mothers of preschoolers with a child's average age of 3.44 years. The majority of participants were Caucasian (78.0%), middle class (87.5%), with an average age of 30.2 years. Of the participants, 96.8% did not know the current AAP recommendations of sugar intake (6 tsp/day). The majority of mothers (68.75%) believed they give their child the right amount of sugar daily. The primary SSB consumed was juice (59.38%) with a consumed average of 2.7 oz/day. Of other SSB's surveyed, most mothers denied giving their preschoolers soda (84.38%), sweetened milks (75.0%), and electrolyte replacement drinks (78.13%). When asked if pressured to give their child SSB's, 87.5% said no and 71.88% said their child does not influence what they buy at the grocery store. Participants reported they do not reward their child with SSB's for good behavior (87.5%). Most participants (71.9%), reported that their child's intake of SSB's is higher when the child is not in their care.

Implications: Given the high calories and low nutritional content of most SSB's, the consumption of SSB's is concerning for childhood obesity. The dietary practices assumed by children become more prevalent with increasing age, and will impact their future nutritional health. Therefore, a nutritional analysis of preschooler's diet by nurse practitioners and other healthcare providers is crucial to provide mothers and caregivers with nutritional guidance and practices designed to decrease SSB intake. Health professionals can educate parents and discourage excessive consumption of SSB's before a child reaches school age. Additional research of parental and caregiver factors influencing SSB intake in early childhood is recommended.

Abstracts of Podium Presentations

ORGANIZATIONAL LEARNING

ORGANIZATIONAL LEARNING IN HEALTH SYSTEMS:
A CONCEPT ANALYSIS

Bret R. Lyman, Emily Hammond, Jenna Cox

ORGANIZATIONAL LEARNING IN INPATIENT HOSPITALS:
A SYSTEMATIC REVIEW OF THE LITERATURE

Bret R. Lyman, Emily Hammond, Jonathan Jacobs, Margaret Gunn

HOW DO YOU KEEP YOUR SHIP STEADY
IN A TUMULTUOUS SEA?

Dorothy "Dale" M. Mayer, Megan Hamilton

PRESENTEEISM AMONG NURSES WITH CHRONIC CONDITIONS:
A HEIDEGGERIAN HERMENEUTIC STUDY

April Elaina Morgenroth, Catherine Van Son, Billie Marie Severtsen

ORGANIZATIONAL LEARNING

Organizational Learning in Health Systems: A Concept Analysis

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Purpose: Preventable medical errors are the third-leading cause of death in the United States. Many of these errors are attributable to system-level problems in health systems. A growing body of evidence validates organizational learning's potential for improving health systems, including better patient outcomes, improved finances, and more effective teams. However, because definitions and conceptualizations of organizational learning have been inconsistent, the research published about organizational learning is not a theoretically coherent body of research. The purpose of this presentation is to offer a rigorous analysis of the concept of organizational learning in health systems, thus laying a stable foundation for additional theory development, research, and practical applications.

Definition of the Concept: Organizational learning is a process of positive change in the collective knowledge, cognition, and actions within an organization, thus enhancing the organization's ability to achieve its desired outcomes.

Concept Analysis Process Used: Walker & Avant's approach was used to guide this analysis. A search for relevant literature was conducted in the CINAHL, MEDLINE, Academic Search Premier, Business Source Premier, PsycINFO, SCOPUS, Web of Science, and Sociological Abstracts databases, yielding 2322 articles. After eliminating duplicates, articles of poor quality and papers not related to organizational learning in hospitals, 150 articles remained. Books and chapters on organizational learning were also consulted for this analysis. Data was systematically extracted from these sources to determine the uses, antecedents, contextual factors, empirical referents, and consequences of organizational learning in health systems.

Logic Linking Concept to Research and Practice: By definition, organizational learning is a positive change process through which healthcare organizations can position themselves to achieve their desired outcomes. Therefore, organizational learning has practical implications for research and clinical practice. Clinicians can strive to integrate the antecedents of organizational learning (i.e. experience, reflection, and dissemination) into their daily practice, while researchers can study the efficacy of interventions that foster those antecedents. Clinical leaders can facilitate organizational improvements by attending to the contextual factors associated with organizational learning: a shared purpose and motivation, interpersonal connections, a sense of psychological safety, adequate resources, and individual and collective skills related to organizational improvement. Researchers can use the empirical referents of organizational learning (i.e. interaction, collective reflection, deliberate learning, practicing, retention, and leadership) to develop observation tools and other instruments to evaluate the prevalence of behaviors related to organizational learning in a particular setting. Researchers and clinicians can study the impact of organizational learning by looking for improvements in clinical, organizational, financial, and team outcomes, as well as successful change efforts.

Conclusions: This analysis advances the conceptual clarity of organizational learning as it pertains to health systems. It provides a stable foundation for theoretical developments and a coherent body of research on organizational learning. Furthermore, clinical practitioners can use this concept to guide their efforts to advance organizational learning within their own organizations to achieve excellent patient care.

Funding: This study was funded by the Brigham Young University College of Nursing.

ORGANIZATIONAL LEARNING

Organizational Learning in Inpatient Hospitals: A Systematic Review of the Literature

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Purpose: This systematic review was conducted to gain a better understanding of the contextual factors, mechanisms, and outcomes associated with organizational learning in inpatient hospitals.

Background: Organizational learning is a positive change process by which organizations enhance their ability to achieve their desired outcomes. In hospitals, examples of desired outcomes may include improvements in patient safety, care quality, patient experience, and financial viability. Although a growing body of research supports organizational learning as an effective strategy for achieving gains in each of these performance areas, the empirical literature on organizational learning in inpatient hospitals has not been systematically gathered, analyzed, and synthesized. Thus, researchers, administrators, and clinical leaders are without a practical resource to guide their efforts to study and foster the development of organizational learning.

Methods: Databases searched for this review were CINAHL, MEDLINE, Academic Search Premier, Business Source Premier, PsychINFO, SCOPUS, Web of Science, and Sociological Abstracts. The search terms used were ("organizational learning" OR "team learning" OR "group learning" OR "collective learning" OR "learning organization*" OR "workplace learning") AND (hospital OR hospitals) with no limits set on date of publication. After an initial scan for duplicates, approximately 2,300 articles remained. Article titles were then sorted for relevance based on the following criteria: reports empirical data from an inpatient hospital setting, treats organizational learning as a process rather than an output, situated in an inpatient hospital setting, written in English, published in a peer-reviewed journal, refers to human improvements in knowledge, cognition, or behavior. Article abstracts were then reviewed, followed by a review of the full text. The remaining 197 articles were then scored using the Mixed Methods Appraisal Tool. During the appraisal process, 47 additional articles were removed that did not meet the inclusion criteria or had critical methodological flaws. Data extraction was performed for the remaining 150 articles, with a particular focus on the contextual factors, mechanisms, and outcomes associated with organizational learning in inpatient hospitals.

Results: Contextual factors associated with organizational learning included: shared purpose, motivation, psychological safety/relationships, infrastructure, skills in organizational improvement, and experience as a team. Mechanisms associated with organizational learning included: interaction, collective reflection, deliberate learning, practice, retention, and leadership. Outcomes associated with organizational learning included: clinical outcomes, patient outcomes, team outcomes, financial outcomes, and adoption of new/improved clinical practices.

Implications: Organizational learning is an important process for improving patient care and operational performance in inpatient hospitals. This systematic review provides a practical resource that can be used by researchers, administrators, and clinicians to advance the science and practice of organizational learning.

Funding: This study was funded by the Brigham Young University College of Nursing.

ORGANIZATIONAL LEARNING

How Do You Keep Your Ship Steady in a Tumultuous Sea?

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Purpose: The purpose of this study was to explore the impact of critical incidents (CI) on a variety of health care professionals (HCP) with an aim of identifying the personal and professional impacts of CIs. Our goal was to identify supportive interventions and understand barriers encountered after CIs so as to support our most valuable asset, HCPs themselves.

Background: Critical incidents were initially described in first responders including fire fighters and emergency medical services and law enforcement personnel. However HCPs also encounter situations which cause them to experience strong emotional reactions, which meet Mitchell’s definition of a CI. Most literature on CIs is focused on pre-hospital providers and emergency and high acuity units including intensive care.

Methods: We recruited a purposeful sample of multidisciplinary HCPs who self-identified a CI they wanted to discuss. Our study included a sample of 11 participants, including nurses, chaplains, and providers (physician and nurse practitioner) working in inpatient and out-patient departments of a Magnet ® recognized hospital. A researcher developed interview guide was used and data was analyzed using applied thematic analysis to identify codes and themes. Trustworthiness was ensured by use of a rigorous analytic process appropriate for this method and included questioning the data, peer-debriefing, and prolonged engagement.

Results: Our participants’ described CIs which included the withdrawal of life support, family dynamics associated with a death, an accidental shooting, a homicide, motor vehicle crashes, death of a coworker, death of a long-term patient, workplace bullying and cases of physical and/or sexual assault. We identified four themes: 1) critical incidents happen and are not forgotten; 2) the many impacts of critical incidents, 3) navigating through critical incidents, and 4) barriers to navigating after critical incidents. All themes will be described using direct quotes of our participants’ centered around our participants’ comments about critical incidents in healthcare and the work environment.

Implications: CIs happen in all settings and HCPs should expect CIs to occur and be alert for ensuing impacts. Each individual HCP must identify navigational strategies that work for them so as to enhance their response after a CI. Workplace culture can help, or hinder, a HCP’s ability to successfully navigate after a CI. It is imperative that HCPs, and managers, decrease barriers to navigation after CIs and collaboratively work together to build a supportive culture.

ORGANIZATIONAL LEARNING

Presenteeism among Nurses with Chronic Conditions: A Heideggerian Hermeneutic Study

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Background: Presenteeism is defined as the phenomenon of an employee attending work while ill or in spite of feeling physically and/or cognitively unable to fully engage in normal day-to-day work activities. Research suggests that approximately 49% of all employed Americans will attend work while ill in any given year. Presenteeism among nurses has been shown to negatively impact patient care and is associated with higher rates of patient falls and medication errors. Presenteeism research in nursing has primarily focused on the employer's point of view, leaving the perspective of the nurses unheard.

Purpose/Aims: The purpose of this phenomenological research study was to uncover a deep understanding of the experience of presenteeism by nurses who manage their own chronic condition while working in a healthcare setting.

Methods: Participants were nurses with chronic conditions who experienced presenteeism and who, at the time of the interview, were working at least part time as a nurse in a healthcare setting. Data was collected via audio-recorded interviews. Participants were asked through open-ended non-directive interview questions to tell their story of working as a nurse with a chronic condition. Interpretation of interviews was done by an interpretive team using Heideggerian hermeneutical analysis. Data from nineteen interviews were included at which time data saturation was reached and no new themes were identified.

Results: Study results revealed three patterns and five themes that embody what it means to be a nurse with a chronic condition who experiences presenteeism. The themes identified were a) Blurred Boundaries, b) Contributing to the Profession, and c) Losing and Finding Self. The themes included *Being a Patient and Being a Nurse, Proving Yourself in the Culture of Nursing, Advocacy, Disclosing and Withholding, and Rewriting Your Story.*

Implications: The results of this study contribute to nursing science through facilitating an understanding of the meaning of the experience of presenteeism among working nurses with chronic illness. They hold significant implications for employers and direct supervisors of nurses for both policy-making and for developing programs that support nurses' continued contribution to the field throughout the span of their career.

OVERCOMING CHALLENGES IN RURAL HEALTH

DISCRETE OBSERVATION METHODS:
OVERCOMING CHALLENGES

Kelly Buettner-Schmidt, Marie L. Lobo

COMPARING SEPSIS MORTALITY IN TERTIARY AND
NON-TERTIARY HOSPITALS IN WASHINGTON STATE

*GG Salvatierra, Bernice G. Gulek, Deborah Bennett,
Baran Erdik, Kenn B. Daratha*

FACTORS IMPACTING OBESITY IN RURAL OREGON
AND URBAN MASSACHUSETTS YOUTH

Marie Lynne Esplin, Kristi Botelho

CAN A HEART FAILURE PROJECT ECHO MEET
LEARNING NEEDS IN PRIMARY CARE?

Erin L. Blakeney, Megan Miller, Debra A. Liner, Brenda Zierler

CAN A RURAL HOSPITAL RELIABLY PERFORM AN
EMERGENCY CESAREAN IN 30 MINUTES OR LESS?

Dixie Shaheen Rasmussen, Barbara L. Wilson, Jean Millar

OVERCOMING CHALLENGES IN RURAL HEALTH

Discrete Observation Methods: Overcoming Challenges

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Aims: To describe the challenges of discrete observation methods during a longitudinal study assessing secondhand smoke (SHS) levels in hospitality venues.

Background: Discrete observations are those that are covert, or not openly conducted, so that those being observed do not know that they are being observed. Discrete observations were needed to prevent a change of behavior of occupants in hospitality venues during data collection. Occupants included patrons, employees, or owners. Hospitality venues included restaurants and bars. Data included room dimensions, indoor air samples, and counts of patrons, employees, and lit cigarettes. This method is applicable to many nursing research questions.

Methods: Education of IRB personnel about discrete quantitative data collection was needed to obtain IRB approval. Data collectors were trained to behave as normal customers, purchasing food and beverages, and staying for a minimum of 30 minutes. Room dimensions were measured by use of a small handheld sonic device; if questioned, an explanation of wanting to determine how the device works in other situations was provided, e. g. measuring rooms for flooring. Monitors gathering air samples were placed in a purse-like bag and placed on chairs, tables, or counters. The monitors emitted a soft hum and if questioned it was stated the sound came from a medical device. Counts were completed in larger rooms while walking as if searching for a restroom or looking at decorations and in small rooms by staying seated and looking around the room.

Results: Discrete observations resulted in data collection in 304 venues showing significantly decreased levels of SHS after implementation of a new comprehensive statewide law requiring all workplaces and public places to be smoke-free. However, it should be noted, this data collection method was only approved by the IRB after extensive education about the method and ethics of the method.

Implications: Public health studies address social determinants of health including the environments in which people live, work, and play and may depend upon people's behaviors not changing during studies. The Centers for Disease Control and Prevention identified reducing SHS exposure as a best practice. Nursing research can benefit from this method of study in many environments, such as nursing homes, hospitals, schools, and other types of public venues where individuals are not the unit of study. This study demonstrated the effectiveness of discrete observational data collection to study the effects of a comprehensive statewide smoke-free law.

Funding: Provided by the Robert Wood Johnson Foundation (RWJF) through the RWJF Nursing and Health Policy Collaborative at the University of New Mexico's College of Nursing and by the North Dakota Center for Tobacco Prevention and Control Policy, Bismarck, ND per Grants G11-84, G13-55, and G13-110.

OVERCOMING CHALLENGES IN RURAL HEALTH

Comparing Sepsis Mortality in Tertiary and Non-Tertiary Hospitals in Washington State

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Purpose: To examine differences in sepsis mortality rates between tertiary and non-tertiary hospitals in Washington state hospitals.

Background: Sepsis is “a life-threatening organ dysfunction due to a dysregulated host response to infection” (Senger, Seymour et al., 2016) . More than a million people a year in the United States (U.S.) experience sepsis or sepsis-related complications, which is the leading cause of in-hospital deaths (Debacker & Dorman, 2017; Liu, Escobar & Greene, 2014). The surviving sepsis campaign published the first bundled guidelines for recognition and treatment in 2004. Revised three times, these treatment bundles continue to have a measurable and considerable impact on improved length of stay and mortality rates. Yet despite clear evidence that bundled interventions reduces sepsis-related in-hospital mortality and morbidity, adoption and implementation have both been subject to wide variability, and recent evidence shows that the SSC treatment bundles are far from becoming the standard practice of care. Few studies examining the relationship between implementation of the sepsis bundles and health outcomes have considered hospital level and no studies have examined the relationship of in-hospital mortality among multiple, geographically contiguous tertiary and non-tertiary care hospitals.

Methods: Retrospective longitudinal, observational cohort study of 73 Washington state hospitals for 2010-2015 using data from a standardized state database. All tertiary (n=7) and non-tertiary (n=66) hospitals in Washington state; excluding federal, Veteran’s Affairs or military hospitals. Hospital abstract records on adult patients ($n = 86,378$) admitted to the hospital through the emergency department (ED) with a primary ICD9-CM diagnosis codes for sepsis, severe sepsis, or systemic inflammatory response syndrome from 2010 through 2015.

Results: The overall mortality rate for all hospitals was 6.5%. In the fully adjusted model, the odds ratio for in-hospital death was higher in non-tertiary hospitals compared to tertiary hospitals (OR=1.25; 95% CI=1.17-1.35; $p<0.001$). Internal validation, comparing the derivation and validation cohorts, yielded equivalent results.

Implications: The adoption of the Surviving Sepsis Campaign bundled guidelines has been associated with promoting earlier detection, more aggressive, evidence-based treatment and a decline in sepsis mortality rates. We observed higher sepsis mortality rates in non-tertiary hospitals, when compared to tertiary hospitals. Differences in mortality rates between tertiary and non-tertiary hospitals have several implications. Because the majority of patients who are treated for sepsis are treated outside of tertiary hospitals, and this number appears to be rising, there needs to be a better understanding of the causes for this differential. This has important implications for prioritizing resource allocation including dissemination of information and implementation of the sepsis bundles to non-tertiary hospitals.

OVERCOMING CHALLENGES IN RURAL HEALTH

Factors Impacting Obesity in Rural Oregon and Urban Massachusetts Youth

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Background: Childhood obesity is currently an area of public health concern, with obesity rates rising in US youth despite national efforts to curb this trend. Questions remain about the effects residency (rural vs. urban) and other factors have on obesity rates of US youth. Research in the rural west is extremely limited, leaving this population understudied and providing limited guidance for healthcare workers to address this public health concern.

Purpose: Thus, this study's purpose was to compare obesity rates, physical activity levels and obesity-related factors between youth in rural Oregon (OR) and urban Massachusetts (MA).

Methods: In this mixed-methods study, heights and weights were obtained and surveys conducted with 51 youth ages 7-13 in rural OR (n=27) and urban MA (n=25). Subjects were recruited from the YMCA in MA, and from fourth and fifth grade physical education classes in OR. The Physical Activity and Diet Survey was used to assess participants' diet and activity. Body mass index and physical activity levels were calculated for each child. Data was analyzed using SPSS cross-tabulations, t-tests, chi-square tests, and Pearson correlation. Qualitative responses were organized categorically and analyzed using frequency counts.

Results: The OR and MA groups were demographically similar, with the OR group having a higher percentage of females and a slightly higher average age and grade level. There were no significant differences found between the OR and MA groups in terms of body mass index ($p=0.382$), obesity level ($p=0.286$) or physical activity level ($p=0.615$). Three significant differences were found in factors impacting obesity and physical activity: OR participants reported higher rates of parental exercise ($p=0.022$), greater fruit consumption ($p=0.02$), and less video game usage ($p=0.008$). A significant negative correlation was also found in the OR group between video game usage and physical activity level ($p=0.025$). Qualitative analyses revealed greater sports team involvement among OR participants (96%), compared to MA participants (70.8%). Facilitators to physical activity reported by both groups included sports team involvement, family interaction, and access to resources. Reported barriers included electronics and school-related issues.

Implications: Results suggest that western rural residency is not a risk factor for obesity. To promote healthy weight, nurses should encourage sports participation, family interaction, and video game limits. Future research should focus on prioritizing interventions, exploring the effects of family size on physical activity, and investigating lack of urban sports participation.

OVERCOMING CHALLENGES IN RURAL HEALTH

Can a Heart Failure Project ECHO Meet Learning Needs in Primary Care?

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Purpose: The purpose of this pilot project was to test adaptation of a model of online continuing education—known as Project ECHO (Extension of Community Health Outcomes)—to meet heart failure (HF) educational needs among WWAMI region primary care providers.

Background/Rationale/Conceptual Basis: HF is the most expensive healthcare diagnosis and holds the highest rate of hospital readmission in Medicare patients. The number of HF patients continues to grow with the aging population. With this continued growth, primary care providers are being called upon to provide care for patients with advanced stages of HF in community settings. Many primary care providers encounter challenges in accessing HF continuing education to stay up to date on best practices in HF care.

Methods: In response to the identified needs, academic and practice partners from the University of Washington (UW) Center for Health Sciences Interprofessional Education, Research and Practice and UW Medicine received HRSA funding to create the Northwest Heart Failure Collaborative (NWHFC): Project ECHO in July 2015. Following a planning period, biweekly hour-long web-based educational sessions launched in May 2016—this abstract reports on the results of the first year of the program. Recruitment to participate in the NWHFC: Project ECHO occurred through multiple modes and networks (including email, presentations at conferences, mailed media). Mixed method evaluation approaches, including registration and attendance records, session evaluations and a mid-course retention/satisfaction survey were utilized to evaluate pilot program effectiveness and outcomes during the first year of the program. This project has been determined to be exempt from a Human Subjects perspective.

Results: At the end of the first program year, cumulative attendance for 22 sessions totaled 339 participants. Registration roster listed 143 unique registrants, of which 82 participated in ≥ 1 sessions; 34 unique participants attended ≥ 1 sessions but had not registered. Registrants spanned 8 states, representing professions: RN=56; Advanced Practice Provider (e.g. Nurse Practitioner)=31; student=14; PharmD=12; MD/DO=7; and other/unknown=23. At registration, participant rating of their confidence in HF knowledge revealed 2% rated 1=no confidence; 11%, 2=low; 48%, 3=moderate; 35%, 4=high; and 4%, 5=very confident. Over half had heart failure patients make up at least 50% of their patient population. Only 15% of registrants indicated they would like to receive CE credit for participation. In November 2016, a fourteen question mid-course retention/satisfaction survey was sent to all registered participants (n=109) and garnered a response rate of 23.9%. The main reasons respondents report for being interested in the program were to: 1) improve understanding about HF care (64%) or 2) looking for a peer community to support their practice of providing HF care (16%). Participants overwhelmingly report liking and recommending the format of the program (75%).

Implications: The NWHFC: Project ECHO program has successfully expanded access to HF continuing education and mentorship for primary care providers throughout the WWAMI region, including those in rural and underserved areas. More research is needed on knowledge and behavior change among participants as well as cost and comparative effectiveness of this and other ECHO programs to determine sustainability of the project ECHO model.

Funding: The NWHFC program is supported in part by funds from the Division of Nursing (DN), Bureau of Health Professions (BHP), Health Resources and Services Administration (HRSA), Department of Health and Human Services (DHHS) under grant number DH09HP286700100.

OVERCOMING CHALLENGES IN RURAL HEALTH

Can a Rural Hospital Reliability Perform an Emergency Cesarean in 30 Minutes or Less?

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Purposes/Aims: This project was designed to identify and evaluate key challenges a rural hospital has in providing a reliable best practice response for an Emergency Cesarean Section (ECS). Decision to Incision times (DIT), when confronted with an ECS along with newborn outcomes were studied. The study also conducted and analyzed staff questionnaires to evaluate staff attitudes, perceptions, role clarifications, driving and restraining forces in an ECS.

Rationale/Background: American Congress of Obstetrics and Gynecology (ACOG) recommend that obstetrical services be able to reliably perform an ECS DIT in 30 minutes or less. Seventy percent of neonatal brain injury may occur in the intrapartum period (AWHONN, 2015). Rural hospitals often perform all cesarean sections in the operating room domain with experienced operating room staff rather than obstetrical nurses trained in circulation and scrub. Rural hospitals are fraught with challenges around 24/7- hour/day availability of skilled anesthesia and surgical staff needed for an ECS. The Institute of Medicine (2005) remarked that rural hospitals do not regularly have the census to finance operating rooms and anesthesia to be in house always. Rural multidisciplinary staff often feel unsupported and feel incompetent with oversaturated responsibilities. Night shifts (PM) and weekends are left vulnerable to prolonged DIT's for an ECS.

Undertaking/Best Practices/Approach/Methods/Process: Five years of Emergency Cesarean Section outcomes were analyzed (records review) to evaluate a rural hospital system in providing a reliable "best practice" response as recommended by ACOG. Outcomes (DIT's and newborn) evaluated, included pre-intervention and post-intervention quality improvement project (QI). Statistical tests included: t-Test for independent groups, DIT mean scores, 5-minute Apgar mean scores, and nominal data for infant respiratory distress and hospital transfer. Staff questionnaires included a Lickert scale that involved questions about staff encounters when an ECS was performed. The questionnaire also employed a ranking section about the staff's personal perceptions about restraining and driving forces as described by the Kurt Lewin theory.

Outcomes Achieved: Decision to Incision t-Test for independent groups analyzed, not statistically significant, ($n=19$, $t=.88$, $\alpha .05$, two tailed, critical value, 211, $df17$). Clinical significant ascertained that mean DIT scores were improved post-intervention by 7 minutes. Pre-intervention=DIT @ 37.2 minutes and Post-intervention=DIT @ 30.2 minutes. Evening shift (PM) and weekend, overall scores, demonstrated prolonged DIT mean scores, AM ($n=8$) =26 minute, PM/weekend ($n=11$) =42.3 minutes. Pre-implementation DIT AM=37.2-minute, Post implementation=25.6 minutes. Pre-implementation DIT PM/Weekend=41.2 minutes, Post=41.8 minutes. Staff questionnaires revealed that the staff believes that "best practices" are attainable for an ECS in this facility. The staff questionnaires also ranked that there was a lack of training surrounding an ECS, rural skill oversaturation requirements, and unity resistance between the Operating Room staff and Labor and Delivery staff when an ECS was called. The staff ranked the chief driving force as the importance of good newborn outcomes.

Conclusions: Recommendations include improving this rural hospital's health policies towards reducing PM/Weekend DIT times, thus reflecting "Best Practice". Continue the QI project, taking into consideration staffs' desire to initiate and continually improve a rapid response plan when encountered with an ECS.

PERSPECTIVES IN CARDIOVASCULAR HEALTH

RACIAL DIFFERENCES IN TRADITIONAL AND
NON-TRADITIONAL CARDIOVASCULAR RISK FACTORS

Natalie Spoehr, Megan Petrov, Cha-Nam Shin

SYMPTOM PERCEPTION AND CARE-SEEKING
BEHAVIOR IN ACUTE ISCHEMIC STROKE

Patricia A. Zrelak

USING A RISK STRATIFICATION TOOL TO
PREVENT HEART FAILURE READMISSIONS

Anna Dermenchyan

REHOSPITALIZATION IN HEART FAILURE OUTPATIENTS
WITH AND WITHOUT COGNITIVE IMPAIRMENT

Daniel David, Victoria Wertz, Caroline E. Stephens

PERSPECTIVES IN CARDIOVASCULAR HEALTH

Racial Differences in Traditional and Non-Traditional Cardiovascular Risk Factors

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Purpose: The objective of the present study was to investigate differences in traditional and non-traditional cardiovascular disease (CVD) risk factors between Asian and non-Hispanic White young adults.

Background: The burden of CVD varies by racial/ethnic group. Among non-Hispanic White adults, 36.1% of males and 31.9% of females have CVD, whereas 31% of Asian adult males and 27% of Asian adult females have CVD. Traditional risk factors that increase the likelihood of developing CVD include smoking, alcohol, physical inactivity, obesity, diabetes, high cholesterol, and high blood pressure. Suboptimal sleep is known to be a non-traditional risk factor for poor overall health, CVD risk factors, and CVD. There is limited data looking at ethnic differences in traditional as well as non-traditional (i.e., sleep quality, disturbance) CVD risk factors among young adults from these ethnic/racial groups

Methods/Approach: Participants in this study were recruited using a study flyer displayed at Arizona State University (ASU) campuses as well as on ASU institutional social media and listservs. The flyer was used to find eligible participants for a larger community-based study on sleep and cardiovascular health that excluded for history of cardiovascular conditions, diabetes, or inflammatory conditions, current nicotine and sleep medication use, and employment in shiftwork. Interested persons were directed to complete an online screening survey. The present study was an investigation of the cross-sectional, screening survey. The final sample size was 167 young adults between the ages of 18 and 44 years old who self-reported their ethnicity/race as either non-Hispanic White or Asian.

Results: Unadjusted univariate analyses were conducted to find the prevalence of traditional and non-traditional CVD risk factors by ethnic/racial group. The unadjusted results examining differences in traditional CVD risk factors indicated that Asian participants were less likely to report alcohol use compared to non-Hispanic White participants. For non-traditional CVD risk factors, Asians were less likely to report experiencing sleep-related fatigue or malaise, attention impairment, daytime sleepiness, reduced motivation or energy, or concerns about their sleep compared to non-Hispanic White participants. Multivariate-analyses were conducted adjusting for sex and age. The adjusted results indicated that the Asian participants were less likely to report alcohol consumption (OR: 0.40, 95% CI: 0.19-0.84), regular engagement in exercise (OR: 0.39, 95% CI: 0.17-0.91), engagement in hard intensity exercise (OR: 0.56, 95% CI: 0.33-0.96), concerns with sleep quality (OR: 0.18, 95% CI: 0.06-0.56), and sleep difficulty-related fatigue (OR: 0.18, 95% CI: 0.07-0.50), attention impairment (OR: 0.15, 95% CI: 0.04-0.52), daytime sleepiness (OR: 0.28, 95% CI: 0.12-0.64), reduced motivation (OR: 0.40, 95% CI: 0.18-0.88), and were more likely to be obese (OR: 1.60, 95% CI: 1.10-2.32) compared to non-Hispanic White participants.

Conclusions/Implications: Findings indicate that Asian and non-Hispanic White young adults differ in their CVD risk factor profiles. The results may help guide cardiovascular prevention education provided to these groups. The data indicate the need for further longitudinal research studies on non-traditional CVD risk factors like sleep by ethnicity/race.

PERSPECTIVES IN CARDIOVASCULAR HEALTH

Symptom Perception and Care-Seeking Behavior in Acute Ischemic Stroke

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Aims: 1. To determine if there are differences in symptoms, clinical signs, and stroke knowledge between persons with acute ischemic stroke that present early (≤ 4.5 hours) and those that present late (> 4.5 hours). 2. To determine the impact of having a bystander and the physical location at the time of stroke onset on the decision-making process in seeking emergent care. 3. To determine the impact of gender on the time to presentation, between symptom perception and clinical signs, on treatment rates, as well as gender differences in stroke knowledge, bystander availability, and the impact of others on decision making.

Background: Lack of stroke recognition and delays in seeking emergency care remain a factor in administering acute stroke treatment. Some evidence suggests gender differences in: care seeking behaviors in stroke; stroke knowledge; perceptions of stroke symptoms; treatment rates, in the importance of the physical location at the time of stroke; and of having a witnessed stroke.

Methods: A descriptive study based on a convenience sample of 60 subjects admitted to an academic medical center with acute ischemic stroke. After consent, subjects were asked to answer questions regarding: why they came to the emergency department (ED); decision-making; how likely they thought it was they were having a stroke; if bystanders were present, and if so, their relationship and gender; if Emergency Medical Services (EMS) were called and if so, who made the activation decision, and if not the patient, the relationship and gender of the primary decision maker; if the patient knew there was a treatment that could possibly reverse a stroke, and if so, did they know there was a time limitation; pre-stroke Modified Rankin Scale; ambulatory status prior to admission; and a 28-question stroke symptom inventory of non-focal and focal symptoms. All questions were verbally asked and recorded by study personnel. Focal signs and reported symptoms, along with the admitting stroke severity score were recorded from the admitting note completed by the neurologist. Discharge disposition, outcomes at discharge, demographics, and emergent treatment provided were recorded from the electronic medical record.

Results: Findings include a mismatch between patient perception of symptoms and medical findings. While most patients had at least one sign or symptom associated with national used stroke symptom acronyms (such as FAST, BeFAST, the suddens list, and SAFE), both genders delayed care because they didn't perceive their symptoms as being urgent. Early presenting men were more likely to: have a higher admission stroke severity score, to receive alteplase, to arrive by EMS, and have a witnessed stroke and to have a stroke that occurred in public. Both early and late presenting women reported more non-focal symptoms than men. Both genders reported problems with weakness as balance problems. Women were more likely to have an unwitnessed stroke and to rely on bystander decision making or delayed family engagement in seeking care.

Implications: More research is needed to better understand patient perception of stroke to improve the community health message on stroke.

PERSPECTIVES IN CARDIOVASCULAR HEALTH

Using a Risk Stratification Tool to Prevent Heart Failure Readmissions

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Abstract Summary: The purpose of this project is to demonstrate an evidence-based risk stratification tool in identifying heart failure patients. This is used to assess the risk for readmissions within 30 days after hospital discharge as well as the process of implementing bundled interventions.

Purpose: To implement strategies to improve care and patients' experience and reduce readmissions for heart failure (HF) patients, Ronald Reagan UCLA Medical Center accepted an invitation from the American College of Cardiology (ACC) to join the Patient Navigator Program (PNP). The goal for the program is for hospitals to establish a patient-centered focus that involves making hospitalization less stressful for patients by providing evidence-based quality improvement strategies. At the initiation of the program (Spring 2014), UCLA utilized a validated risk model, LACE index, to identify patients who are at high risk of readmissions before discharge. This tool has been used to predict the risk of unplanned readmissions as well as mortality within 30 days of hospital discharge in both medical and surgical patients.

Methods: The LACE Index tool is used to identify patients who would benefit from specific interventions. The score is calculated in the electronic health record (EHR) for each patient from 0 to 19 on the basis of all the following parameters: length of stay (L), acuity of admission (A), comorbidity (C), and emergency department visits in the preceding 6 months (E). Based on the LACE criteria, a low (0–6), medium (7–10) or high (≥ 11), each score has an identified bundled intervention for each level of risk. For example, a HF patient with a low risk score of 6 would receive medication reconciliation from the pharmacist, an updated medication list from the nurse, and a standardized discharge summary from the discharging physician, as well as a follow-up appointment within 5 days. In contrast, a HF patient with a high risk score of 14 would receive the same interventions plus consultations by a physical therapist, a social worker, a case manager, and a dietician; one-to-one medication teaching by the pharmacist; and a follow-up appointment within 3 days.

Results: The LACE Index score is now calculated in the electronic health record (EHR) for all patients. Currently, HF patients receive bundled interventions 80% of the time on the cardiac wards. Since the initiation of the risk score, 30-day unadjusted readmission rates for HF patients at UCLA have decreased from 19% (baseline) to 16.7% (2016, Q2) as compared to the Navigator hospitals 19.2% (baseline) to 17.9% (2016, Q2). In the area of patient experience related to patients' understanding of medications, UCLA is consistently higher than other Navigator hospitals (100% vs. 72.2%) and has identified and shared best practices during the monthly webinars. In addition, UCLA has increased the number of HF patients consistently receiving a follow-up appointment within 7 days after discharge: baseline of 76.6% to 87.5% (2016, Q2).

Conclusion: There are numerous factors that cause hospital readmissions. By using a risk model, UCLA is able to identify patients who would benefit from specific evidence-based interventions. This has improved outcomes in 30-day unadjusted readmission rates and patient experience.

Funding: From American College of Cardiology (ACC) Patient Navigator Program.

PERSPECTIVES IN CARDIOVASCULAR HEALTH

Rehospitalization in Heart Failure Outpatients with and without Cognitive Impairment

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Purposes/Aims: The purpose of this study was to examine the impact of cognitive status on rehospitalization in heart failure (HF) outpatients.

Rationale/Conceptual Basis/Background: HF patients are susceptible to unrecognized cognitive impairment (CI). Individuals with CI in the presence of HF may be at increased risk for frequent hospitalization and death. However, CI is rarely assessed. This deficit may contribute to incomplete understanding and diminished self-care behaviors that result in poor outcomes. This study investigates the impact of cognitive status on rehospitalization in HF outpatients. The Integrated Theory of Health Behavior Change provided a framework for this study. The theory identifies constructs in the presence of contextual factors (i.e., cognition) that influence the adoption of health behavior and health outcomes such as rehospitalization.

Methods: A convenience sample of 151 participants were recruited from a HF clinic that services patients receiving care at a large urban medical center in New England. Participants were assessed for CI with the Montreal Cognitive Assessment (cognitive intact, n=101, cognitively impaired, n=50). Hospitalization history was obtained from patient report and confirmed by a medical records review. Patients were followed for 6 months after index visit in which hospitalization was documented in the medical record. Descriptive statistics and comparative analyses (t-test and chi-square) were used to describe the sample and identify differences between cognitively intact and impaired participants. Odds ratios were calculated for significantly different categorical variables.

Results: Thirty percent of the sample had CI that was previously unrecognized. Retrospectively, individuals with CI were more likely to be hospitalized (OR: 1.41, 95% CI 1.08 – 1.85) and had a greater number of hospitalizations (1.48 vs 0.83 admissions, p = 0.019) within the past six-months. Prospectively, however, there was no difference in subsequent hospitalization (within 30 days, 3 months, or 6 months) nor death within 6 months between cognitively impaired and intact patients.

Implications:

- Cognitive impairment is prevalent in HF populations and screening is needed in the outpatient setting.
- Cognitive status may represent a lagging indicator of hospitalization rather than a predictor of future hospitalization.
- Prospective studies that evaluate the predictive ability of variables on rehospitalization and mortality may permit enhanced assessment of patients that are vulnerable for poor outcomes.

Abstracts of Podium Presentations

PREPARING AN EXCELLENT BSN WORKFORCE

PRELICENSURE STUDENT NURSE
MEDICATION ADMINISTRATION ERRORS

*Grace Kolodychuk, Catherine Van Son,
Cynthia F. Corbett, Kenn Daratha*

USE OF A CONCEPT INVENTORY TO SUPPORT
EVIDENCE-BASED GENOMIC NURSING EDUCATION

Linda Ward

STUDENT TO PROFESSIONAL NURSE TRANSITION
TO PRACTICE: INSIGHT INTO RETENTION

Lisa Zenoni

PREPARING BSN STUDENTS FOR WORK IN
PRIMARY HEALTH CARE: LESSONS LEARNED

Danuta Wojnar

HOW TO CREATE UNIVERSITY AND COMMUNITY COLLEGE
PARTNERSHIPS FOR REMARKABLE BSN GROWTH

Judy A. Liesveld, Anita Reinhardt

PREPARING AN EXCELLENT BSN WORKFORCE

Prelicensure Student Nurse Medication Administration Errors

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Purpose: This mixed methods study describes the experience of making a medication administration error as a prelicensure nursing student. Self-reports of recently licensed nurses, reflecting on medication errors as a student, included characteristics and factors contributing to the medication error, and patient outcomes.

Background: Medication errors are a significant proportion of medical errors creating risk for patients in healthcare organizations. Little is known about the experiences of prelicensure student nurses who make medication administration errors in the clinical setting. This knowledge contributes to our understanding of this experience and illuminates important details surrounding the error occurrence. Human Error Theory provided the conceptual framework for understanding these medication errors.

Methods: Randomly selected registered nurses in the State of Washington, graduating from their prelicensure nursing education program within 2012-2016, were invited to complete a survey focused on the experience of a medication administration error made as a student nurse. The survey instrument was informed by pilot work and the literature, and included open and closed ended questions. Frequency distributions were used to conduct univariate analysis of categorical responses. Bivariate comparisons were examined using chi-square and independent samples z-tests. Qualitative data were analyzed using content analysis.

Results: Surveys were returned from 310/1150 and 184 surveys met inclusion criteria. Fifty-eight respondents (31.5%) indicated they made a medication administration error as a prelicensure student. The most frequent errors identified were wrong time (19%), greater than prescribed dose (13%), and wrong monitoring (13%). Inadequate support/supervision (16%); inadequate communication with instructor, nurse, or patient/family (13%); distraction (12%); confusing medication administration record (10%), inadequate time to prepare and administer the medication (9%); and fatigue (9%) were most frequently identified as factors contributing to the occurrence of the medication error. Respondents identified no harm to the patient (91%), temporary harm requiring interventions (5%), and harm requiring life sustaining measures (2%). Chi square analysis revealed no statistically significant relationships between medication error and the type of nursing program ($p=0.42$, $\chi^2=2.82$, $df\ 3$), gender ($p=0.65$, $\chi^2=0.21$, $df\ 1$) or age at the time of the survey ($p=0.57$, $\chi^2=1.97$, $df\ 3$). Proportion of respondents reporting a medication error demonstrated no differences by program level ($p=0.57$). No statistically significant relationships were identified between the number of errors made by the respondents and type of program ($p=0.62$, $\chi^2=1.80$, $df\ 3$), gender ($p=0.17$, $\chi^2=1.89$, $df\ 1$), and age at the time of survey ($p=0.37$, $\chi^2=3.11$, $df\ 3$). Qualitative analysis identified the themes: trauma related to making an error, 'owning' the error, and system complexity.

Implications: Knowledge of the characteristics, related factors and patient outcomes of medication administration errors committed by nursing students are important for nurse educators. Current teaching practices for medication therapy should be optimized to: (1) support student learning regarding appropriate medication administration, and (2) ensure patients' safety while in the care of prelicensure student nurses. Findings suggest that student nurses want more support/supervision and improved communication with the healthcare team to provide safe medication administration. Students also require support after the error occurrence in order to process and understand the event. **Funding:** Versant Center for the Advancement of Nursing (VCAN®) Scholar Award.

PREPARING AN EXCELLENT BSN WORKFORCE

Use of a Concept Inventory to Support Evidence-Based Genomic Nursing Education

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Purpose/Aims: This study describes the use of a concept inventory to support the planning, implementation and evaluation of a stand-alone genomics course in a prelicensure baccalaureate program.

Rationale: Nursing has committed to prepare a workforce with clearly-defined, essential genetic-genomic competencies. To achieve such competency, nurses must acquire deep understanding of foundational genetic-genomic concepts, so they can apply knowledge in practice. This level of understanding has been described as meaningful learning. Genomics is a new content area for nursing, calling for efficient, effective, evidence-based approaches for integrating new content into already-full curricula. Decades of biology education research has shown genetics to be a difficult content area for students and has generated a body of research to support evidence-based teaching. The use of concept inventories has become widespread in biology education to inform and evaluate teaching and learning. Concept inventories are empirically derived tests that both apply and generate evidence to support meaningful learning. Each item tests understanding of a critical concept in a particular content domain and item distractors represent common misconceptions. Nursing's first concept inventory, the Genomic Nursing Concept Inventory (GNCI[®]2011), measures deep understanding of foundational genetic-genomic concepts critical to nursing practice. Psychometric evidence supports GNCI use for its intended purpose, i.e., to measure genomic literacy among nurses, nursing faculty, and nursing students. In this study, we used the GNCI to inform the implementation and evaluation of a stand-alone genomics course in a prelicensure baccalaureate nursing program.

Method: The study was conducted in a single large prelicensure baccalaureate nursing program where students are admitted twice a year. Between 2011 and 2017, nine sequential cohorts of newly-admitted students took the GNCI at program orientation to measure preinstructional knowledge and identify knowledge gaps and shared wrong ideas. The students took the GNCI again on the first day of a required 2-credit genomics course during the second semester of a four-semester curriculum. Course teaching applied strategies drawn from biology education research to build deep understanding, resolve knowledge gaps, and reconcile misconceptions. Students took the GNCI again on the last day of genomics instruction to measure short-term learning and a year later, just prior to graduation, to measure sustained learning.

Results: Over the study duration, 1160 students took the GNCI 4236 times. Students were predominantly female (86%) with a mean age of 25 years (SD=6.5). Cronbachs alpha was .87. Prior to any nursing instruction, mean score was 43% (SD=4.7). On the first day of genomics class, mean score was 50% (SD=5.0), and on the last day of class mean score was 78% (SD=3.8). By graduation the mean score had fallen to 72% (SD=4.6). Item analysis identified short-term and sustained learning for individual concepts and tracked learning gains and losses across program progression.

Implications: Evidence to support implementation and evaluation of genomic nursing education can be generated when a concept inventory developed specifically for nursing is used for formative and summative assessment. Developing concept inventories in other nursing domains may hold promise as educators strive to employ evidence-based strategies that support meaningful learning.

PREPARING AN EXCELLENT BSN WORKFORCE

Student to Professional Nurse Transition to Practice: Insight into Retention

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Purpose: A purpose of this qualitative, phenomenological study was to describe baccalaureate educational experiences that supported and inhibited retention of new graduate nurses.

Rationale/Background: With a challenging practice environment and an increasing nursing shortage, the retention of new graduate nurses must be a goal for both practice and education. After completing nursing school, many new graduate nurses struggle to succeed in today's complex healthcare environment as they transition from student nurse to professional nurse. Consequently, within the first few year of practice, many new graduates leave their first job or the nursing profession entirely. It is necessary to recognize what experiences during nursing education support retention of new graduates to inform changes and retain best practices for both practice and education.

Methods: For this research study, the researcher used a descriptive, phenomenological approach. Eight new graduate nurses from a private nursing school in the western United States who completed baccalaureate education within 12 months and worked as an RN on an in-patient medical surgical unit for at least 3 months, but not more than 12 months participated in this study. Participants wrote reflections describing their transition from student role to professional nurse and reviewed these reflections with the researcher at the end of face-to-face interviews. In-depth interviews using open-ended questions were conducted, recorded, and transcribed by the researcher. The results of the interview and reflections were analyzed by the researcher using Colaizzi's (1978) method to identify the recurring themes and member checking with the participants to help validate the results. Insights into retention were noted in reflections and interviews.

Results: Findings from this study indicated retention was an issue from the beginning of nursing school into new graduate nursing experiences. The first semester of nursing school and the ongoing enrollment in the nursing program were considerations of retention throughout nursing education. As new graduate nurses, the participants continued to share stories and descriptions about their ongoing decisions to remain in their first nursing position. Thoughts regarding leaving first positions were influenced by additional factors including unit culture and environment.

Implication for Translation to Practice/Future Research: Findings from the study provided insight into retention. Participant experiences during nursing school and as new graduate nurses identified the benefit of support systems as well as ongoing mentorship and career planning. Issues regarding isolation and staffing were among important factors in retention as new graduate nurses. Since all of the participants remained in their positions during the time of the study, the results captured only their thoughts regarding remaining or leaving in their first nursing positions. Interviewing new graduate nurses who left positions or even the profession might provide additional insights into what factors influenced their attrition.

PREPARING AN EXCELLENT BSN WORKFORCE

Preparing BSN Students for Work in Primary Health Care: Lessons Learned

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Background: Strengthening the core of primary health care service delivery in the US is key to achieving the Quadruple Aim: improve patient care experiences, better population health, lower healthcare costs, and improve provider satisfaction. With the current emphasis on including registered nurses (RNs) on the primary care and other community-based care teams to achieve the Quadruple Aim, it is essential that pre-licensure nursing programs make concerted efforts to prepare students for employment in these settings. In 2015, congruent with the current healthcare needs and trends, our school has undergone BSN curriculum transformation with the strong emphasis on population health and preparing BSN students for work in community-based settings.

Purpose: (1) To provide an overview of the BSN curriculum transformation process and to describe the key components of the revised curriculum, and (2) to present results from the preliminary BSN curriculum evaluation conducted to explore the stakeholders' experiences at one year post implementation.

Sample and Methods: (1) Curriculum transformation was guided by the principles of social justice. National level experts on teaching and learning, community stakeholders, and the literature review on the current trends in healthcare guided the process. The key features of the new curriculum include strong emphasis on population health and clinical experiences for students in community-based care settings across the clinical specialties. (2) At one year post implementation, preliminary curriculum evaluation was conducted. IRB approval was obtained. Appreciative inquiry approach guided the evaluation process. Data were obtained from 19 student volunteers, 6 faculty, 4 nurse leaders, and 3 RN preceptors in primary care. All informants participated in open-ended interviews conducted by the PI and RAs on the project. Conventional Content Analysis method, as described by Hsieh and Shannon (2005), guided data analysis.

Findings: Data analysis revealed the following themes: (1) Divergent understandings of primary health care among faculty: An unanticipated gap; (2) Craving clarity and consistency of the RN role in primary health care settings; (3) Learning the role of RN in community-based care: An eye opening experience for students; (4) Recognizing the need to embrace the new curriculum by all stakeholders (6) Bringing an ideal to reality: characteristics of a successful primary health care rotation from the participants' perspective.

Conclusions: Preparing BSN students to serve in expanded roles in community-based settings requires exposing learners to all types of nursing, including caring for patients across lifespan and across care settings from hospital to community health centers, schools, homes, and homeless shelters. Students should be encouraged to explore a variety of career options to meet the healthcare needs of our nation in the 21st century. Expanding educational options for the students in a variety of community-based settings is not without challenges and requires faculty knowledge and desire to lead the change. Strong partnerships between leaders from academia and clinical practice are also imperative.

PREPARING AN EXCELLENT BSN WORKFORCE

How to Create University and Community College Partnerships for Remarkable BSN Growth

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Purposes & Aims: The New Mexico Nursing Education Consortium (NMNEC), a collaborative of 18 state funded nursing schools, developed community college and university partnerships to award the BSN degree on community college campuses. NMNEC was developed in response to the call for 80% BSN prepared nurses by 2020. After 8 years in existence, NMNEC has much to share with other states and regions on implementation of these unique partnerships and on the extraordinary success that these partnerships have realized.

Rationale/Background: NMNEC's primary goals include 1) implementing a common nursing curriculum in associate degree programs and in baccalaureate programs, 2) building partnerships between universities and community colleges to offer the BSN on the community college campus, and 3) increasing workforce diversity by improving nursing education for minorities, particularly, in rural areas. With the development of the statewide common curriculum, seamless transferability between programs became available for students. Statewide sharing of curriculum implementation between faculty members also became a beneficial practice.

Description of Approach: Developing university/community college partnerships takes time, commitment, and financial or in-kind faculty and staff support. Buy in from administration, faculty, and other stakeholders such as clinical partners is critical. Early on, NMNEC established a Leadership Council that consists of faculty from universities and community colleges as well as clinical partners. The elected Leadership Council helps in recommending policy and critical decision-making. Recently, NMNEC developed an implementation guide including a readiness self-assessment, development of a partnership MOA, introduction to the curriculum, and steps for joint advisement, admissions, and financial aid processes.

Outcomes: In 2013, the BSN was only offered in two state-funded universities. Now, in 2018, the BSN is offered in 13 state-funded schools. All four quadrants of the state now offer the BSN. The number of students enrolled in a pre-licensure BSN program has increased by 414% and the available BSN seats in the state have increased by 144%. In 2015, NM had 88 BSN graduates and in 2017, 418 BSN graduates. Other outcomes of the NMNEC partnerships include BSN co-enrolled students at community colleges that have a 50% tuition savings. NCLEX-RN® scores for NMNEC students, including our co-enrolled students have been positive. Students who receive their nursing degree at their home community colleges are more likely to secure employment in their communities, providing an innovative and solid nursing workforce for rural New Mexico.

Conclusion: Developing the NMNEC partnership and growing our BSN-prepared graduates has been a successful journey for New Mexico's state funded nursing schools. Our model is readily replicable by other states and regions. We hope to meet the "80% by 2020" goal.

Abstracts of Podium Presentations

SLEEP AND YOUR HEALTH

SLEEP IN HOSPITALIZED CHILD-CAREGIVER DYADS

*Teresa M. Ward, Weichao Yuwen, Kristi Klee,
Kristen Carlin, Maida Chen*

NIGHTSHIFT NURSE CHRONOTYPE, FATIGUE AND
SLEEPINESS DURING A REST/NAP INTERVENTION

Diane Drake, Monica Malcuit

FACTORS AFFECTING ADHERENCE AND RESPONSE
TO TREATMENT FOR OBSTRUCTIVE SLEEP APNEA

Kris Weymann, Yvonne Barsalou, Miranda M. Lim

INSOMNIA SEVERITY IS ASSOCIATED WITH DEPRESSION
AMONG MALE VETERAN CAREGIVERS

*Yeonsu Song, Jennifer L. Martin, Constance H. Fung,
Joseph M. Dzierzewski, Juan Carlos Rodriguez Tapia,
Stella Jouldjian, Karen R. Josephson,
Michael N. Mitchell, Cathy A. Alessi*

SUBJECTIVE AND OBJECTIVE MEASURES OF SLEEP
IN PATIENTS WITH ACUTE LUNG INJURY

Pei-Lin Yang, Elizabeth C. Parsons, Teresa M. Ward

SLEEP AND YOUR HEALTH

Sleep in Hospitalized Child-Caregiver Dyads

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Purpose and Background: Sleep is critically important for overall health, wellbeing, and recovery. Despite the importance of sleep, sleep is often disrupted during the night in hospitalized children, when the restorative benefits of sleep (e.g., tissue repair, immune function) are needed most. Hospitalization for the management of a chronic condition and/or surgery disrupts sleep, in conjunction with nurse-related care.

Although, the prevalence of sleep disturbances in hospitalized children is not well documented, several studies have shown inadequate amounts of sleep and/or poor quality sleep including later bedtimes, longer sleep onset latency, increased night awakenings, and reduced total nighttime sleep. Prior studies of sleep during hospitalization have focused on children or caregiver sleep, but less is known about child-caregiver dyad sleep during hospitalization and how it compares to their sleep at home, and whether sleep disruptions during hospitalization are similar for both children and their caregivers. The purpose of this exploratory study is to describe sleep patterns and the causes of sleep disturbances in hospitalized children and their caregivers.

Methods: A cross-sectional descriptive study was conducted with 25 children 6-to-18 years of age and their caregivers. Children and caregivers completed a survey with demographic information and the sleep in hospitalized children questionnaire. Descriptive statistics, paired t-tests and Wilcoxon Signed Rank tests were used to analyze the data.

Results: The average age for children was 11.4 years. Of the 25 children, 80% were hospitalized for a chronic condition (e.g., cystic fibrosis, sickle cell disease) and 46% were hospitalized for the first time. Compared to the average sleep at home, 6-to-11 year-old children reported later bedtimes (56 minutes later), less total sleep time (53 minutes less), and decreased sleep onset latency. Adolescents reported later bed times (15 minutes later), later wake times (14 minutes later), and shorter sleep onset latency (12.5 minutes) during hospitalization than at home. Caregivers reported later bedtimes (30 minutes later), less total sleep time (49 minutes less), and increase night awakenings during hospitalization than at home. Notably, caregivers slept 50 minutes less during the hospital than home. Nurse-related care (e.g., vital signs, medication administration), child pain, noise in the hallway, and light were the most common sleep disruptors for both child & caregivers.

Conclusion and Implications: Inadequate amounts of sleep and/or poor quality sleep are modifiable behaviors that may also contribute to poor outcomes (e.g., longer length of stay, delayed wound healing, infection). Despite the public health concern of inadequate and poor quality sleep, sleep in the hospital for both patient and caregivers remain compromised without a well-organized effort to change this status quo. Many of the sleep disruptors are modifiable. Currently, there is a paucity of data on guiding efforts to improve sleep in children and their caregivers during hospitalization. Nurses are in a unique position to act as “change agents” and lead the efforts to educate healthcare providers, children, and caregivers on the importance of sleep, and advocate for hospital health policy changes that promote sleep.

Funding: National Institute of Health, NINR, NR012734 and the Center for Clinical and Translational Research, Seattle Children's Hospital.

SLEEP AND YOUR HEALTH

Hospital Nightshift Nurse Chronotype, Fatigue and Sleepiness during a Restorative Rest/Nap Intervention

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Purpose: The purpose of this study was to investigate chronotype, fatigue and sleepiness among hospital nightshift nurses who participated in a twelve-week scheduled restorative rest/nap intervention study.

Background: The American Nurses Association (ANA) 2014 position statement addressing nurse fatigue identifies a shared responsibility between nurses and employers to diminish the risk of nurse fatigue, endorse a culture of safety and create balance in work-life settings. The ANA recommends collaboration of nurses and their employers to strategically implement fatigue countermeasures to (that) reduce fatigue and sleepiness in the work place. A 2012 survey of Mission Hospital nurses (n=415) reported 23% experience high levels of fatigue and very poor inter-shift recovery. The National Institute of Occupational Safety and Health has identified nightshift work as an occupational hazard related to shiftwork disorder. Testing interventions to describe variables related to changes in nurse fatigue and sleep is needed.

Methods: A quasi-experimental descriptive design was used. A convenience sample of SICU full-time nightshift registered nurses were recruited to participate. Prior to initiation of recruitment, the study received approval from the healthcare system investigational review board. Nurse participants were asked to schedule a planned rest/nap during a thirty-minute lunch period in a designated rest/nap room. Rest/naps schedules were coordinated each shift by RNs with the charge nurse who maintained a form listing tentative break times between the hours of 1- 4 a.m. RNs were encouraged to eat lunch during another fifteen-minute break and were provided with a “Nap Protocol” that clarified expectations of a planned rest/nap and nap room logistics. Taking a nap was not mandatory but sleep was encouraged if possible. If unable to sleep, resting in a quiet, peaceful environment was recommended. Each RN completed a planned rest/nap log. Descriptive measures included nurse age, gender, nightshift years and chronotype. Pre-test, week-six and week-twelve survey measures included the Epworth Sleepiness Scale, the Occupational Fatigue Exhaustion and Recovery Scale and the Chalder Fatigue Scale.

Results: The sixteen participating nurses were predominately female (81%), mean age was 37.44 (11.69) with a range of 24 - 62 years. Six nurses were larks, (one definitely morning, five more morning than evening), and ten were owls (six more evening than morning and one definitely evening). There was no difference in nurse age between larks and owls, however, continuous nightshift years was longer for owls 7.85 (7.62) than larks 5.83 (7.41). Lark scores compared to owls demonstrated decreased sleepiness, physical fatigue, mental fatigue, chronic fatigue and improved intershift recovery. Chronotype was not associated with changes in acute fatigue.

Implications: Chronotype is an important measurement to consider in the investigation of fatigue risk management and shiftwork disorder. Strategies that promote nightshift restorative rest/naps may be more beneficial to lark versus owl chronotype. Large sample experimental design studies are indicated to test interventions for nurse nightshift work.

SLEEP AND YOUR HEALTH

Factors Affecting Adherence and Response to Treatment for Obstructive Sleep Apnea

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Aims: The primary aims of this pragmatic study were to determine if traumatic brain injury (TBI) and/or post-traumatic stress disorder (PTSD) affect adherence or outcomes of positive airway pressure (PAP) therapy among Veterans diagnosed with obstructive sleep apnea (OSA). A secondary aim was to determine if the rate of OSA is higher in Veterans with TBI and/or PTSD.

Background: Disrupted sleep is a common problem among Veterans. This is in part due to higher rates of OSA in the Veteran population associated with gender, age, body mass, and perhaps due to higher prevalence of TBI and PTSD. OSA is characterized by insufficient breathing from airway obstruction during sleep. Frequent arousals from sleep with OSA increase sympathetic nervous firing and are associated with daytime sleepiness and long term health concerns. PAP therapy for OSA improves health outcomes. However, insomnia, depression, and PTSD, complaints common among Veterans, may interfere with the use of PAP therapy and decrease the benefits of this treatment.

Methods: Veterans receiving an over-night sleep test and without a previous diagnosis of OSA were enrolled into this prospective study. Self-report of baseline symptoms was collected using validated surveys for insomnia, daytime sleepiness, depression, daytime function, and symptoms of PTSD and TBI. Adherence to PAP therapy was collected for participants with a new diagnosis of OSA. Symptom surveys were repeated 3 months after PAP therapy was prescribed. Statistical differences among groups were measured with one-way ANOVA with correction for multiple comparisons.

Results: At baseline, Veterans with PTSD or TBI+PTSD had significantly worse insomnia, depression, daytime sleepiness and daytime function compared to those with neither condition. Of 664 participants, 567 (85.4%) were diagnosed with OSA. Veterans with neither TBI nor PTSD were significantly older than those with TBI and/or PTSD and had significantly higher rates of OSA. This difference disappeared when matched for age and BMI. Among those with OSA, 77.6% had some use of PAP therapy, with no significant differences among groups. The amount of use of PAP therapy was significantly less in the group with PTSD at all time points during the first 3 months as compared to the group with neither condition. Those with TBI+PTSD had significantly less use of PAP therapy compared to the “neither” group during the third month of use but not at earlier time points. Across all groups, depression symptoms were associated with significantly less use of PAP therapy. Among those with both TBI+PTSD, worse combined PTSD and TBI symptoms at baseline were associated with higher use of PAP therapy. Symptoms of depression, daytime sleepiness, and daily function significantly improved only in the group using PAP therapy.

Implications: Nurses have opportunities to integrate sleep health as part of overall assessment and management of health risks. Those with depression or PTSD are at risk of less use of PAP therapy. Screening for and supporting treatment of OSA with PAP therapy can improve symptoms and function. Findings from this ongoing 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. Research funding to K.W. provided by Sigma Theta Tau Beta Psi. Funding to Y.B. as a summer intern was provided by the Portland VA Research Foundation and OHSU Occupational Health.

SLEEP AND YOUR HEALTH

Insomnia Severity Is Associated with Depression among Male Veteran Caregivers

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Purposes/Aims: This study explored factors related to depression among male caregivers who are veterans.

Background: Depression is common among informal caregivers and it is associated with caregiving related burden, and intensity of caregiving activities. Depression may impact caregivers' health and furthermore the quality of the care they provide for care recipients. However, current knowledge of health in caregivers is primarily based on female informal caregivers. Little is known about depression and related factors among more diverse caregiver groups such as male caregivers or veterans who may have unique healthcare needs of their own.

Methods: This was a cross-sectional, secondary data analysis from baseline assessments of an ongoing, large, randomized controlled trial of a sleep intervention program at one VA healthcare system. Depression was measured using the Patient Health Questionnaire (PHQ-9). A sleep-related item on the PHQ-9 was excluded from analysis. Other variables included demographics, the Insomnia Severity Index (ISI), Comorbidity Index-physical health, Geriatric Pain Measure (GPM-12), Primary Care Posttraumatic Stress Disorder (PC-PTSD), and caregiving information (i.e., duration and frequency of caregiving, levels of caregiving activities, being a spouse caregiver, caring for a person with memory program). Pearson correlations were calculated for continuous variables and t-test for categorical variables to test relationships between PHQ-9 and variables of interest. Variables with $p < 0.10$ were included in a multiple regression model to examine factors associated with PHQ-9.

Results: The final sample included male veterans (age ≥ 50 , $n=64$) who had provided care for an average of 2.7 years for an average of 16 hours per week. They were helping with 40% of the listed caregiving activities [i.e., helping with activities of daily living (ADLs) and instrumental ADLs]. They had, on average, mild depressive symptoms, subthreshold insomnia, and mild pain. The multiple regression model with age, pain, insomnia severity, PTSD symptoms, and caregiving information explained a significant proportion of variance in depression [model: $p < 0.005$, $F(9, 52)$, adjusted $R^2 = 0.24$]. Having more insomnia and more PTSD symptoms significantly increased levels of depression, after accounting for the other variables in the model. Insomnia severity itself accounted for 21% of the variance in depressive symptoms. None of the caregiving related information, age, or pain significantly contributed to this model.

Conclusions: Treating insomnia symptoms may improve depressive symptoms among male veteran caregivers.

Implications of Nursing: Nurses may play a key role in preventing/managing depressive symptoms by approaching behavioral insomnia management in male veteran caregivers.

Objective 1: After attending this session, participants will be able to learn about health problems among male veterans who are informal caregivers.

Objective 2: After attending this session, participants will understand depressive symptoms and related sleep problems among male veteran caregivers

Funding: Veterans Administration (VA) Health Services Research and Development (IIR 12-353-2, PI: Alessi); VA Advanced Geriatrics Fellowship Program (Song), the Office of Academic Affiliations, Department of Veterans Affairs; the National Institute on Aging of the National Institutes of Health (K23AG055668, PI: Song).

SLEEP AND YOUR HEALTH

Subjective and Objective Measures of Sleep in Patients with Acute Lung Injury

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Background: Sleep deficiency, including inadequate amount of sleep and poor sleep quality, is a public health concern that is associated with increased healthcare utilization and increased mortality and morbidity (Colten & Altevogt, 2006). Sleep deficiency is an underrecognized problem in adults surviving acute lung injury (ALI) that may contribute to poor quality of life, cognitive impairment, and depression. Much of what we know about sleep deficiency in ALI relies on self-report, which can poorly correlate with objective sleep measures. Inconsistencies between subjective and objective sleep measures have been studied in several adult populations with chronic health conditions, but not in ALI survivors. Objective measures of sleep including actigraphy provide a unique window into sleep-related activities (such as consistency in bedtime routines) and estimates of sleep and wake to inform the development of behavioral sleep interventions for ALI survivors.

Purpose: To describe and compare subjective and objective sleep patterns, and examine the associations among sleep deficiency (sleep time <7 hours, sleep efficiency <85%), demographic and clinical characteristics in 14 ALI survivors 3 months after hospital discharge.

Methods: This is a secondary analysis of a prospective observational cohort study of 20 medical-surgical patients admitted to a tertiary care hospital and meeting a consensus diagnosis of ALI. At 3 months post discharge, 14 patients (mean age 49.1 years) consented to 9 consecutive days of sleep diary with actigraphy monitoring. We compared self-report to actigraphy measures of total sleep time and sleep efficiency using unadjusted paired t-tests. We also performed unadjusted analyses examining the association between total sleep time at 3 months post discharge and hospital factors, using Pearson's R correlation test.

Results: We found significant unadjusted differences between self-report total sleep time (6.5 ± 1.9 hours) and actigraphy total sleep time (7.3 ± 1.7 hours, $p < 0.01$), and between self-report sleep efficiency (73%) and actigraphy sleep efficiency (84%, $p < 0.01$). Of the participants, 79% had self-report sleep deficiency and 43% had actigraphy sleep deficiency, defined as less than the National Sleep Foundation recommendation of 7 hours of sleep and poor quality of sleep. Length of hospital stay was negatively correlated with total sleep time by both self-report ($r = -0.44$, $p < 0.01$) and actigraphy ($r = -0.35$, $p < 0.05$). Length of ICU stay was negatively correlated with total sleep time by both self-report ($r = -0.28$, $p < 0.01$) and actigraphy ($r = -0.32$, $p < 0.05$).

Conclusions and Implications: In this cohort of ALI survivors, self-report underestimated total sleep time and sleep efficiency compared to actigraphy. Both self-report and actigraphy indicated sleep deficiency in this population. Additional research is needed to better understand the contributors to sleep deficiency in ALI survivors including disease-related symptoms, depression, and social support systems.

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Reference: Colten, H. R., & Altevogt, B. M. (Eds.) (2006). *Sleep disorders and sleep deprivation: An unmet public health problem*. Washington, DC: National Academies Press National Academy of Sciences.

Abstracts of Podium Presentations

A SPECTRUM OF PUBLIC HEALTH ISSUES

DISASTER HEALTH ISSUES IN THE CONTEXT
OF THE 1994 NORTHRIDGE, CA EARTHQUAKE

Patricia Frohock Hanes

STUDENT-LED DEVELOPMENT OF
A GRADUATE DISASTER PROGRAM

*Sheriee Marie Mendez, Valerie Joy Smith,
Patricia Frohock Hanes, Eun Hye Kim,
Yolanda Honore, Scarlett Holden*

REGISTERED NURSES' KNOWLEDGE OF ZIKA VIRUS

Kristen Lidgett, Peggy Leugue, Tania Sedano, Annie Huynh

COMPARATIVE HEALTH PROBLEMS AND NURSING
PROFESSIONAL ROLES IN THAILAND AND THE USA

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EVALUATION OF THE GRESHAM CARES PROGRAM
TO REDUCE NON-EMERGENT 911 USE

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A SPECTRUM OF PUBLIC HEALTH ISSUES

Disaster Health Issues in the Context of the 1994 Northridge, CA Earthquake

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Background: On January 17, 1994 at 4:31 am, the 6.7 magnitude Northridge earthquake shook the greater Los Angeles area causing \$42 billion dollars in damage, making it one of the costliest disasters in US history. Hospitals were disabled or destroyed. Costs to people and property were significant: 57 people were killed, 9000 were injured, 20,000 were left homeless, and over 40,000 buildings were destroyed. Secondary disasters included fires, floods, rockslides, ground liquefaction, and outbreaks of coccidioidomycosis. This event provided the impetus to develop many personal, healthcare, and community preparedness programs.

Purpose/Conceptual Frameworks: Pender's health promotion model, stress and coping theories, and FEMA's disaster model. The purposes of this study were to examine the effects of the Northridge Earthquake on healthcare, evaluate different types of disaster preparedness, and to assess the efficacy of those programs in the context of nursing and healthcare.

Methods: A literature search was conducted to review historical documents related to the 1994 Northridge earthquake including news reports, scholarly articles, and governmental reports. The information was contextualized in a personal/historical narrative. With an emphasis on healthcare, disaster and earthquake preparedness programs held in the Los Angeles area were reviewed; programs held by local, regional, and national organizations were included. Organizational websites were reviewed for programs, target audiences, and results/efficacy of their programs. Interviews were conducted with local and regional administrators and disaster coordinators and themes were identified. Local educational programs on earthquake/disaster preparedness were assessed, including in schools of nursing. Nurses' roles in, and knowledge of, disasters and preparedness were explored.

Results: In the 1994 Northridge earthquake, seven hospitals were destroyed or severely damaged. Nurses cared for patients in hazardous conditions; hospitals were evacuated. A train derailment caused chemical spills. In an earthquake, immediate health concerns are related to trauma, exacerbation of existing health conditions, hypothermia, exposure to toxins, and mental health issues. Patients are also affected by secondary disasters such as flooding from ruptured water pipes and burns from fires resulting from ruptured gas lines. Delayed health issues are related to cascading disasters, issues related to lack of shelter or overcrowding, infectious and communicable diseases, poor sanitation, lack of clean water, inadequate food, exacerbation of prior health conditions, mental health issues/PTSD, and other long term health effects.

Conclusions/Implications: Healthcare facilities must be prepared for both surge capacity and potential evacuation. Immediate and delayed health effects must be included in planning. Special considerations need to be given to the location and needs of vulnerable populations. Nurses have an obligation to recognize and plan for potential health issues and to be well informed of their facilities' emergency plans. They must also be personally prepared in order to be able to care for others.

A SPECTRUM OF PUBLIC HEALTH ISSUES

Student-Led Development of a Graduate Disaster Program

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Background: Integral to the transformative learning process is the fostering of authentic experiences and critical reflection - both powerful strategies of adult learning. Disaster education is important given disasters' dramatic impact on whole communities' environment, infrastructures, systems, and overall social and economic functioning. Therefore, comprehensive education on disaster and emergency management is needed to support the holistic well-being of all at the local, state, tribal, national, and global levels.

Purpose/Conceptual Frameworks: Theories of adult learning, Bloom's taxonomy, constructivism, Mezirow's transformative learning, and FEMA's Disaster Management Cycle. The purpose of this project is to discuss the development of a curriculum for a master's-level disaster and emergency management program as an authentic assignment in a master's-level curriculum class.

Methods: Master's and doctoral students in a graduate nursing curriculum class, when given the option of completing traditional curriculum assignments or developing a disaster curriculum, unanimously chose the latter. Students were required to research the mission and vision statements for several universities as well as that of schools of nursing and other disciplines, then discussed implications for aligning the new program with those statements. A grid was developed to examine other disaster-related programs and to research the state of the science for disaster education. Program learning objectives were devised and courses developed around those objectives. As students were not experts in the field, subject matter experts were used to assist with content. Core courses were aligned with existing programs to minimize the number of new faculty needed to teach the program. Electives and practicum courses were included. Course outcomes, evaluation methods and other required content were developed using existing course templates and courses were mock submitted through the university course review system.

Outcomes Achieved/Documented: Graduate students collaborated on an important, authentic curriculum project with real-world implications. Enthusiasm for the project led to high student engagement and development of a thoughtfully developed, professional program that will be submitted to the university for review. Participating in the entire curriculum development process together - in a somewhat unfamiliar content area - gave students a breadth and depth of new knowledge. Students from different educational levels led to a class synergy; they had diverse, valuable perspectives on the curriculum. Students reported high levels of satisfaction for the class and the project. We often did not realize we had gone beyond class time; students reported looking at the clock and being surprised at the time.

Conclusions/Implications: Flexibility and creativity in the conduct of courses can lead to improved learning outcomes and higher engagement for students which, in the future, will lead to better nurse educators and enhanced program designs. Allowing students freedom to have ideas and work in a collaborative, collegial environment reflects a real-world approach to education. Developing interprofessional programs reflects cutting edge educational practices. Finally, students were working on content they felt was important and learned, not only how to develop the program and courses, but chose to learn about the disaster content as well, which added to the value of the course.

A SPECTRUM OF PUBLIC HEALTH ISSUES

Registered Nurses' Knowledge of Zika Virus

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Purpose: Assess Antelope Valley and San Joaquin Valley registered nurses' (RNs) knowledge on the Zika virus.

Background: Zika virus, is a member of the genus Flavivirus and can be transmitted by the bite of infected mosquitoes, maternal-fetal transmission, sexual activities (including vaginal, anal, and oral sex), blood product transfusion, organ transplantation, and laboratory exposure. Zika virus is associated with numerous neurologic complications including congenital microcephaly, developmental abnormalities, Guillain-Barre syndrome, myelitis, and meningoencephalitis. The World Health Organization (WHO) declared the Zika virus and its associated complications, a Public Health Emergency of International Concern between February and November 2016. Nurses knowledge of the Zika virus is important so nurses can educate the public and their selves about this dangerous virus.

Methodology: A quantitative, exploratory design, utilizing a Moore's questionnaire. Permission to use the questionnaire was granted. A modified version of Moore's 13-question, multiple choice/multiple answer questionnaire with two additional questions added, was administered through Survey Monkey®. A convenience sample of professional nurses (RNs) known to the researchers, and practicing in the Antelope Valley and San Joaquin Valley were invited by e-mail to complete the questionnaire during a two-week period. Data were analyzed by using descriptive and frequency statistics.

Results: A total of 146 subjects completed the questionnaire. Subjects ranged in age from 18 to over 65 years. Nursing degrees included: 48.13% ADN/ASN, 46.25% BSN, 5.00% MSN, and 0.63% DNP/PhD. Years in practice varied, with 43.13% 0-5 years, 20.00% 6-11 years, 11.25% 12-17 years, 8.75% 18-23 years, 6.25% 24-29 years, and 10.63% over 29 years. More than half, 54.11% knew that Zika is a Flavivirus, as well as its common symptoms. However, only 46% knew the incubation phase of 1-2 weeks. Infantile anomalies were known by 95.21%, though knowledge about other complications were lower. Transmission by mosquito was known by 95.89%, but there was less known about other modes of transmission including: perinatally 46.58%, sexually 56.16%, and blood transfusion 45.89%. Just 23.29% were aware that females should avoid pregnancy for 8 weeks after leaving a high-risk travel region.

Nursing Implications: Nurses are the frontline medical professionals and typically patients are RNs initial contact with healthcare when ill. Knowledge of Zika transmission, symptomology, and treatment ensures the ability of nurses to assist in identification and direction for testing, treatment, and care. This research indicates some of the educational gaps RNs have regarding the Zika virus. Nurses need to make to develop Zika education materials and/or seminars especially regarding other modes of Zika transmission and how long to avoid pregnancy if exposed to Zika. Nurses with this knowledge can assist in reporting data to government agencies, for the monitoring of Zika transmission and evolution.

A SPECTRUM OF PUBLIC HEALTH ISSUES

Comparative Health Problems and Nursing Professional Roles in Thailand and the USA

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Background: Eight traditional BS nursing students from Oregon Health & Science University, School of Nursing participated in a one-month international learning experience in Bangkok, Thailand at Mahidol University, Faculty of Nursing to examine frameworks of community and public health; analyze prevalent population-based health issues, including chronic disease and disability, and conduct community assessments; and explore population-based interventions.

Objective: The purpose of the experience was to provide students opportunity to “dig” deeper into the health care problems that impact population-based care in both Thailand and the United States, while examining and comparing the role of public health/community health nursing in each of these countries.

Method: Students chose a health care problem focusing on a population, the population context and practice setting. Additional demographic and geographic conditions were considered, such as socio-economic, urban/rural. Preparation of presentations included clinical observation and clinical experiences, interviewing nursing experts from Mahidol University, Faculty of Nursing and Thailand Ministry of Public Health, and reviewing evidence-based peer-reviewed nursing journals related to care within the USA.

Results: Four student pairs investigated comparative health care problems and nursing professional roles related to the population-based issues of: school-age children’s health, the impact of teenage pregnancy, approach to immigrant health, and the treatment of depression in the elderly in Thailand and the USA. Students then shared their findings through PowerPoint presentations to Mahidol University nursing faculty members while in Thailand, and later to faculty and students at OHSU School of Nursing upon their return to the USA.

Conclusion: Nursing students had the opportunity to increase their knowledge of community and public health problems and compare the role of the professional nursing through an international learning experience in Thailand.

A SPECTRUM OF PUBLIC HEALTH ISSUES

Evaluation of the Gresham CARES Program to Reduce Non-Emergent 911 Use

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Purpose: This study was designed:

1. To describe the demographic characteristics of frequent non-emergency 911 callers in Gresham, OR.
2. To identify the reasons for the non-emergency calls.
3. To describe specific interventions implemented by faculty and nursing student teams in partnership with the Gresham Fire Department.
4. To compare the frequency of non-emergent 911 calls prior to and following the intervention.

Background: An increasing majority of calls to emergency medical services (EMS) are non-emergent. This misuse of the 911 system for non-emergency reasons increases response times for time-sensitive medical emergencies such as stroke and myocardial infarction, and has deleterious effects on both the emergency responders and equipment. Oregon Health and Science University (OHSU) School of Nursing and the Gresham Fire Department developed a partnership to address the non-emergency use of the 911 system for unmet health needs. Emergency responders refer clients meeting specific criteria to the Gresham CARES program. Nursing faculty and students participate in home visits, complete assessments, intervene to remove barriers and engage clients in their health care, and connect clients with local community resources and services.

Methods: A retrospective study was conducted to review data collected between January, 2015 and September, 2017. The data were abstracted from the Gresham Fire Department 911 call records and Gresham Cares documentation records. Descriptive information and pre-intervention, post-intervention frequencies were analyzed.

Results: The majority of clients referred to the Gresham CARES program were older adults with unmet health needs related to mobility and self-care. A second group were middle-aged and older adults with unmet mental health needs - primarily related to anxiety and depression. Falls were the most common reason for non-emergent calls to 911 (55%) followed by exacerbations of chronic illnesses (9%) and mental illness (9%). Interventions included home visiting, telephone care coordination with Adult and Disability services, primary and specialty care providers, community service resource facilitation with the goal to enhance client self-management skills, and connecting clients to resources to meet social needs affecting health such as housing support, nutrition support and reducing social isolation. The clients that engaged with CARES services had fewer 911 calls in the 6 months after intervention as compared to the six months prior to intervention.

Implications for Practice: This academic-practice partnership was effective in decreasing non-emergency 911 use. As a result of this successful program, a joint faculty/CARES coordinator position was developed co-funded by the City of Gresham and OHSU School of Nursing.

Abstracts of Podium Presentations

STRESS AND RESILIENCY

GENETIC INFLUENCE ON RESILIENCE TO
POTENTIALLY TRAUMATIC EVENTS

Kosuke Niitsu, Michael Rice

A NEW ANGLE ON STRESS: HIGH ALLOSTATIC
LOAD FROM THE PERSPECTIVE OF BLACK WOMEN

John Brian James, Jann Murray-Garcia

URBAN AMERICAN INDIAN/ALASKA NATIVE HEALTH:
RESILIENCE IN A TIME OF SCARCITY

Emily A. Haozous, Krista L. Scorsone, Valerie Rangel

EXPLORING SURVIVALISM IN FORMER
SEX TRAFFICKED INDIVIDUALS

Cheryl L. Boyd

STRESS AND RESILIENCY

Genetic Influence on Resilience to Potentially Traumatic Events

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Purposes/Aims: The purpose of this study was to examine the relationships between resilience outcomes, Potentially Traumatic Event (PTE), selected polymorphisms, ego-resiliency, emotion regulation, and social support in college students.

Rationale/Conceptual Basis/Background: Most individuals experience at least one PTE, such as natural disaster, in their lifetime. When exposed to PTEs, some individuals develop psychopathology, including Post-Traumatic Stress Disorder (PTSD). Others, who are less adversely affected, are often described as “resilient”. The empirical study of resilience needs to be approached from multiple levels of analysis, including social, economic, cultural, demographic, developmental, epigenetic, and genetic variables. This study was guided by the Differential Susceptibility Model for genetic influences on resilience.

Methods: A cross-sectional, correlational design was used. Participants ($N = 450$), who were enrolled in psychology courses at a Midwestern university, completed a one-time data collection session consisting of questionnaires and collection of buccal cells.

Questionnaires measured demographics, PTEs [measured by Trauma History Questionnaire (THQ)], ego-resiliency [Ego-Resiliency Scale (ER89)], emotion regulation [Emotion Regulation Questionnaire (ERQ) & Perceived Ability to Cope with Trauma (PACT)], perceived social support [Social Support Survey (SSS)], and resilience outcomes [Connor-Davidson Resilience Scale (CD-RISC), Sense of Coherence (SOC), & Mental Health Inventory (MHI)]. DNA was extracted from buccal cells and genotyped at the University of Nebraska-Lincoln Behavior Genetics Laboratory. Data were analyzed with descriptive statistics, ANOVA, and bivariate and multiple linear regressions.

Results: Participants were mostly female (79.5%), single (98.0%), Caucasian (80.0%), non-Hispanic/Latino (91.0%), and Christian (76.0%). Bivariate linear regression revealed the THQ total score significantly predicted lower resilience outcomes measured by SOC [$R^2 = .07$, $F(1, 429) = 32.33$, $p < .001$], MHI Psychological Distress [$R^2 = .09$, $F(1, 427) = 40.91$, $p < .001$], MHI Psychological Well-Being [$R^2 = .05$, $F(1, 428) = 23.87$, $p < .001$], and MHI Index [$R^2 = .09$, $F(1, 424) = 39.32$, $p < .001$] but not CD-RISC [$R^2 = .008$, $F(1, 424) = 3.58$, $p = .059$]. The relationships between THQ and resilience outcomes were moderated by Ego-Resiliency [$R^2 = .37$, $F(3, 413) = 79.63$, $p < .001$, regarding CD-RISC], Emotion Regulation Flexibility [$R^2 = .17$, $F(4, 414) = 20.46$, $p < .001$, regarding SOC], social support [$R^2 = .32$, $F(3, 421) = 65.36$, $p < .001$, regarding MHI Psychological Well-Being], and rs4680 in *COMT* [$R^2 = .10$, $F(4, 423) = 11.50$, $p < .001$, regarding SOC]. Additionally, the relationships between THQ Physical & Sexual Experiences subscale and resilience outcomes were moderated by rs4606 in *RGS2* [$R^2 = .03$, $F(4, 421) = 3.59$, $p < .001$, regarding CD-RISC], and rs7209436 in *CRHR1* [$R^2 = .05$, $F(4, 428) = 5.50$, $p < .001$, regarding CD-RISC].

Implications: In general, when exposed to more PTEs, individuals may experience lower resilience manifested by more psychological distress and less positive adaptation. However, individuals with higher ego-resiliency, stronger emotion regulation flexibility, higher perceived social support, and/or certain genotypes may fare better when experiencing PTEs. Further study is needed to determine the effects of genotypes on resilience in relation to PTEs.

Funding: American Psychiatric Nurses Association (APNA); International Society of Nurses in Genetics (ISONG); Sigma Theta Tau International (STTI) Gamma Pi Chapter.

STRESS AND RESILIENCY

A New Angle on Stress: High Allostatic Load from the Perspective of Black Women

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Aim: The purpose of this study is to further understand the concept of Allostatic Load (AL) by exploring the older, educated Black woman's perspective on the phenomenon of increased AL in Black women, including their insights into why and how it might impact their health, and why this racial disparity exists.

Conceptual Basis/Background: Stress affects everyone and no living organism is immune to it. Following a stressful event, the body's biological mediators return it to a 'normal state' in a process called *allostasis*. Prolonged periods of stress cause 'wear and tear' on body systems and overwhelm allostasis in a concept called *Allostatic Load (AL)*. AL is measured through a variety of clinical biomarkers entered into an algorithm to produce an overall score. A high score reflects biological aging and an increased risk for detrimental health outcomes.

Women show evidence of higher AL than men in each age group. Blacks show evidence of higher AL than Whites and foreign-born Blacks. And Black women show evidence of the greatest risk for high AL regardless of income or education. In fact, *non-poor* Black women have been found to have higher AL scores than *poor* White women, and the disparity in risk of high AL is greatest between older non-poor Black women and older non-poor White women.

Various fields of study such as public health, anthropology, economics, and sociology indicate Black Americans are more likely to experience stressful situations in relation to interpersonal discrimination, material hardship, structural discrimination in housing and employment, and multiple caregiving roles.

Methods: One-on-one semi-structured interviews were conducted with 13 Black women ages 45-70.

Results: Phenomenological, thematic analysis yielded the following Black women's explanations for higher AL: 1) Black women live "parallel tracks" from White women, including different standards of employment competence and of personal beauty; 2) Black women disproportionately live the experience of functional "single motherhood," secondary in part to the historical disruption of the Black family in the U.S., from slavery to the present era of mass incarceration; 3) Black women have the unique stress of mothering Black children within a society often hostile to Black children's existence; 4) Black women relate their present struggles to the history of Black people in America, from enslavement onward, whereas they doubted that White women would attribute present struggles to history; 5) Black women often subconsciously are trying to live up to the ideal of "The Strong Black Woman", often neglecting self-care to the detriment of their health; and 6) directly flowing from the notion of "The Strong Black Woman", Black women often do not recognize these challenges as stresses to be managed, but accept them as "just life," the normal daily reality of being a Black woman in America.

Implications: Participants offered a variety of solutions for higher AL in Black women, and specifically, how to educate health professionals and trainees who do not share or have access to their experience or perspectives.

STRESS AND RESILIENCY

Urban American Indian/Alaska Native Health: Resilience in a Time of Scarcity

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Background: As many as 78% of American Indians/Alaska Natives (AIANs) live away from their tribal areas, or in urban centers. Cancer, heart disease, and diabetes are among the five leading causes of death in New Mexico AIANs.

Purpose: A 2017 health impact assessment (HIA) was conducted in Santa Fe County to evaluate the impact of persistent underfunding of the Indian Health Service on this urban AIAN community.

Sample & Setting: This CBPR project was a collaboration between the University of New Mexico and the Santa Fe Indian Center (SFIC), an urban AIAN-serving non-profit organization. The sample consisted of AIAN and non-Hispanic White adults, parents, and partners of AIANs who had accessed the Santa Fe Area Service Unit Indian Health Service Hospital between the years of 2006-2016.

Methods: An HIA evaluates public policy with the goal of promoting health, equity, and social justice. Using six stages: screening, scoping, assessment, recommendations, reporting, and monitoring, we surveyed and interviewed AIANs in Santa Fe County using a modified instrument designed to collect needs assessment data in tribal communities. Qualitative, open-ended interviews were analyzed using directed content analysis methods. Quantitative data were analyzed using descriptive statistics, t-test, chi-square, and Wilcoxon signed ranks test. All stages of this HIA were conducted with consultation of a community advisory board, which consisted of AIAN community leaders and representatives from the SFIC.

Results: We received 165 confidential surveys and 17 interviews, representing 156 different tribes/nations/Pueblos. The mean body mass index for this sample was 30.2. We found that Santa Fe's Urban AIAN community was most concerned with diabetes, body size, mental health, heart disease, and addiction, both personally and in their larger Santa Fe AIAN community. We found that food insecurity was a serious issue, with 53% of respondents reporting the need to ration food or eat less in the last 30 days because they didn't have enough money for food. Mental health and addiction services were frequently cited as a priority need. Even in an environment with multiple options due to the expanded services offered through the Affordable Care Act, the Santa Fe Area Unit IHS Hospital is the preferred provider. We created a conceptual model that highlights the themes of resiliency, community, and adversity identified in the qualitative data.

Conclusion: Based on the results of the analysis and with the community advisory board, we made four recommendations related to the budgeting process for IHS urban AIAN health: Fully fund IHS at 100% of need; Address food insecurity using culturally accessible means; Increase IHS funding for mental health programs; and Change the patient eligibility criteria structure for specialty care.

Implications: Urban AIANs are at high risk for metabolic syndrome, a risk factor for cancer. Educational interventions that focus on nutrition, access to affordable, healthy foods, and sustainable exercise programs may improve long-term outcomes in cancer, heart disease, and diabetes, all serious health concerns in this population. Understanding the nurse's role in shaping policy may help guide resources that can improve AIAN health at a population level.

Funding: This research was funded through a grant from the New Mexico Health Equity Partnership, Santa Fe Community Foundation, and the W.K. Kellogg Foundation. No grant number.

STRESS AND RESILIENCY

Exploring Survivalism in Former Sex Trafficked Individuals

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Purpose: Gain a deeper understanding of survivalism in former sex trafficked individuals.

Background: Trafficking in persons, or human sex trafficking is the fastest growing criminal enterprise in the United States, leading both drugs and weapons (U.S. Department of State, 2016). The hidden and protected nature of sex trafficking makes it difficult to identify exactly how many people are involved in the industry, nonetheless estimates range from 1.5 to 2.5 million current individuals in captivity within the U.S. The majority are female (80%); 50% are minors (Polaris, 2017). Once in captivity significant physical, emotional, psychological, sexual, and spiritual trauma having profound and lasting effects are experienced (Bergquist, 2015). The status of research on sex trafficking has been characterized as methodologically inadequate and lacking a sufficient theoretical framework necessary for solution and prevention development.

Methods: Qualitative design. Fifteen subjects were recruited and enrolled from two advocacy and resource groups. Inclusion criteria: individuals over age 18 who self-identify as survivors of sex trafficking and willing to complete surveys and a face-to-face interview. Semi structured qualitative interviews were centered around the themes of personal information, current life events, expressions of Psychological Capital, early experiences of trauma or sexual abuse leading to the process of “grooming”, how life was experienced while being trafficked, the process of exiting the life, healthcare needs experienced, and suggestions for prevention addressed.

Results: Fifteen participants disclosed meaningful life stories and family events, leading to grooming and entrance into captivity in sex trafficking. Four themes of hope, self-efficacy, resilience, and optimism emerged and discussed in relation to surviving and finally exiting captivity. These 4 themes also present themselves in discussions regarding prevention strategies and the need to develop and strengthen these characteristics in early childhood. Several participants mentioned, “There was one person who said to me, I could do better. I seemed to hear this at the right time and it made me want to get out of this mess I was in.” From another survivor, “if I was told that I had potential, if I had someone believe in me when I was young, I don’t think none of this would have happened to me. I believe we each need to find that one person in our life who looks a little lost, or the odd one out and just encourage them and tell them they matter. Each of us can do that!”

Implications: Theoretically sound prevention and interventions are required to decrease current trends leading to exploitation and captivity into the life of sex trafficking. Findings from this study can result in information required to develop sound prevention and intervention programs for individuals, families, communities, schools, and service providers.

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TOPICS ON ADULT RISK REDUCTION

BLACK BEAUTY AND BREAST CANCER:
PERCEPTIONS OF RISK

Lisa R. Roberts

VIETNAMESE WOMEN'S BELIEFS ABOUT BREAST CANCER
AND SCREENING: A COMMUNITY-BASED STUDY

*Connie Kim Yen Nguyen-Truong, Kim Quy Vo Nguyen,
Thai Hien Nguyen, Tuong Vy Le, Anthony My Truong,
Keara Rodela, Sophorn Cheang*

KNOWLEDGE OF BREAST CANCER GENETICS:
HOW MUCH DO FAMILY MEMBERS KNOW?

*Sarah H. Davis, Deborah O. Himes, Neil E. Peterson,
Jane H. Lassetter, Margaret F. Clayton, Anita Y. Kinney*

BARRIERS TO PATIENT/PROVIDER COMMUNICATION
FOR WOMEN WITH PELVIC FLOOR DISORDERS

Ana C. Sanchez Birkhead, Lauren Clark, Marlene J. Egger

AN RCT EXAMINING VITAMIN D SUPPLEMENTATION,
25(OH)D RESPONSE, AND BONE HEALTH STATUS

Mary S. McCarthy, Evelyn B. Elshaw, Barbara M. Szekely

TOPICS ON ADULT RISK REDUCTION

Black Beauty and Breast Cancer: Perceptions of Risk

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Susanne B. Montgomery, PhD, MS, Professor, Assoc. Dean Research, Loma Linda Univ.*

Purpose: To explore perceptions of breast cancer risk related to the use of hair products among Black women.

Background: Black women have recently caught up in incidence of breast cancer to White women and continue to have the highest mortality rates of all racial/ethnic groups. Black women are also diagnosed with breast cancer at an earlier age with a later stage of cancer. Through epidemiological studies, this disparity in breast cancer is now being investigated through a different lens. Rather than looking for biological differences, science is now looking at differences in environmental exposures.

Hair products primarily used by Black women contain hormonally-active chemicals at higher rates than other hair products. Recent research has linked these chemical ingredients to breast cancer risk. Emerging concern in the academic and lay community led to the current study.

Methods: Community advocacy groups collaborated with university scientists to explore emerging concerns regarding the potential health risk hair products pose. Convenience sampling and snowballing techniques were used to recruit study participants. We used a mixed-methods study design in two phases. Phase 1 consisted of key informant interviews and focus groups. Results of Phase 1 informed the development of a survey for Phase 2. The survey consisted of questions pertaining to demographics, hair product use, and perceived breast cancer risk, as well as validated scales focusing on breast cancer knowledge, and Black culture and identity. The current abstract reports the results of women who participated in Phase 2.

Results: $N = 200$ self-identifying Black women generally rated themselves in good to excellent physical and mental health (84.5% and 94.5%). Most were insured (93.5%), and 96% reported routine medical visits. Only 15 (7.5%) reported even having been diagnosed with breast cancer, at age ranging from 29 to 78 years of age, at various stages. However, 73 (36.5%) reported having a family member diagnosed with breast cancer, and 67 (33.5%) also reported friends diagnosed. Hair product usage was felt to contribute to cancer “quite a bit” to “a great deal” by 74 (37%), however, on the Breast Cancer and Heredity Knowledge scale, less than half of the participants answered correctly that Parabens (which can be in hair products) have been found in breast tumor tissue (44.5%) and that hair products have chemicals that mimic the effect of the female hormone, estrogen (45%). In terms of the Black culture, 164 (82%) indicated that hair has a special role, and 128 (64%) reported that hair was a cultural reflection of themselves. Perceived risk of breast cancer related to hair products was indicated by 154 (77%) endorsing that they were concerned that labels of hair care products do not list all ingredients. More than half, 119 (59.5%), planned to go natural (style hair without chemicals) due to their concern, despite style preferences.

Implications: Further research is needed regarding alternative hair products for Black women. Meanwhile, nurses play an important educational role. Beyond well-known, traditional risk factors for breast cancer, environmental exposures play a key role in breast cancer disparity.

Key Words: Health disparities, Black women, breast cancer, risk perception

Objective 1: Nurses will identify breast cancer health disparities among Black women and the link to environmental exposures at the end of this session.

Content: Black women have recently caught up in incidence of breast cancer to White women and continue to have the highest mortality rates of all racial/ethnic groups. Black women are also diagnosed with breast cancer at an earlier age with a later stage of cancer. Through epidemiological studies, this disparity in breast cancer is now being investigated through a different lens. Rather than looking for biological differences, science is now looking at differences in environmental exposures.

Objective 2: After this learning session, nurses will apply knowledge regarding hair products and breast cancer risk to educate patients and community members.

Content: Hair products primarily used by Black women contain hormonally-active chemicals at higher rates than other hair products. Recent research has linked these chemical ingredients to breast cancer risk.

TOPICS ON ADULT RISK REDUCTION

Vietnamese Women's Beliefs about Breast Cancer and Screening: Community-Based Study

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Purposes/Aims: The purpose of this community-based participatory research (CBPR) qualitative descriptive investigation is to explore beliefs of Vietnamese American women about breast cancer and breast cancer screening.

Rationale/Conceptual Basis/Background: Breast cancer rates are declining in non-Hispanic American women, but increasing among Asian American women with incidence rates particularly high among Vietnamese American women at 1.2% (95% CI = 0.1 to 2.2) per year. Screening rates (64%) in Vietnamese American women are far below the national goal of 81.1%. Vietnamese American women experience disproportions in language, economic, health care access, and cultural barriers to preventive health care than several other Asian women subgroups. Researchers previously found that Vietnamese Americans are less likely than White and African populations to seek information about cancer. The Health Belief Model was utilized to frame an understanding of individual health beliefs and health behavior.

Methods: Principles of CBPR were used to create the community-academic partnership. Forty Vietnamese American women were recruited using snowball and purposive sampling from a metropolitan area into four focus groups. Focus groups were guided by an open-ended, semi-structured guide, audio recorded, transcribed verbatim in Vietnamese, verified, and translated into English. Focus groups lasted about 1.5 to 2 hours. Using a process of directed content analysis, focus group transcripts were coded for main themes. Snowball sampling included referrals from participants and community partners and purposive sampling was done at an immigrant and refugee community-based organization, and in the Vietnamese American community. Trustworthiness was assured by checking the English translations against the Vietnamese transcriptions and credibility was ensured by team review of transcripts and peer debriefing.

Results: The mean age of the 40 participants was 46.45 years. Nearly all participants reported being born in Vietnam (n = 39, 97.5%), and the mean years lived in the United States was 11.65. Main themes identified were: decision-making about breast cancer screening (communication interaction with a healthcare provider; reliance on self-detection of lumps or symptoms); fear of breast cancer versus fear of procedural pain; breast cancer knowledge; motivation through others' journey in breast cancer death or survivorship; body image concern; "living carefree" and "good fortune – having good health"; and health care access.

Implications: Healthcare providers, which includes nurses and their interaction with Vietnamese American women should involve shared decision-making about breast cancer screening and may need to be tailored instead of using generic messages. Intervention efforts that consider creation of a culturally appropriate, safe space where power is given to the Vietnamese American women to say when they feel safe in their interaction with healthcare providers may promote an open discussion to help clarify misconceptions and myths. Healthcare providers should initiate the discussion on breast cancer screening for early detection, provide clarification on screening recommendations, and address concerns regarding mammogram pain, as Vietnamese American women may not be willing to initiate the discussion. A culturally tailored intervention should consider Vietnamese American women's understanding about mammography screening, fear, erroneous information about causes and risks, body image, beliefs about fate and luck, and promoting access.

Funding: Washington State University Vancouver Research Mini-Grant and Washington State University Vancouver New Faculty Research Start-Up Grant.

TOPICS ON ADULT RISK REDUCTION

Knowledge of Breast Cancer Genetics: How Much Do Family Members Know?

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Purpose: The purpose of this study was to evaluate knowledge of breast cancer genetics in women with a family history of breast cancer. Further, this study evaluated whether self-reported health literacy and an objective measure of numeracy are significant predictors of genetics knowledge.

Background: When breast cancer runs in a family, unaffected women need to make decisions about prevention and screening. Knowledge about genetics is essential to making informed choices. It is unknown what factors influence knowledge about breast cancer genetics in women from families with a history of breast cancer; potential contributors include education, age, family communication, health literacy, and numeracy.

Health literacy is an individual's ability to collect, process, and understand health information needed to make important health decisions. Health numeracy is considered by many to be an important component of health literacy. The intent of assessing health literacy in the clinical setting is to allow clinicians to prioritize their time teaching those most in need. It is unknown whether measures of health literacy and health numeracy are good proxies for knowledge about breast cancer genetics. The most commonly used method for evaluating health literacy in primary care involves asking patients to self-report literacy rather than administering an objective test.

Methods: This IRB approved, quantitative study involved a secondary analysis on data collected via mailed surveys and telephone interviews. Participants included 85 women aged 40-74 years who are sisters or daughters of women diagnosed with breast cancer. Study participants neither had breast cancer themselves nor received genetic counseling whereas the participants' affected relatives had received genetic counseling for a possible BRCA1/2 mutation. Multiple regression was used to determine the importance of several predictor variables on knowledge of breast cancer genetics as measured by the Breast Cancer Genetic Counseling Knowledge Questionnaire. Predictor variables were measured as follows: numeracy (Rausch Based Numeracy Scale), health literacy (Set of Brief Questions by Chew, Bradley and Boyko), and distress (15-item Impact of Event Scale), perceived amount of information shared by family member who attended genetic counseling (5-point Likert scale). Age and level of education were self-reported.

Results: Participants' scores on the Breast Cancer Genetic Counseling Knowledge questionnaire were low. The average score was less than half of the total possible. Similarly, the scores on the Raush Based Numeracy score were low. Both of these scales were objective measures. On the other hand, self-assessed health literacy scores were high. The best fit for the multiple regression model was significant ($p=0.03$) and explained 13.9% of the variance in knowledge of breast cancer genetics. The best predictor for knowledge was perceived amount of information shared. Neither self-reported health literacy nor objectively measured numeracy were significant predictors of genetics knowledge.

Implications & Conclusion: Women with a history of breast cancer know little about breast cancer genetics. Self-reported health literacy and objectively measured numeracy may not effectively assess genetics knowledge. Healthcare providers need to help women obtain genetic knowledge necessary to inform prevention and screening decisions.

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TOPICS ON ADULT RISK REDUCTION

Barriers to Patient/Provider Communication for Women with Pelvic Floor Disorders

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Purpose: The aim of this study was to better understand how midlife Mexican American and Euro-American women communicate with their providers regarding their concerns about problematic changes in their pelvic floor. This completed analysis is one dimension of the findings of a large program project grant (NICHD) to study women's pelvic floor health and develop culturally appropriate resources for women concerned with early symptoms of pelvic support changes.

Background: Latina and Non-Hispanic white women have increased risk for developing symptomatic uterine prolapse or pelvic floor disorders. Many of these women live silently for years with uncomfortable symptoms disrupting their quality of life. Preventive measures are few, since it is infrequent for women to report early pelvic floor changes and there are no successful evidence-based preventive therapies to offer. Often women present with late symptoms of a vaginal bulge or varying degrees of a prolapsed uterus.

Methods: We conducted a focused comparative ethnography using guided, unstructured one-on-one interviews with 17 midlife women (8 Mexican American and 9 Euro-American). All of the women in the study had been diagnosed with rectocele, cystocele, cervical prolapse, or all three. Interviews were conducted with the multiparous women by the investigators or a qualified and trained bilingual, bi-cultural Hispanic female research assistant in the language chosen by the woman (English or Spanish) at a site they identified as comfortable and private.

Results: Women in both groups varied in age between 37-73, most were married, had children, and worked outside of the home. Themes emerged indicating a need for improved patient/provider communication methods to increase understanding for women with pelvic floor disorders. We found that there were low levels of understanding and a reluctance to discuss symptoms with health care providers particularly among the Mexican women. There was a great deal of miscommunication during the patient-provider interaction that led to confusion among both Spanish and English-speaking women about their diagnosis and treatment options. Mexican women expressed suffering silently for many years and that providers down-played their symptoms and diagnosed them "normal". Cultural barriers to patient/provider communication regarding symptoms proved to be slightly greater for women of Mexican heritage than for non-Hispanic women. Mexican women were often overwhelmed with information which they did not understand, and were too embarrassed to ask clarifying questions regarding their symptoms. Euro-American women were often hesitant to discuss their symptoms with younger, male providers.

Implications for Practice: Our data accentuate that both groups of women with uterine prolapse or pelvic floor disorders have varying degrees of understanding about their condition and some of their understanding was impacted by cultural beliefs. Barriers to care for symptoms of pelvic floor disorders may lead to poorer quality of life for many women. Our recommendation is that spending more time discussing the diagnosis rather than focusing solely on treatment options may improve communication, increase patient understanding, and enhance quality of life for women suffering from pelvic floor concerns.

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TOPICS ON ADULT RISK REDUCTION

An RCT Examining Vitamin D Supplementation, 25(OH)D Response, and Bone Health Status

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Purpose: This study will translate findings from vitamin D supplementation into clinically meaningful data regarding dose response and ultimately, inform health policies regarding optimal vitamin D status for service members.

Specific Aims: 1) To document the phenotypic expression of vitamin D status in a cohort of active duty soldiers to determine common symptoms associated with deficiency/insufficiency states; and 2) To examine the effect of low and high dose vitamin D on 25(OH)D levels and symptom profiles at 3 months and 12 months post-supplementation.

Background: Soldiers are at risk for musculoskeletal disorders and metabolic dysfunction that impacts physical performance and military readiness; the role of vitamin D in this scenario is unclear. An increasing awareness of vitamin D deficiency as a public health epidemic, and the knowledge gap regarding the clinical and physiologic relevance of this, justify a precision health approach to studying the ubiquitous steroid hormone.

Methods: This Institutional Review Board-approved prospective trial has enrolled 132 participants; baseline 25(OH)D level determined randomization to low vs high dose supplementation, or to a healthy control group. Symptoms, diet, daily activities, sun exposure, BP, and bone/blood biomarkers are obtained at three time points. Gene expression analysis will be performed pre- and post-supplementation.

Results: The cohort is predominantly white (56%) with a significant difference in racial distribution between normal vitamin D status (77% white) and deficient status (45% white), $p < .001$. There are no differences in gender between groups. Mean (sd) 25(OH)D levels are 38 (5.6) and 22.6 (4.9) ng/mL for normal and deficient groups, respectively. Post-supplementation 25(OH)D: 34.4 (9.9) and 35.5 (9.9) ng/mL for normal and deficient groups, respectively. Patient Reported Outcomes Measurement Information System (PROMIS) domain (cognitive, pain, sleep, fatigue, physical function, global health) scores are similar between groups at 3 months, $p = .15$; physical function was lower in the deficient group pre-supplementation ($p = .047$). One-third of cohort was pre-hypertensive at baseline and 3 months. Body fat 3% greater in deficient group, no difference in femur or spine BMD by DXA scan. Vitamin D intake is below Dietary Recommended Intake of 600 IU in both groups.

Implications for Translation to Practice: Vitamin D insufficiency and deficiency are widespread in active duty service members, with no appreciable seasonal impact. Early results suggest nurses and other health care professionals should intervene early in preventable health conditions impacting service member performance and readiness and to recommend appropriate self-care strategies that include dietary supplementation and judicious sun exposure to optimize vitamin D status. We hope study findings will be used to inform future pre- and post-deployment health assessments. Longitudinal research of much greater duration is needed to follow bone, metabolic, immunologic, and cardiovascular indices as we learn more about the critical role of vitamin D in homeostasis.

Disclaimer: The views expressed in the abstract 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.

WINNING STRATEGIES FOR CHRONIC ILLNESS MANAGEMENT

CANNABIS USE PATTERNS AND PAIN SYMPTOMS
AMONG ADULTS PRESCRIBED OPIOIDS

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SELF-FOOT CARE PRACTICES IN DIABETES:
A SYSTEMATIC REVIEW OF LITERATURE

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Phyllis J. Eide, Joshua Neumiller*

SHARED MEDICAL APPOINTMENTS: A MODEL TO
REDUCE HEALTH DISPARITIES IN TYPE 2 DIABETES

Carolina Noya, Catherine A. Chesla, Abbey Alkon

SUPPORT OF HIV/AIDS IN THE CHURCH AMONG OLDER
AFRICAN AMERICAN ADULTS WITH HIV/AIDS

Maisha Davette Parnell, Alexandria Jones-Patten

BENEFITS AND ADVERSE EFFECTS OF CANNABIS
USE AMONG ADULTS WITH PERSISTENT PAIN

*Teresa Louise Bigand, Cristina Ross, Mary Lee Roberts,
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WINNING STRATEGIES FOR CHRONIC ILLNESS MANAGEMENT

Cannabis Use Patterns and Pain Symptoms among Adults Prescribed Opioids

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Purpose: This study examines cannabis use and pain symptoms among adults prescribed opioids for persistent pain or opioid use disorder (OUD). Specific aims were to (1) characterize and compare frequency of cannabis use and pain symptom burdens between two populations prescribed opioids, and (2) examine relationships between cannabis use, pain intensity, and self-efficacy.

Background: Adults prescribed opioid medicines for either OUD or persistent pain often report using cannabis to manage pain symptoms. Low levels of self-efficacy (confidence that one can self-manage symptoms) are linked to higher symptom burdens and increased substance use. The effects of cannabis use on pain symptoms and self-efficacy among people prescribed opioids are currently unclear. Ryan and Sawin's Individual and Family Self-Management Theory (2009) was used as our framework to examine how pain is affected when adults prescribed opioids use cannabis as a symptom self-management strategy.

Methods: A convenience sample of 300 adults was recruited who receive opioids from either an outpatient opioid treatment clinic for OUD (n=150) or a pain management clinic (n=150). Surveys were administered containing validated measures of pain and self-efficacy, including: (1) Patient-Reported Outcomes Measurement Information System (PROMIS) Pain Intensity short form, (2) PROMIS Self-Efficacy for Managing Symptoms, and (3) PROMIS Self-Efficacy for Managing Emotions. Additional items asked about cannabis use frequency and reasons for using cannabis.

Results: Cannabis use in the past month was reported by 52.7% of respondents receiving treatment for OUD and 27.3% of those in treatment for persistent pain. Those with OUD used cannabis more frequently with 33% reporting ten or more days of cannabis use in the past month versus 12% at the same frequency for those with persistent pain. Adults with OUD who used cannabis most commonly reported use was for "social/recreational" reasons (80%) compared to 49% of those with persistent pain who endorsed recreational use. Among adults with persistent pain, pain relief was a motive for cannabis use for 67%, compared to 60% of adults with OUD. Pain intensity was significantly higher among those receiving opioids for persistent pain ($p < .001$), while self-efficacy did not differ between adults with pain or OUD ($p = 0.60$). Frequency of cannabis use in the last month was not related to pain intensity ($p = 0.11$) and was negatively correlated with self-efficacy for managing emotions ($r = .12$; $p < 0.01$).

Implications: Results suggest that cannabis use is more common among adults prescribed opioids for OUD, and that they are more likely to use cannabis for recreational reasons than are those with persistent pain. Both populations use cannabis to self-manage pain symptoms, although correlational evidence does not support pain intensity improvements with cannabis use. Those using cannabis more frequently have less confidence in managing emotions. Future research should examine whether self-efficacy can be improved through symptom self-management interventions and whether this reduces pain symptoms more effectively than cannabis use. High quality randomized controlled trials are needed to determine effects of cannabis on pain for those prescribed opioids. Such information is necessary to properly advise people on the use of cannabis for symptom management.

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WINNING STRATEGIES FOR CHRONIC ILLNESS MANAGEMENT

Self-Foot Care in Diabetes: A Systematic Review of Literature

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Purpose: The purpose of this systematic literature review was to assess the current qualitative research which explore perceptions and experiences diabetes patients and podiatrists regarding preventive self-foot care practices in patients with diabetes mellitus, to establish gaps in research and further inform the future studies so that stronger recommendations can be provided for future clinical practice.

Background: Diabetic foot ulceration (DFUs) is a major cause of morbidity and mortality in people with diabetes. DFUs are often marked with poor healing, infection, re-ulceration, prolong hospitalization, impaired quality of life, and death. Approximately 80,000 Americans lose their foot to DFUs-related amputations annually, which often lead to disabilities and financial burden. Research has confirmed that that certain self-foot care practices such as daily foot inspection, toe and nail care, daily washing of feet, and avoiding walking bare-footed prevent DFUs. However, it is clear from the research literature that patients do not routinely comply with these foot care recommendations and the reasons for nonadherence are less evident. Thus, a gap exists between what healthcare providers recommend versus the actions taken by diabetic patients with DFUs. Reviewing current qualitative studies on self-foot care practices is imperative to establish these gaps in literature for future research and clinical practice.

Methods: PubMed, CINAHL, Psych-info, and Cochrane reviews databases were searched. Only qualitative research which explored experiences of diabetes patients with or without DFUs across different contexts were included. Findings were reported according to the “Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA). Included studies were appraised with “Standard for Reporting Qualitative Research (SRQR)” to assess the issues of trustworthiness and rigor in each included studies. Data extractions were undertaken, with the analysis of transparency to assess the methodological quality of qualitative studies evaluated. Primary outcomes were patients’ experiences with preventive foot care practices and Podiatrists perceptions of how diabetes patients care for their feet to prevent DFUs and subsequent lower extremity amputations.

Results: 9 qualitative research studies were included. Most studies indicated that diabetes patients’ perspectives about preventive self-foot care practices differ from the healthcare perspectives. Patients expected their providers to cure their ulcers and, therefore, did not feel it was necessary to take action themselves. Moreover, some patients believed they had not received enough training while others resist foot care recommendations or education that conflict with their perspectives or lifestyle. On the hand, healthcare providers often blame patients for self-neglect and believe that patients do not pay attention to training and would not follow any foot care recommendations. Patients’ interpretations of foot care information were often different from what was intended by podiatrists.

Implication: Promoting self-foot care practices, and preventing diabetic foot ulceration in diabetes still remains very challenging because diabetes patients’ perspectives about the self- foot care practices affect their adherence/compliance. It is critical for healthcare providers to consider patients’ perspectives of self-foot care practices as significant factors in designing patient-centered interventions. Therefore, interventions should shift focus from promoting patient education alone, to exploring other psycho-social factors which stands as barriers and/or motivations for self-foot care practices in patients. Moreover, further research is needed on strategies to best support foot health among patients with diabetes, because healthcare providers may continue to ignore important factors influencing their patients’ self-foot care practices. Unless this is addressed explicitly, patients may inadvertently continue to increase their risk of developing a foot ulcer.

WINNING STRATEGIES FOR CHRONIC ILLNESS MANAGEMENT

Shared Medical Appointments: A Model to Reduce Health Disparities in Type 2 Diabetes

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Rationale: Diabetes has reached epidemic proportions in the United States. Shared medical appointments are an increasingly popular model aimed at improving access to DSMES and primary care services in order to improve diabetes self-management and decrease diabetes related complications. The study of SMAs as an innovative model of care for uninsured/underinsured Latinos has the potential to identify a sustainable and effective model of care to reduce health disparities.

Purpose: The purpose of the study was to evaluate the effectiveness of a nurse practitioner led intensive behavioral SMA intervention, compared to usual primary care (UPC) for the treatment of persons with type 2 diabetes and associated cardiovascular risk factors over a 6-month period.

Methods: This study was a quasi-experimental design with a non-randomized matched control group that followed participants prospectively for 6 months. All adult Spanish-speaking Latinos living with type-2 diabetes receiving primary care at a FQHC) clinic were eligible for inclusion in the study. Participants in the control group were matched concurrently on baseline A1C and age. The non-probability convenience sample consisted of 90 participants, 30 in SMA and 60 in control group, receiving primary care at a FQHC clinic.

Demographic variables were obtained from the medical records of intervention and control group participants, as were laboratory values of A1C, systolic and diastolic BP and LDL. Differences in the demographics and study variables between the intervention group and the control group were calculated. Differences in the percentage of participants in each group who achieved A1C, LDL, BP and all three target goals, were compared at 6 months.

To test the effect of group membership on A1C change, differences in change scores were compared between the ALDEA SMA intervention group and the UPC control group. Linear regression analysis was computed to assess if mean A1C change at 6 months post-intervention was greater among SMA intervention group participants compared to the UPC control group participants.

Results: At baseline, blood glyceemic profiles were not statistically different between the intervention and control group. A greater percentage of intervention group participants (58.6%) than control group participants (31%) achieved target A1C goals at 6 months post-intervention ($\chi^2 = 4.462$, $p \leq 0.05$).

The reductions in A1C were greater in the intervention group relative to the control group at 3 months (-1.69% vs. -0.59%, $t = -2.156$, $p \leq 0.05$) and at 6 months (-1.48% vs. -.241%, $t = -2.458$, $p \leq 0.05$). Compared to the control group, results of the linear regression analysis revealed a net reduction A1C difference of -1.09% from baseline to 3 months ($p \leq 0.05$) and -1.23% from baseline to 6 months ($p \leq 0.01$) in the intervention group.

Implications: This study demonstrated that underserved and underinsured Latinos enrolled in the ALDEA program were able to achieve A1C goals in greater numbers compared to those who received UPC. Furthermore, the ALDEA SMA intervention led to a statistically significant net reduction of 1.09% at 3 months and 1.23% at 6 months in A1C compared to UPC. Despite its limitations, the ALDEA SMA program has been successful in empowering Latino patients and improving glyceemic control.

WINNING STRATEGIES FOR CHRONIC ILLNESS MANAGEMENT

Support of HIV/AIDS in the African-American Church among Older African-American Adults with HIV/AIDS

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Objectives: To explore the social factors in the church that determine support for older African Americans (AAs) with HIV/AIDS and to identify what structures within the church could help to provide ongoing support.

Problem Statement: AAs have the highest prevalence of HIV/AIDS when compared to all other races. In 2014, older AAs were reported to have a higher incidence rate when compared to those aged 15-19 years. Historically, the AA church has been the foundation for religious and social support among AA families and communities. Church support for older parishioners with HIV/AIDS can contribute to physical and mental wellness and ultimately increase their resiliency. However, it is not well known how support is provided for HIV/AIDS parishioners in AA churches. AA churches that currently have HIV/AIDS support programs mainly focus on prevention measures geared towards young adults and rarely include provisions for older parishioners who are already infected.

Methods: A descriptive qualitative pilot study was conducted among 5 HIV positive individuals who attended or desired to attend predominately AA churches. Participants were recruited by using flyers at specific HIV/AIDS clinics and AA churches. Interviews were tape-recorded and lasted approximately one hour. The Theory of Spiritual Well-Being in Illness was used as a frame of reference for coding the emerging themes from the interviews. Two coders established interrater reliability by using a percentage agreement in which both raters determine how many times they agreed with specific codes divided by the total number of questions asked. The codes were grouped under the themes of the Theory of Spiritual well-being in illness.

Results/Findings: Codes from this study consistent with the Spiritual Well-being Illness model included: 1) Personal Faith, 2) Spiritual Contentment, 3) Religious Practice, 4) Severity of Illness, 5) Stressful Life Events, 6) Social Support & Health Support. An important theme uncovered in this analysis not included in the model was Disclosure & Confidentiality Status. Participants believed it was not necessary to disclose their status in order to receive support from the church. Those interviewed believed if they disclosed their status they would not receive the same support as other church goers. One person interviewed disclosed her status and received less hugs and greeting from the congregation. Another participant stated she goes to church to listen to the word to get strength but she doesn't have to tell them what's wrong with her. Participants describe regular church activities such as bible study and Sunday worship as structures that help to provide ongoing support in coping with HIV/AIDS.

Conclusion/Implications: Misperceptions about HIV/AIDS parishioners of AA churches persist, causing the individual to live in isolation with their disease. Future research should seek out older AA men to determine behaviors and beliefs regarding the perceived benefits of church as a support measure for AA men infected with the disease. Overall, more research is essential in the area of cumulative benefits of church attendance and whether the same benefits are exclusive to the AA church or if other entities and organizations could also provide the same advantages.

WINNING STRATEGIES FOR CHRONIC ILLNESS MANAGEMENT

Benefits and Adverse Effects of Cannabis Use among Adults with Persistent Pain

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Purpose: This qualitative descriptive study focused on describing how adults with persistent pain perceive the positive and negative effects of cannabis use. The specific aims were to 1) describe patients' perspectives on the benefits and adverse effects of cannabis use, and 2) identify common patterns related to cannabis use in people with persistent pain.

Background: For adults with persistent pain, co-occurring distressing symptoms such as anxiety, depression, and poor-quality sleep can exacerbate pain and negatively impact quality of life. Many adults report using cannabis to treat pain and related symptoms. The accessibility of cannabis has greatly expanded in recent years, with an increasing number of states legalizing cannabis for medical and recreational use. Still, there is little knowledge about why people with persistent pain use cannabis and the degree to which cannabis is perceived to benefit or negatively impact adults with persistent pain. Given the increase in cannabis use and legalization nationwide, information from this study will address the gaps in literature concerning how and why populations with persistent pain use cannabis.

Methods: A mixed methods, cross-sectional, survey-based study was conducted to explore the effects of cannabis use on a variety of health outcomes for people with persistent pain. The qualitative data included participant responses to two open-ended questions focusing on the benefits and negative effects of using cannabis. A total of 150 adults actively receiving opioids for pain treatment in three separate pain specialty centers in Eastern Washington completed the study. Using a qualitative descriptive approach (Sandelowski, 2000), data were analyzed with content analysis (Graneheim & Lundman, 2004).

Results: Approximately 33% of participants reported benefits from cannabis and another 30% described negative effects. Categories of symptom management and enhanced daily functioning were identified as benefits of cannabis, while categories for negative effects included physiological and socioeconomic concerns. Aspects of symptom management involved pain relief, improved sleep, decreased nausea, and reduced anxiety. Enhanced daily functioning consisted of improved quality of life and ability to complete activities of daily living. Physiological concerns included weight gain, unpleasant sensory experience, decreased cognition, paranoia, and intolerance. Socioeconomic concerns emphasized high cost of cannabis and negative peer/provider perceptions of cannabis use.

Implications: Given the increase in legalization of cannabis for medical and recreational use across the United States, this new knowledge on the perceived benefits and adverse effects of cannabis is especially timely. Understanding how adults with persistent pain perceive the positive and negative effects of cannabis use may aid patient-provider communication and help guide treatment decisions.

Abstracts of Podium Presentations

WORKPLACE CHALLENGES

THE RELATIONSHIP BETWEEN WORKPLACE RACISM
AND OBESITY IN AFRICAN AMERICAN WOMEN

Deborah Curtis

INSTRUMENT VALIDATION:
NURSE MEANING AND JOY IN WORK

Dana N. Rutledge, Mary Wickman, Elizabeth J. Winokur

ADVANCING KNOWLEDGE THROUGH PRAGMATIC
TRIALS: A REFLECTIVE EXEMPLAR ON VALIDITY

Cynthia F. Corbett

PUBLIC PERCEPTIONS OF NURSING FOLLOWING
A HIGH PROFILE NURSE ARREST

Michelle L. Litchman, Djin L. Tay, Jia-Wen Guo

WORKPLACE CHALLENGES

The Relationship between Work Place Racism and Obesity in African American Women: A Pilot Study

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Purpose: African American (AA) women have a higher rate of obesity when compared to Caucasian women, 57.6 percent in AA women, and 33.5% in Caucasian women. The rate of obesity in AA women continues to climb despite health promotion education and interventions. Obesity rates continue to rise independent of socioeconomic position indicating socioeconomic status is not a predictor. The potential role of work place racism (WPR) for obesity has not been studied in AA females. Shiftwork (SW) has been associated with weight gain but this has not been studied in AA women in relationship to WPR or obesity. The primary aim of this pilot study is to examine the relationship between WPR and obesity in AA women. A sub aim was to evaluate the potential moderating effects of SW.

Conceptual Framework: This study is based on three theoretical frameworks: the theory of allostatic load; intersectionality; and ecosocial epidemiology. Allostatic load describes the biological response to chronic stress and its physiological consequences. The second theoretical framework is intersectionality; this theory posits that the effects of gender and race are not separate or additive but interactive. The third, Ecosocial theory, integrates biological and social processes with a historical and ecological approach to explain social inequalities and resultant health disparities.

Methods: This was a cross sectional correlational study that examined the association of racism, shift work and chronic stress with obesity in African American nurses. African American nurses greater than 25 years of age who are employed in any area of nursing for one year or longer was recruited and enrolled in the study. Data acquisition was by self-report questionnaires, blood, and saliva biomarkers of stress and anthropometric measures. Statistical analyses included descriptive statistics, correlations, linear regression and univariate general linear model.

Results: BMI and Institutional workplace bias were correlated ($p = 0.016$), Waist to hip ratio and systolic blood pressure were correlated with life stress scores ($p = 0.028$ and $p = 0.05$, respectively). BMI did not differ by shiftwork ($p = .858$), and among the shift workers did not differ by shift ($p = .148$). In the general linear model to test for interaction There was a main effect for institutional WPB ($F(19) 2.684, P < 0.05$), no main effect for shift work ($F(1) 8.524, P > 0.05$) and no interaction between shiftwork and WPB institutional ($F(11) .301, p > 0.05$).

Conclusions: Data analysis suggest that body mass index is related to institutional workplace bias and not to interpersonal workplace bias. Waist to hip ratio, a measure of visceral adiposity, and systolic blood pressure is significantly correlated with life stress score suggesting life stressors may contribute to visceral adiposity and thereby systolic hypertension.

Funding: By the Centers of Disease Control and Prevention (CDC) through the Southern California NIOSH Education and Research Center Pilot Project Research Training Program. Grant Agreement Number T42 OH008412.

WORKPLACE CHALLENGES

Instrument Validation: Nurse Meaning and Joy in Work

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Background/Aim: High value health care is linked to patient experience, population health improvement, and cost-effective care. A fourth aim, healthcare workers experiencing MJW, is predicted to affect workforce engagement, job satisfaction, and worker retention. Enhanced MJW may mediate the effects of stressful or negative situations. Currently, there is no measure for this construct among nurses. The purpose of this study was to develop and psychometrically test the Meaning and Joy in Work Questionnaire (MJWQ) in employed nurses.

Design: A 3-phase process was used to generate and psychometrically test the newly developed MJWQ.

Method: A 31-item questionnaire was generated from a review of the literature. Content validity was established by expert review. In late 2016, a pilot with students enrolled in post-licensure programs identified three MJWQ factors through exploratory/confirmatory factor analyses; the resulting three subscales of the 17-item MJWQ were “value of work/connection with others,” “meaningful work,” and “caring.” In mid-2017, a validation study with 463 employed nurses at a southwestern Magnet®-accredited hospital was done.

Results: The MJWQ demonstrated acceptable construct validity and internal consistency ($\alpha = .94$). It was significantly and positively associated with job satisfaction ($r = .686$; $p < .0001$). One-way ANOVAs demonstrated that nurses lacking specialty certification had significantly lower levels of meaning and joy in work. No associations with novice status, gender, or hospital role were found.

Conclusions: Initial testing supports adequate measurement of MJW for hospital nurses in varying roles. Testing of the MJWQ in other settings and evaluation of its sensitivity in determining intervention effectiveness in work sites are suggested.

WORKPLACE CHALLENGES

Advancing Knowledge through Pragmatic Trials: A Reflective Exemplar on Validity

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Purpose: To examine components of internal and external validity in clinical trials using an exemplar study that compared the effects a complex interdisciplinary care management intervention and an attention control intervention.

Rationale/Conceptual Basis/Background: Randomized clinical trials (RCTs) have been the gold standard for developing knowledge in the health sciences. However, the limitations of translating interventions from RCTs to clinical practice are increasingly recognized. There is a desire for research that has greater external validity to facilitate adoption of relevant findings by stakeholders. Traditionally, RCTs have tightly controlled interventions and contexts with high internal validity, but lack generalizability to populations. Pragmatic clinical trials have more applicability to the general population, but less internal validity due to loosely controlled interventions and contexts. Available tools can assist nurse scientists in designing and implementing clinical trials, and disseminating clinical trial results to balance rigor for internal and external validity with the goal accelerating the adoption of evidence into practice.

Method: A randomized clinical trial funded by the National Institute on Aging (n=268) was used as an exemplar for implementing methods to balance internal and external validity rigor. Tools to plan for and evaluate the study's characteristics on the effectiveness-efficacy continuum and the relative internal and external validity of the trial included the Gartlehner criteria, the PRE-CIS (Pragmatic-Explanatory Continuum Indicator Summary) model, and the CONSORT extension for pragmatic models.

Results: The exemplar clinical trial had both effectiveness and efficacy elements. Based on Gartlehner's criteria, the trial was categorized as an efficacy trial. Using the PRE-CIS model, the trial was approximately mid-way on the effectiveness-efficacy continuum, although several characteristics were highly efficacious. Applying the CONSORT extension for pragmatic models provided a method for reporting features of the trial to demonstrate internal validity strengths and limitations while describing the contextual elements of the participants and setting, which are needed for clinicians and health systems to gauge the potential applicability of the study findings to the populations they serve (i.e. external validity).

Implications: Pragmatic trials may promote more rapid adoption of evidence into clinical practice. Investigator attention to internal and external validity during all phases of the research—planning and design, implementation and process fidelity, and dissemination with adequate context description—is required to facilitate earlier adoption of evidence-based advances in nursing science. Implications include the need for: (1) nurse scientists to employ tools for optimizing internal and external validity; (2) nurse educators to include content related to the effectiveness-efficacy continuum in curricula; and (3) granting organizations and proposal reviewers to consider internal and external validity in funding decisions to promote more rapid advances in knowledge generation and adoption of evidence-based practices.

Funding: The exemplar study was supported by a grant from the National Institute on Aging. Grant # R01 AG042467.

WORKPLACE CHALLENGES

Public Perceptions of Nursing Following a High Profile Nurse Arrest

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Purpose: The purpose of this research was to analyze public perceptions of nursing based on the arrest of registered nurse, Alex Wubbels, using Twitter.

Background: Although nursing has been identified as one of the most trusted professions for 15 years, public perceptions of nurses remain diverse. Media, such as television programming and movies, have influenced nursing stereotypes, many of which are rooted in misconceptions. The public portrayal of nurses ranges from being angels of mercy, sexualized nurse characters, to subordinate nurses who garner little respect. These negative portrayals of nursing place nurses at a disadvantage when trying to be recognized for their contribution to patient care and outcomes. Social media has become ubiquitous in everyday life, and provides a large and readily available platform through which the public may receive information about nursing. Recently, a high profile arrest of Alex Wubbels, a registered nurse who refused to allow a police officer to draw labs from one of her unconscious patients, was covered extensively on national and international news programming as well as various forms of social media, including Twitter.

Methods: Tweets published in September 2017 related to event specific hashtags (i.e., #AlexWubbels, #NurseWubbels, #nursearrested) were retrieved using the Twitter Application Programming Interface. Latent Dirichlet Allocation (LDA) models were used to contextually establish topic models. LDA produced the suggested number of topics, the most frequently used keywords in each topic, and the most represented tweets for each topic. Topics were analyzed to identify themes specific to the nursing profession. Analysis of themes were guided by the research question, “How does the public perceive nursing on Twitter as a result of Alex Wubbel’s arrest?”. Sentiment analysis of the tweets was conducted using the emotion lexicon (i.e., anger, anticipation, disgust, fear, joy, sadness, surprise, trust) developed by National Research Council of Canada. Tweets were downloaded and analyzed with RStudio.

Results: A total of 56,931 relevant tweets were retrieved, including 14,150 unique tweets. The LDA output suggested 12 embedded topics. Topics related to public perceptions of nursing included: (1) the role of the nurse in advocating for patients, (2) the adequate training of nurses in following organizational protocol, (3) Alex Wubbels as an excellent representative of the nursing profession’s image, and (4) other healthcare professionals’ collective support of nurses in protecting patients. Sentiment analysis revealed that there were more positive than negative sentiment tweets during the 8 day period. Among emotional classifications, the sentiment of “trust” (44.3%) was assigned to the majority of tweets.

Implications: To our knowledge, this is the first study to use LDA to examine the public perceptions of nursing after a high profile event involving a nurse. The topics examined in this study provided insight into strong positive public sentiments about the nursing profession as perceived by the general public. The public’s trust in nursing was explicitly identified. Social media provides a powerful resource to strengthen public perceptions of the nursing profession and should be considered in education and outreach.

Abstracts of Poster Presentations

ADVANCED PRACTICE

VALUE-BASED PAYMENT: AN OPPORTUNITY
FOR ADVANCED PRACTICE REGISTERED NURSES

Barbara Martin

PERCEPTIONS OF NURSE PRACTITIONERS AMONG
MONTANA CRITICAL ACCESS HOSPITAL LEADERSHIP

Zach Deffinbaugh, Polly A. Petersen

TRANSFORMING HEALTH: PATIENT-PROVIDER
COMMUNICATION FOR DETECTION OF PTSD

Shawn Faust, Jane M. Carrington

INTRODUCTION OF THE FAMILY NURSE
PRACTITIONER ROLE IN SWAZILAND

Louise Kaplan

EDUCATION AND IMPLEMENTATION OF A DECISION
MAKING TOOL TO REDUCE ANTIBIOTIC USE

Caitlyn Mae Free Uhnak

A NOVEL TREATMENT FOR SLEEP AND PAIN:
AURICULAR ACUPUNCTURE (AA)

Betty Garner

ADVANCED PRACTICE

Value-Based Payment: An Opportunity for Advanced Practice Registered Nurses

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Background: Pay-for-performance (P4P) incentive models impacting advanced practice registered nurses (APRNs) have proliferated in the last 20 years, yet there is not strong evidence that these payment models positively impact health outcomes, and little research has been done to understand APRN attitudes about the pay-for-performance models that may impact their reimbursement structure. The preponderance of research on pay-for-performance either does not specify the provider type, or is focused on physician providers. Since 2015, the Medicare Physician Quality Reporting System (PQRS) has tied incentive payment or penalties to providers' quality reporting. Advanced practice registered nurses (APRNs) who bill Medicare part B may be required to participate, thus representing the largest quality reporting pay-for-performance program in the United States that impacts APRN practice. Despite this, there is a dearth of research-based inquiry focused on the role of APRNs within value-based payment programs such as pay-for-performance incentive models.

The Center for Medicare and Medicaid Services (CMS) has spear-headed much of the work to advance P4P models with its changes to Medicare reimbursement for both hospitals and qualified providers in the outpatient setting. Moving forward, the Quality Payment Program (QPP) will replace these early programs to continue to move towards Medicare Value-Based Payment. What is not yet known is the impact the reporting requirements and incentive payments has on APRN provider engagement to effect change in a complex environment where much remains outside his or her own control. Effective quality incentive payments must take into account the complex environment within which providers and organizations act in order to create a successful program that will truly improve outcomes and contain costs.

Purpose: The purpose of this poster is to utilize the Systems Research Organizing Model to understand the complex interactions that impact the Advanced Practice Registered Nurse provider in the setting of value based payments using key concepts identified in a concept analysis of value-based payment.

Design: Using the Systems Research Organizing Model (SROM) as a framework, this poster represents relationship among variables that influence APRN and organizational decision making within a complex health care environment. SROM is comprised of four constructs that interact to form a system: client, context, action focus and outcomes. For the purposes of this poster, the context is the health care delivery system, the client is the APRN, the action is the quality-based incentive payments or penalties, and finally the outcomes are improved quality measures over time and improved total cost of care. Key concepts that define value-based payment will be explored using the SROM.

Discussion: The provider beliefs and actions in response to value-base payment programs are dependent upon many complex and interacting factors that influence the organizational milieu as well as the individual provider's belief about the incentive. The SROM is a framework to understand core concepts of value-based payment and the role of the APRN. Quality-based incentive programs must take into account the many factors that impact the provider and the organization in developing new programs.

ADVANCED PRACTICE

Perceptions of Nurse Practitioners among Montana Critical Access Hospital Leadership

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Polly Petersen, PhD, RN
Peter Buerhaus, PhD, RN, FAAN, FAANP(h)
Casey Cole, PhD, DNP, APRN, FNP-BC, CEN
Joy Huber, FNP-BC
Susan Luparell, PhD, RN, CNE, ANEF

Purpose/Aims: The aim of this project was to identify perceptions of nurse practitioners (NPs) by critical access hospital (CAH) leadership across Montana.

Rationale/Conceptual Basis/Background: Challenges associated with access to healthcare, as well as difficulties in provider recruitment are well-documented in the literature. While primary care physician numbers continue to fall short of demand, NPs are forecasted to drastically increase in numbers in upcoming years. Montana is a full-practice state for advanced practice registered nurses (APRNs) and CAHs commonly employ APRNs, including NPs to provide healthcare to patients in rural settings. Little is known regarding perceptions of NPs among CAH boards of directors, chief executive officers, or other senior management officials. It is important to understand how leadership perceives NPs as healthcare providers, as these are the individuals who will collectively make decisions affecting the number and type of providers employed within their respective facilities.

Methods: This was an ethnographic, qualitative study, utilizing focus group methodology. Focus groups were held with CAH leadership at four separate critical access hospitals spanning the state of Montana. Focus group discussions were audio recorded and transcribed. Data were then analyzed using the constant comparison technique, allowing for recurring themes to emerge.

Results: Analysis of discussions indicate CAH leadership has overwhelmingly positive perceptions of NPs. However, there is a lack of consistency regarding comprehension of NP scope, role, and autonomy. The challenges of provider recruitment were affirmed by all four focus groups. Participants in three of the four locations acknowledged the community's general lack of understanding in relation to healthcare provider disciplines among nurse practitioners, physicians, and physician assistants. Interestingly, it was noted that a number of NPs currently employed at CAHs previously worked as registered nurses within the facility, suggesting a potential provider recruitment advantage with regard to hiring NPs.

Implications: Results from this study affirm the role and utility of NPs in rural Montana. Data suggests that CAH leadership's perceptions of NPs are not a barrier to NP practice in rural communities. Difficulty associated with provider recruitment in rural locations may be alleviated by the nature of NP educational programs which allow CAH RNs to become APRNs without relocating for educational purposes. Inconsistency regarding awareness of NP scope, role, and autonomy among board members offers the opportunity for education of CAH boards of directors and senior managers. Lastly, increased awareness of NP-led care by those in leadership positions in rural Montana may serve to further increase NP utilization, ultimately increasing access to healthcare for rural populations.

Funding: Provided by the Dr. Helen Jacobsen Lee Endowment for Rural Nursing Research, Montana State University, College of Nursing.

ADVANCED PRACTICE

Transforming Health Patient-Provider Communication for Detection of PTSD

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Purpose: It is estimated that 20 percent of the 2.6 million veterans deployed to Iraq and Afghanistan will develop PTSD. In veteran populations, PTSD stigma is a significant barrier to treatment. This has made PTSD screening an important part of identifying PTSD in veteran populations. Symptoms of PTSD may manifest years after the traumatic event, and they can return after a period of remission. Due to this, the VA routinely screens veterans for PTSD. Of these patients, nearly 40 percent of veterans receive healthcare outside of the Veteran's Administration (VA), and thus do not receive the VA's routine PTSD screening. Here I will present the plan for a quality improvement project intended to increase effective communication of patient and primary care provider for the screening and detection of PTSD for veterans in non-VA care.

Theory Description: This quality improvement project will be guided by an adaptation of the Effective Nurse to Nurse Communication framework. The patient sends the message to the provider. The message consists of words that are intended to trigger a response for appropriate care of PTSD for veterans seeking care in a civilian or non-VA care system.

Process Used: This quality improvement project will consist of the administration of the PC-PTSD-5 screening tool to patients in the provider's office. Based on the immediate calculation of the tool, providers will then make a referral for continuing care for PTSD. The PC-PTSD-5 screening tool is comprised of five yes or no questions. If the patient answers yes on three or more questions, then the PCP will make a referral to an appropriate mental health provider. The proposed solution is a low-cost and low-workflow intervention. The PC-PTSD-5 and PCL-5 are the only screening tools that have been validated in military populations using the DSM-5 PTSD criteria. The PC-PTSD-5 screening tool performs similarly to the PCL-5, but it uses five questions rather than the 20 questions in the PCL-5.

Logic Linking Theory to Project Problem: Here we present a plan toward increase effective communication of patients-primary care provider for the detection of PTSD for veterans seeking care in non-VA system. This project will lead towards improved detection and treatment of PTSD for a group of patients often missed in this diagnosis and care.

ADVANCED PRACTICE

Introduction of the Family Nurse Practitioner Role in Swaziland

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Purposes/Aims: This project guided development of Swaziland's first nursing master's degree/ advanced practice family nurse practitioner program.

Rationale/Background: Swaziland is a small, landlocked country in southern Africa in which 80% of people live in rural areas. It has the world's highest prevalence of HIV at 26%, along with one of the world's highest burdens of tuberculosis infection. Advances in treatment of HIV and people living longer has increased the burden of noncommunicable diseases such as hypertension and type 2 diabetes. Access to primary care is inadequate. Over a decade ago, the University of Swaziland (UNISWA) decided to evaluate the interest in and need for the country's first master's in nursing program to educate family nurse practitioners with an advanced scope of practice. Previously, between 1979 and 1995, the country offered a one-year family nurse practice certificate program for diploma educated nurses. Graduates were not considered advanced practice nurses and did not have a different scope of practice.

Undertaking/Best Practice/Approach/Methods/Process: The project initially utilized focus groups with stakeholders to assess the interest and need for a master's degree program. Focus groups were also used to elicit feedback on a draft program proposal. Four stakeholder meetings were held in different regions of the country between 2004 and 2012. Stakeholders recommended a master's degree FNP program to improve access to primary care and meet demand for an in-country graduate level nursing program whose graduates could also better supervise baccalaureate nursing students. Following the stakeholder meetings, UNISWA faculty with assistance from external consultants developed a proposal for a Master of Nursing Science in Family Nurse Practice (MNSc-FNP) degree over several years. After several rounds of review, the proposal was approved by UNISWA in November 2016. Volunteers with the Global Health Service Partnership, a collaboration of Peace Corps, Seed Global Health, and the President's Emergency Plan for AIDS Relief, served as UNISWA faculty during the 2016-2017 academic year and helped finalize the curriculum. Volunteers also assisted faculty to obtain approval of the program and a scope of practice for the FNP from the Swaziland Nursing Council. Meetings with the Ministry of Health and stakeholders emphasized the factors which differentiate the role of the family nurse practitioner from that of the registered nurse.

Outcomes Achieved/Documented: Implementation of the MNSc-FNP program began in August 2017. Course work includes didactic and clinical experiences with similarities and differences to those offered in FNP programs globally. Twelve students from different regions of Swaziland are enrolled. A landscape assessment to assess the readiness for implementation of the family nurse practitioner role in the primary care setting in Swaziland is in progress.

Conclusions: Introduction of the graduate degree educated FNP will strengthen the work force, increase access to care and improve the health of people in Swaziland.

ADVANCED PRACTICE

Education and Implementation of a Decision Making Tool to Reduce Antibiotic Use

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Aims: To implement an educational presentation and decision making-model to decrease improper use of diagnostics and treatment of asymptomatic bacteriuria in the elderly at a 62-bed long-term care facility.

Background: Urinary tract infections are the most frequently diagnosed infection in the long-term care setting. In 40% of all the elderly diagnosed with UTIs, there is improper use of diagnostics without the use of evidence based practice to appropriately assess for signs, symptoms, or risk factors; hence resulting in overtreatment of asymptomatic bacteriuria. Treatment of asymptomatic bacteriuria can lead to drug resistant bacteria, increased costs, and susceptibility to recurrent urinary tract infections. Educational programming for nursing staff supplemented by a decision-making model resource has been noted to reduce improper use of diagnostics as well as needless antibiotic therapy.

Approach/Methods: The intervention includes four components: systems change, an educational lecture, evaluation/feedback, and posted decision making models in several locations to promote proper diagnostic use. The educational lecture will highlight to participants the symptoms and risk factors most predictive of urinary tract infection. The decision-making resource is an algorithm designed after the McGreer Criteria, and will be posted in an area adjacent to POCT urinalysis supplies, as well as at each nursing cart. The intervention targets all nurses that work in the long-term care facility (n=13). Data will be collected from: pre-and post-tests administered at the educational lecture; anonymous questionnaires on decision making tool use completed at time of POCT UA performance; manual counts of UA dipstick inventory pre-intervention, and at one month and three months post-intervention; and EHR reports capturing UTI diagnosis and associated antibiotic prescription data of facility population at pre-intervention, and at one month and three months intervals post-intervention.

Outcomes: The outcomes to be documented and analyzed include nursing staff knowledge of indications for POCT urinalysis performance pre- and post-presentation, usefulness ranking of decision-making resource by nursing staff, compliance of use of decision-making resource by nursing staff, number of POCT UA performed post-intervention, and number of UTI diagnosis and associated antibiotic treatment pre- and post-intervention.

Conclusions: Best practice project data will be analyzed by March 2018.

ADVANCED PRACTICE

A Novel Treatment for Sleep and Pain: Auricular Acupuncture

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Purpose/Aims: Spielman's '3 P' model of insomnia is the framework for this randomized controlled trial (RCT) to either the AA treatment group (AAG) or the comparison group (CG) in a convenience sample of 64 participants with insomnia and chronic pain. Primary aims of this pilot study are to assess the feasibility and acceptability of AA as administered by advanced practice nurses (APNs) and evaluate the change in pre- and post-treatment effects (immediate and 3 days after) on sleep using insomnia severity index (ISI) and pain variables (numeric pain score, NPS).

Background: With over 234,000 APNs licensed in the U.S., use of acupuncture can be an effective modality in treatment of sleep and pain. Numerous studies have revealed that acupuncture, the oldest healing practice within the traditional Chinese medicine, is an effective complementary and integrative medicine for various clinical issues. However, very few studies have tested the use of AA, a safe, portable, and an easy-to-administer modality, using a standard protocol in patients for improvement in both sleep and chronic pain as administered by APNs.

Methods: Assessments were conducted over an 8-day period. Both groups completed daily diaries and wore actigraphy for sleep and pain. On day 4 of the study, participants were randomized. Descriptive measures and a mixed model analysis using repeated measures were conducted.

Results: 41 out of 97 participants met eligibility and were randomized. Of those 39 completed the study (95% retention rate; 2 dropped prior to randomization). There were no differences in the gender or marital status. Compared to the CG, AAG group showed significant decrease in ISI score at 3days post treatment (AAG=13.0, SD=5.4; CG=15.9, SD=6.1, $p<.01$); but not immediately after treatment (AAG=18.3, SD=3.1; CG=16.0, SD=5.8). Compared to the CG, AAG group decreased significantly in NPS immediately (AAG=3.2, SD=2.4; CG=3.3, SD=2.3, $p<.001$) and 3-day post treatment (AAG=3.0, SD=2.1; CG=3.7, SD=2.9, $p<.001$). Full preliminary data will be reported.

Implications for Translation to Practice/Further Research: AA shows promise in the treatment of both sleep and chronic pain problems as administered by APNs. This data will inform a larger RCT to determine the effectiveness of AA based on lessons learned from this feasibility study.

Funding: TriService Nursing Research Program (TSNRP), USU, HU0001-14-TS02 (P14-09); MRMC IRB pending.

Disclaimer: This research was sponsored by the TSNRP, Uniformed Services University (USU); however, the information or content and conclusions do not necessarily represent the official position or policy of, nor should any official endorsement be inferred by, the TSNRP, the USU, the Department of Defense, or the U.S. Government.

Abstracts of Poster Presentations

CHILD HEALTH

DEVELOPING A BRIEF SCREENING TOOL TO IDENTIFY
HARMFUL SIBLING VIOLENCE IN FAMILIES

Greg Hudson, Bonnie H. Bowie

BIOBEHAVIORAL RESPONSE TO TACTILE STIMULUS
IN INFANTS WITH CONGENITAL HEART DISEASE

Jennifer K. Peterson, Lorraine S. Evangelista

BARRIERS TO CHILDHOOD LEAD SCREENING
IN TUCSON, AZ: A PROPOSED INQUIRY

Laura J. Kennicutt, Patricia Daly

REDUCING PEDIATRIC ASTHMA VISITS
IN THE EMERGENCY DEPARTMENT

Kathleen Grimley Ahn, Karen Sue Hoyt

PERIOPERATIVE NURSES DEALING WITH PEDIATRIC
EMERGENCY DELIRIUM: A PILOT STUDY

Allan Joseph V. Cresencia

HEALTH STATUS OF FOSTER CHILDREN:
BARRIERS TO OBTAINING REQUIRED INITIAL SCREENINGS

Max Veltman

BUILDING UP THE VOICE OF YOUTH & FAMILIES
IN THE BEHAVIORAL HEALTH CARE SYSTEM

Linda L. Eddy, Michelle Mann

WHAT DO PARENTS EXPECT REGARDING THEIR
CHILD'S COMFORT AFTER HEART SURGERY?

Kayla Ann Harvey, Andrea Kovalesky

WEED TO KNOW FOR BABY AND YOU: SPOKANE

Jo Ann Walsh Dotson, Paige McGowan

RECRUITMENT STRATEGIES IN AUTISM RESEARCH:
FILIPINO AMERICAN POPULATION

Sharee B. Anzaldo, Felicia Schanche Hodge

CHILD HEALTH

Developing a Brief Screening Tool to Identify Harmful Sibling Violence in Families

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Doctor of Nursing Practice Student*

*Bonnie H. Bowie, PhD, MBA, RN
Associate Professor*

*Seattle University
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Purpose: The purpose of this project is to develop and pilot a screening tool for the primary care provider to use to identify children at risk of sibling violence (SV), particularly for the child who has a sibling who is being treated for mental illness.

Background: Sibling violence is the most common form of family violence, and is often dismissed as normal. This under-reported type of violence can have devastating impacts on the mental health of children. There is evidence that sibling violence is normalized to a point that many do not report it on traditional trauma and violence screening tools. There are numerous studies that link sibling violence to negative outcomes. A study by Kettrey and Emery (2006) found that 83% of participants who had experienced SV reported long term effects that included difficulty with interpersonal relationships, substance abuse, anxiety, eating disorders, depression, and PTSD. Other studies have found that SV may affect psychosocial development and can be linked to a variety of adverse outcomes in adolescence and adulthood, including increased rates of domestic and dating violence, anxiety, eating disorders, and antisocial behavior. Sibling violence is considerably more common in families with a child who has mental illness than in the general population, yet, siblings of children experiencing mental illness are often ignored in the treatment plan. What is needed is an easily administered method for screening children for sibling violence, particularly when the child's sibling is being treated for mental illness.

Methods: Drawing from the literature on screening for domestic violence and other children's screening tools, a brief screening questionnaire was developed. A first draft was sent to six children's psychiatric providers for feedback. After incorporating this input, a second draft was sent to eight pediatric primary care providers as an expert panel for further feedback. Once the input from the expert panel is received, a final draft of the screening tool will be used in a pilot study.

Results: We are in the process of gathering expert content analysis for a brief screening tool that can be administered during a well child exam. Once this feedback is received, we will proceed with piloting the screening tool in a pediatric practice.

Implications: By screening for sibling violence, children who are not always the primary focus of illness in a family with a mentally ill child may receive much needed support and therapeutic interventions.

CHILD HEALTH

Biobehavioral Response to Tactile Stimulus in Infants with Congenital Heart Disease

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Purposes/Aims: The purpose of this study is to examine the effects of massage on infants with congenital heart disease (CHD) who require hospitalization in the first year of life, in order to understand their biobehavioral responses to nurturing touch as well as touch provided in the context of nursing care.

Background: Up to 85% of infants born with CHD will survive to adulthood due to improvements in fetal detection, surgical techniques, and perioperative care. Touch is the means by which infants learn, communicate and develop attachment, which shapes their cognitive and psychosocial development. Yet, the life-saving technology that surrounds the infant also makes touch difficult or painful for the infant, and frightening for the parent. Infant massage has been studied as a method to improve physical, psychological and developmental outcomes in preterm and healthy term infants. However, there are no reported studies of the effects of massage in infants with CHD.

Methods: This prospective single cohort pilot study will utilize a quasi-experimental, repeated measure design, enrolling 36 subjects. Hospitalized term infants with CHD, less than 1 year of age, medically stable, and whose parents speak and understand English or Spanish will be recruited from a 30 bed Pediatric Intensive Care Unit in a large metropolitan children's hospital. Exclusion criteria include non-cardiac co-morbidity likely to adversely influence neurodevelopment or physical growth, need for extracorporeal life support, physician preference for no massage, or anticipated discharge prior to study completion. Following informed consent, infants will undergo a standardized touch stimulus, consisting of bathing and repositioning. Biobehavioral responses to touch (salivary cortisol, heart rate, blood pressure, oxygen saturation, pain level, and behavioral state) will be recorded immediately prior to the stimulus, and at 15 and 30 minutes post-stimulus. When deemed medically stable from a cardiopulmonary perspective, infants will receive massage for 15 minutes twice daily for 5 days, using massage techniques modified to meet safety needs. Massage will be provided by the parent, with instruction in massage techniques provided by the investigator. On massage Day 1 and Day 5, biobehavioral responses to touch will be recorded using massage as the touch stimulus. The standardized bathing and repositioning, with collection of biobehavioral response measures, will be repeated following completion of the massage intervention.

Results: Data collection is in progress, and results will be presented. Data characterizing biobehavioral responses to massage at Day 1 and Day 5 will be compared using ANCOVA. Data characterizing biobehavioral responses to standardized touch procedure at Day 0 and Day 6, as well as massage at Day 1 and Day 5 will be compared between groups (neonates versus older infants, surgical versus medical interventions), using ANCOVA.

Conclusions/Implications: Massage is used anecdotally in infants with CHD, but there are no published studies to support its safety. If massage can be demonstrated to be safe in this fragile population at high risk for neurodevelopmental sequelae, then this non-invasive, family-friendly intervention can be studied to identify potential beneficial effects on neurodevelopment or physical growth.

Funding: American Heart Association 15PRE25300024.

CHILD HEALTH

Barriers to Childhood Lead Screening in Tucson, Arizona: A Proposed Inquiry

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Purposes: The purpose of this quality improvement project is to identify barriers to childhood lead screening guideline adherence among primary care providers in Tucson, Arizona, in order to inform future provider educational efforts to increase lead screening. This proposal outlines the development, implementation, and evaluation of a survey and educational tool aimed at addressing healthcare providers' knowledge deficits and barriers to childhood lead screening. The tool, a brief electronic presentation, will be developed based on the results of a pilot survey assessing knowledge, barriers, and facilitators of lead screening.

Background: Elevated blood lead levels (BLLs) above 5 µg/dL are associated with reduced intelligence, lower school achievement, and attention deficit disorder. Lead toxicity is a national health care priority, with 500,000 U.S. children between 1 and 5 estimated to have BLLs above 5 µg/dL. Low-income and minority families are particularly affected due to exposure to substandard housing. Arizona's state policy requires targeted lead screening at 12 and 24 months for children in high-risk zip codes, but only 24% of these children were screened in 2014, and only 23% of children with elevated BLLs received the follow-up testing recommended for this vulnerable population.

Methods: A convenience sample of 10-20 nurse practitioners, physicians, and physician assistants providing primary care to children under 5 will be drawn from a local family practice clinic. A 15-minute electronic survey will be emailed to the health care providers, with results collected anonymously using Google Forms. Informed by Ajzen's Theory of Planned Behavior, the survey will include four sections: 1) Characteristics of the provider and practice; 2) Knowledge of state and federal lead screening guidelines; 3) Attitudes regarding lead screening; and 4) Perceived barriers to consistent screening and reporting. The survey results will be used to create a short educational PowerPoint presentation that will include accurate information about lead screening guidelines and strategies to overcome the identified barriers. All survey respondents will receive a copy of the presentation and will be asked to complete a post-survey evaluating its effectiveness.

Outcomes Achieved: Following IRB approval, data collection is planned for the summer of 2018.

Conclusions: Following this quality improvement project assessment of provider knowledge deficits and barriers and subsequent educational intervention (Phase I), participants' responses will be analyzed and utilized to refine the survey for use in a larger random sample of health care providers across Arizona (Phase II). Additionally, the post-intervention effectiveness survey will be utilized to refine the presentation for use in the broader provider population. Ultimately, these survey results may be used to inform quality improvement projects aimed at improving adherence to lead screening guidelines across the state of Arizona (Phase III).

CHILD HEALTH

Reducing Pediatric Asthma Visits in the Emergency Department

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Purpose/Aims: The purpose of this project was to reduce the number of unnecessary pediatric asthma management visits to an urban emergency department (ED). A brief action plan for improved NHLBI-guideline adherence was shared with parents during an NP-initiated follow-up phone call.

Rationale/Background: Inadequate outpatient management of pediatric asthma can result in avoidable visits to the emergency department. Acute exacerbations comprise a large portion of pediatric asthma patients seeking care in the ED. Reasons for persistent under-utilization of outpatient care for asthma management in primary care settings are multifactorial. Daily symptom control is best achieved in outpatient management adhering to NHLBI guidelines.

Brief Description/Method/Process Used: This project utilized the Five A's Behavior Change Model to improve pediatric asthma management using a process change modality. School-aged children presenting to the ED for management of acute asthma exacerbation were identified using billing codes for the discharge diagnosis of *acute asthma exacerbation*. The ED Nurse Practitioner (NP) provided follow-up contact 24 to 48 hours post ED visit. The Five A's Behavior Change Model (i.e., Ask, Advise, Assess, Assist, Arrange) was incorporated into an asthma outpatient action plan for each patient. The action plan ensured provision of appropriate discharge prescriptions as per NHLBI Guidelines, reinforced patient and family education, verified ED prescriptions were filled, and confirmed follow-up appointments had been scheduled. Further outpatient asthma management referral was provided, if needed. Fifty identified patients were monitored for subsequent return ED visits between November 15, 2017 and February 15, 2018.

Outcomes Achieved/Documented: The percentage of return ED visits for this identified group of asthma exacerbation patients was reduced by 10% between November 15, 2017 and February 15, 2018. An NP-implemented transition of care intervention employing the 5 A's Behavior Change Model improved utilization of outpatient management for pediatric asthma patients.

Conclusions: Decreasing return ED visits for pediatric asthma exacerbations can be accomplished utilizing the Five A's approach with NP follow-up phone calls discussing the use of appropriate medications, effective education, daily symptoms monitoring, and avoidance of triggers. Reinforcing NHLBI guidelines for outpatient management is integral to the approach. Improved adherence to the primary care outpatient plan can potentially reduce the frequency of worsening symptoms and numbers of pediatric ED visits for acute asthma exacerbations.

CHILD HEALTH

Perioperative Nurses Dealing with Pediatric Emergence Delirium: A Pilot Study

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Aim: The purpose of this study is to explore, describe, and analyze the lived experiences of perioperative nurses dealing with pediatric emergence delirium and how that affects their quality of work and quality of life as nurses.

Background: Pediatric emergence delirium is a temporary state of unpleasant and disturbing behaviors that some pediatric patients exhibit immediately upon awakening from general anesthesia. Typical behaviors include thrashing, kicking, or flailing without any physical or mental awareness of the situation. Restlessness, combative behavior, and incoherence are also common. Perioperative nurses are usually the first to witness the symptom clusters of pediatric emergence delirium. They are the first health care providers to begin systematic assessment to initiate the diagnostic process.

Method: The study will utilize the qualitative research method, with qualitative descriptive phenomenology using Grounded Theory techniques as the methodology. Perioperative nurses with more than 2 years experience and have knowledge about pediatric emergence delirium are the target participants (N = 10). Professional participants will be recruited through word of mouth recruitment via professional colleagues. Professional colleagues will help distribute recruitment flyers, and information letters regarding the study. Data collection using the interview approach which can be face-to-face, telephone, or video (Skype or Zoom) will take place in a mutually agreed upon time, and/or location that is quiet, private, and conducive to audio recording. The principal investigator will conduct the interview using an interview guide. Data analysis will be done after each interview.

Results: Preliminary findings from the five recruited participants (women, n = 4; men, n = 1) produced the following themes identified by the data analysis: (1) physical effects of emergence delirium, (2) collaborating with team members, (3) fears, emotions, and stress, (4) trying to avoid injury; (5) risks and contributing factors, and (6) identifying safety measures for pediatric emergence delirium. There is a real risk for injury that nurses take on while trying to manage the care of a child experiencing emergence delirium. Whether the nurses are aware of it or not, the potential for harm or hurt is always present when providing care to a child who is not aware of what he or she is doing.

Conclusion: The study is still in progress. The targeted number of participants (N = 10) is not achieved. Although initial results from data analysis offered promising results, data analysis of ten participants would provide a much richer supporting data for the themes identified.

Clinical Relevance: Identifying safety measures for pediatric emergence delirium is an important topic for members of the health care team. There is so much to learn about the lived experiences of nurses managing the care of a child with emergence delirium. This pilot study is spearheading that learning.

CHILD HEALTH

Health Status of Foster Children: Barriers to Obtaining Required Initial Screenings

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Purpose/Aims: The purpose of this research study was to identify factors hindering or preventing children coming into foster care from receiving appropriate physical and mental health screenings in a large six-county rural area of a northwestern state.

Rationale/Background: Children in foster care have higher rates of chronic medical, developmental, and mental health issues when compared to non-foster children. For this reason, various federal agencies are tasked with monitoring how states coordinate health services for foster children. In order to ensure that foster children have their health needs met, they must be assessed appropriately when the child enters foster care. Yet while this initial screening is both vital and mandatory for all foster children, it may often not be completed and/or the information gathered during this exam may not be shared appropriately. This can lead to the foster child having unmet health needs or burdening the foster parent with additional issues leading to potential foster parent attrition.

Description: Following approval from the regional child protection services administration and appropriate Institutional Review Boards, data related to health screenings of foster children was obtained utilizing two different methods. The first method involved two separate anonymous surveys. One survey was distributed to licensed foster parents within a six-county region of the state. Another separate survey was distributed to all appropriate child protection caseworkers in the same region using SurveyMonkey® software. Each survey asked questions that were answered utilizing a Likert scale and with an option for additional written feedback. The second method utilized a qualitative analysis of data from the secure state database of all children coming into foster care in an eighteen-month period. This analysis looked at the documentation (or lack of) all state-mandated health screenings for each foster child (n=286). This analysis also describes what type(s) of health issues were diagnosed or had been previously been diagnosed at the time of foster care entry.

Outcomes: Initial survey results indicate that foster parents feel that they are able to meet the health screening needs of children in their care, although lack of access and/or transportation may be a factor in not obtaining the required screenings. Results of the survey of caseworkers indicate that there is support from the child protection department in getting foster children assessed, however lack of providers willing to work with foster children and especially a lack of mental health providers may be a hindrance to meeting state required screenings. The analysis of the foster children's' data continues and has not been completed at this time.

Conclusions: While foster children continue to demonstrate high levels of physical and mental health issues, it is critical that they receive adequate physical and mental health screenings at the time of placement in order to ensure that their health needs are met. It is vital that state agencies identify barriers to obtaining health screenings and implement strategies to overcome these barriers to ensure that caseworkers and especially foster parents are able to meet the needs of the children in their care.

CHILD HEALTH

Building up the Voice of Youth & Families in the Behavioral Health Care System

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Purpose: The purpose of this project is to introduce a promising practice in working toward equity between physical and mental health services for youth with complex mental health needs. This statewide program, entitled “The Washington State University Behavioral Health Workforce Collaborative (The Collaborative)” shows positive early results.

Background: The Collaborative was formed in 2015, with the intention of improving workforce retention, training, diversity, and use of evidence-based and promising practices in the behavioral health field in Washington State.

Approach: Based on System of Care values, the Collaborative develops sustainable local and statewide education, training, coaching, mentoring and technical assistance to support agencies in providing Wraparound with Intensive Services (WISE), Certified Peer Counseling training, and YouthSound. WISE refers to a model of comprehensive behavioral health services and supports to Medicaid eligible individuals, up to 21 years of age with complex behavioral health needs and their families. The goal of the program is for eligible youth to live and thrive in their homes and communities, as well as to avoid or reduce costly and disruptive out-of-home placement. The Collaborative also manages the Youth/Family Certified Peer Counseling (CPC) training, testing, and provider education. CPC is integral to WISE and offers youth and parent peer supporters an opportunity to learn about ethics and mutual peer support. The YouthSound program is important in facilitating the youth and family voice and focuses on leadership and recovery for young people ages 13-25 through community engagement and the arts.

Outcomes: Early data are promising. Consistent with the literature, our Certified Peer Counselors save resources by building stronger relationships faster in order to assist individuals on their recovery journey. One program client summed it up this way “I learned more about how to navigate the system from my CPC that I did in three years of just plain old counseling.” Child and Adolescent Needs and Strengths (CANS) data reflects positive changes experienced over the first six months of WISE treatment for the 514 children and youth ages 5-20 who received an initial and follow-up CANS assessment. The percentage of youth with clinically significant treatment needs declined across all five of the top behavioral and emotional domains. In addition, there was a significant decrease in the percentage of participating youth exhibiting suicide risk, decision-making problems, danger to others, intended misbehavior, and injury.

Conclusion: Based on early data, the Collaborative is working and could provide a model for use by other states.

Funding: This project was funded by a Washington State Department of Social and Health Sciences grant to Washington State University College of Nursing.

What do Parents Expect Regarding their Child's Comfort after Heart Surgery?

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Purpose: Parents' expectations about comfort in children after heart surgery were explored to contribute to evidence based family-centered interventions.

Background: Advances in surgical correction and medical treatment of congenital heart defects have greatly increased survival rates and shortened recovery time for children with these health concerns. As family-centered care remains the standard of care in the pediatric setting, differences in parental expectation as compared to nurse expectation can interfere with this relationship and result in a negative hospital experience. More information about contemporary parental expectations of their child's comfort is needed in order to improve understanding of this phenomena and better define the parental construct of comfort.

Methods: Parents of 18 children, all from one tertiary pediatric center in a Pacific Northwest Medical Center, were interviewed about their expectations and perceptions of their child's comfort experience in the hospital after heart surgery, most with in 2-4 weeks after the surgery. A semi-structured interview was used for data collection, and Colaizzi's descriptive phenomenological method was utilized for data analysis.

Results: Within the category of post-operative comfort, most parents expected their child be medicated to a level of not feeling any pain. For many, they expected their child to remain in a heavily sedated state after the surgery. In contrast, some parents did not know what to expect. Other unexpected experiences that parents shared about their child's comfort and pain control were associated with the use of non-narcotic medication for pain and the frequent occurrence of sleep interruption during the hospital stay.

Implications: Awareness of parents' expectations about pediatric post-operative comfort present an opportunity for better alignment of nurse and family strategies for children after heart surgery. Further exploration of these expectations may offer insight into the parental construct of comfort as it relates to their child.

CHILD HEALTH

Weed to Know for Baby and You: Spokane's Marijuana Education Project

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Purpose/Aims: The purpose of this project was to respond to client and provider requests for information about recreational and medical marijuana use on pregnancy and infant development.

Background: In August, 2017, eight states and the District of Columbia have legalized marijuana for adult recreational use (NCSL, 2017a). State authorization of marijuana use for medical purposes began in California in 1996; 29 states and 3 districts presently authorize medical use of marijuana (NCSL, 2017b). The incidence of marijuana use by pregnant women in the U.S. is largely unknown, due to the criminalization of use prior to recent legalization, and to the lack of research on the topic. Reports range from rates of 2.6% for all pregnant women in Hawaii (Roberson, Patrick, & Hurwitz, 2014), to 7% of all pregnant women in Alaska and the U.S., (Ko et al, 2015; McLaughlin & Castodale, 2015), and up to 15-28% of "...young, urban, socioeconomically disadvantaged" pregnant women" ("Marijuana Use", 2015). Due in part to historical use of marijuana for severe nausea in pregnancy, (Alharbi & el-Guebaly, 2014; Roberson et al., 2014) use in pregnancy may be considered acceptable. A recent survey in the Spokane area documented pregnant and postpartum women and their providers need for information about the safety and advisability of use in a newly "legal" environment (Dotson et al, 2017).

Description of Project: The Spokane Regional Health District created the Birth Outcomes Task Force (BOTF) in 2009. It is composed of programs and agencies who share a goal of improving the health of the target population. Substance use has been a concern since 2016, when the group began work on the regional "Weed to Know for Baby and You" campaign. The campaign used personal interviews, evidenced based data and input from target populations to craft messages about marijuana use that was appropriate for the community and populations. The Weed to Know, Baby and You campaign was a continuation of the 2014 BOTF campaign on tobacco use (SRHD, 2017).

Outcomes: The Weed to Know for Baby and You program, which includes print, audio, and visual materials, was developed over a series of 9 months, and deployed in spring of 2017. The products have been actively adopted by medical and public health practices, media and health promotion organizations in the region, and have been adapted by other counties and states. Efforts to evaluate the impact of the campaign are being developed, including potential comparisons with neighboring states where marijuana is not yet legalized.

Conclusions: The Weed to Know for Baby and You program was created by local public health, academics, and health partners in response to documented requests for information about the safety and advisability of marijuana during and after pregnancy. The campaign was developed with public money and is therefore available to the public for use and modification. The legalization of marijuana presents a public health imperative to respond to the need for sound information and to assess the impact of public education campaigns to help inform families and providers.

CHILD HEALTH

Recruitment Strategies in Autism Research: Filipino American Population

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Purpose: Autism spectrum disorder (ASD) is a developmental disability that affects social, behavioral, and communication patterns. Currently, 1 out of 68 children in the United States are afflicted with ASD. There has been an increased prevalence of ASD over the past few decades, primarily due to improved screening and diagnostic tools, increased visibility in the media, and identification of ASD as a category for special education eligibility. However, it is important to explore ASD from a cultural framework due to cultural beliefs and perceptions that affect help-seeking behaviors, management of condition, and treatment plans. This research study utilizes culturally appropriate recruitment strategies to explore Filipino American parental beliefs and perceptions about managing care for a child with ASD.

Rationale: Recruitment for research studies on health conditions affecting vulnerable populations and underrepresented groups requires understanding of cultural values and patterns. A dearth of literature exists about Filipino American child health, and no prior studies have been conducted about Filipino Americans and ASD. In the Filipino American community, ASD is stigmatized and has resulted in underreporting of the development disability, which consequently delays early intervention and leads to negative impacts on health outcomes for the child. Tapping into this population requires a sound knowledge base about Filipino Americans and existing services for children with ASD.

Methods: Recruitment strategies for ASD in Filipino American communities involved understanding the cultural and historical contexts of this population that affect participation in research studies, as well as knowledge about ASD resources and support that parents utilize. Development of recruitment strategies to enroll Filipino American parents of a child with ASD in a qualitative study utilizing grounded theory methodology involved examining Filipino cultural values, historical context, demographics, and available services for children with ASD and their families.

Results: Filipino cultural values, such as *kapwa* (togetherness), embody social interactions. *Kapwa* emphasizes bonding with other Filipinos through various means, such as spiritual, emotional, and interpersonal levels. As a collectivist culture, group needs are often placed before individual needs. Integrating *kapwa* into recruitment strategies required identifying potential participants in specialized communities within the Filipino American population, such as Filipino community groups, church groups, support groups, markets, restaurants, nursing organizations, and alumni associations. Additionally, recruitment included ASD groups that Filipino American parents and children may partake in or receive services from, such as autism organizations, support groups, and clinics, regional centers, and respite care services. Recruitment letters and flyers were disseminated at these sites.

Implications: Development of a sound recruitment strategy to enroll Filipino American parents managing care for a child with ASD is necessary to capture the lived experiences of this population. Traditional recruitment strategies, such as primarily enrolling participants through established sites (e.g., academic autism center), do not consider cultural values salient to the Filipino American population. Nurse researchers require attaining a deep understanding of the complexities involved in cultural beliefs and values that underpin stigmatized conditions affecting vulnerable populations during the recruitment process for scientific studies.

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Abstracts of Poster Presentations

CHRONIC ILLNESS

THE EFFECTS OF AROMATHERAPY ON BLOOD PRESSURE:
A SYSTEMATIC REVIEW AND META-ANALYSIS

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Ara Jo, Jeongah Park, Wonjong Kim, Claudia Davis,
Yeon Sook Kim, Myung-Haeng Hur*

BIOPSYCHOSOCIAL MODEL ON DETERMINANTS OF
SYMPTOM EXPERIENCE OF RHEUMATOID ARTHRITIS
Maureen E. Yoder, Tracy Crane, Thaddeus Pace, Kathleen Insel

MULTIPLE SECOND GENERATION ANTIPSYCHOTICS
AND OBESITY RATES
Alice Chepkirui Agecha

PATIENT ACTIVATION AND MEDICATION ADHERENCE
Crystal Lederhos Smith, Cynthia F. Corbett

ULTRASOUND GUIDED CANNULATION OF
DIALYSIS ARTERIOVENOUS FISTULAS
Alice Luehr, Teresa Seright

CHRONIC DISEASE SELF-MANAGEMENT
PROGRAM IN A PRISON
Kelsey Jayne Hirsch, Johanna Crane

EFFECTS OF MODIFIABLE RISK FACTOR VIDEO
EDUCATION ON SELF-EFFICACY IN ADULTS WITH AF
Jessica Lehman

CHRONIC ILLNESS

The Effects of Aromatherapy on Blood Pressure

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Purpose: The purpose of this study was to determine the effects on blood pressure via a meta-analysis of randomized controlled trial (RCT)s.

Background: Hypertension is known as a silent killer, a global health issue, that contributes to heart disease, stroke, renal insufficiency, and premature death. While conventional medications are effective in treating hypertension, there appears to be paucity of clinical research investigating the effects of aromatherapy on blood pressure.

Methods: We retrieved 2545 articles from PubMed, Cochrane Central Register, EMBASE, CINAHL, National Digital Science Library, Korean Medical database, National Central Library, National Assembly Library, and National Research Foundation of Korea databases from database inception to December 1, 2016. Using Medical Subject Headings [MeSH] terms Aromatherapy, Aroma oil, Blood Pressure, and Hypertension. Inclusion criteria were 1) research investigating changes in blood pressure following aromatherapy in normotensive adults and patients with hypertension and 2) RCTs. Exclusion criteria included: 1) studies involving patients who were pregnant 2) animal experiments or preclinical trials, 3) studies published in languages other than English or Korean, 4) comparative studies, 5) unpublished studies, and 6) observational or non-experimental studies and literature reviews. Systematic verification and synthesis, statistical merging, and outcome reporting were analyzed using Cochrane guidelines.

Results: The effects of aromatherapy on blood pressure were investigated by calculating the effect size in 11 RCTs out of the 15 studies included in this systematic review by means of random effects analysis. Among the 11 RCTs included in the meta-analysis, six and five, respectively, employed inhalation and massage interventions.

The findings revealed that essential oil inhalation and massage aromatherapy significantly decreased both systolic pressure (n = 379; mean difference [MD], -4.72; 95% confidence interval [CI], -8.38 to -1.07, Z = 2.53, p = .01) and diastolic pressure (n = 379; MD, -2.42; 95% CI, -4.46 to -0.38, Z = 2.32, p = .02).

Systolic pressure was analyzed separately for inhalation and massage aromatherapy. Inhalation aromatherapy resulted in a decrease in systolic blood pressure by 7.32 points, and a significant difference in effect size was observed between the experimental and control groups (Z = 2.71; p = 0.007). Although massage aromatherapy resulted in decreases in systolic pressure by 2.13 points, there was no significant difference in effect size between the experimental and control groups (Z = 0.92; p = .36).

Diastolic pressure was also analyzed separately for each therapy. Inhalation aromatherapy resulted in decreased diastolic pressure by 3.50 points that was no significant difference between experimental and control groups (Z = 1.89; p = .06). Massage aromatherapy resulted in a decrease in diastolic pressure by 1.80 points that was no significant difference between experimental and control groups (Z = 1.41; p = .16).

Implication: Essential oil inhalation and massage therapy can effectively decrease systolic and diastolic pressure in healthy adults as well as in people with hypertension. Based on our findings, aromatherapy may be considered as an alternative intervention to reduce blood pressure. More broad scale studies are needed in this area.

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CHRONIC ILLNESS

Biopsychosocial Model on Determinants of Symptom Experience of Rheumatoid Arthritis

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Purpose: Rheumatoid arthritis (RA) currently affects approximately 1.3 million Americans and rates continue to rise. A significant link exists between nutrition and autoimmune disease (AD) symptom exacerbation; the proposed concept analysis provides determinants of symptom exacerbation in RA related to diet. The intent of this concept analysis is to inform research to minimize exacerbation of RA symptoms through diet modification to improve quality of life (QOL).

Description of Theory: A blended theory approach was used in the development of the Biopsychosocial Model on Determinants of Symptoms Experience Related to Rheumatoid Arthritis (BMDSERA): Engel's Biopsychosocial Model of Health (BMH) and the Revised Symptom Management Conceptual Model (RSMCM). The broad approach of the BMH illustrates the overlapping relationships between biological (e.g. genetics, medications, immune/inflammatory response), psychological (e.g. beliefs, stress management), and social constructs (e.g. support, culture, socio-economic status) that are essential in understanding interactions between immune, neurological, and endocrine function. The RSMCM constructs of symptoms experience, symptoms management strategies, and symptom outcomes were used in the development of this concept with further use to inform future research. The construct of symptom experience (personal, health-related, and environmental factors) was used with the BMH to ascertain potential psychological and social antecedents of symptom exacerbation in RA. The constructs of symptom management strategies and symptom outcomes were not used in the development of this concept; they will be used to build the foundation of future interventional research. This blended theory approach allowed for the identification of antecedents for symptoms specific to RA related to diet, and will continue to inform the implementation and evaluation of interventions in future research.

Process Used: Concept derivation, synthesis, reformulation, and analysis per Walker and Avant were used for concept development. The determinants of psychological factors (behavior, knowledge), social factors (culture, socioeconomic status), and biological factors (pro- and anti-inflammatory mediators) were explored using peer-reviewed journals articles. Approximately one third of those diagnosed with RA report exacerbation of symptoms due to ingestion of certain foods. Research exhibits a gap in science as it has been limited and is not used to inform patient treatment in the clinical setting. This concept analysis will be used to guide future research regarding this relationship with formal testing of the BMDSERA.

Logic Linking to Research Problem: Prior research suggests a relationship between autoimmune diseases and diet-related exacerbations, but research has yet to confirm this relationship in RA. Here we explore the potential relationship between antecedents of symptom exacerbation in RA and individual diet to develop specific dietary recommendations for those diagnosed with RA in an effort to improve symptom management and QOL.

Conclusion: Understanding the determinants of diet and potential symptom exacerbation of RA is an essential first step to inform future research regarding the relationship between diet, immune function, and RA, and ultimately to use diet as a treatment of this debilitating disease that affects QOL for millions worldwide.

CHRONIC ILLNESS

Multiple Second Generation Antipsychotics and Obesity Rates

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Background: Overweight or obesity is a serious public health issue associated with mortality and comorbidities higher than other disorders and is a common side effect of second generation antipsychotic (SGA) medications. The rate of obesity in people with schizophrenia is about 40% to 60% compared to the 35% found in the general population. The current frequency of use of multiple SGA medication is unknown, but estimated to be about 30% to 40%.

Purpose: The purpose of this project is to examine the relationship between multiple SGA medications use and obesity in patients with schizophrenia hospitalized in a Community Psychiatric Hospital.

Method: The L.E.A.D (*Locate* evidence, *Evaluate* it, *Assemble* it and inform *Decision*) framework will be utilized as the conceptual framework. A retrospective chart review will be conducted with a focus on the time period of January 1st 2015 – December 31st 2015 in an inpatient community psychiatric hospital in New Jersey. Analysis of variance (ANOVA) test will be used to compare demographic, treatment and clinical variables in patients treated with one or more second generation antipsychotic medications.

Results: The anticipated findings from the project will expand knowledge on the use of multiple SGA medications and their relationship to obesity.

Conclusion: The understanding will allow enhancement of clinical practice for patients with severe mental illness.

Keywords: Obesity, antipsychotic, weight gain, second generation antipsychotic, polypharmacy, schizophrenia, body mass index

CHRONIC ILLNESS

Patient Activation and Medication Adherence

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Purpose: To examine the relationship between patient activation and medication adherence in patients with multiple chronic conditions and history of high acute care use.

Rationale/Conceptual Basis/Background: Medication adherence and patient activation have been shown to impact health outcomes and acute care utilization. Studies have begun to indicate that patient activation may affect self-reported medication.

Methods: A subsample (n=70) from a large National Institute on Aging funded grant on Chronic Care Management was used for these analyses. Patient activation was assessed using the Patient Activation Measure (PAM-13) which is a 13-item self-report instrument that measures an individual's knowledge, skill, and confidence for managing health and healthcare. The Morisky Medication Adherence Scale (MMAS-8) was utilized to measure an individual's adherence to taking prescribed medications. Both tools have demonstrated reliability and validity and are employed frequently in health assessment research.

Results: A two-tailed Pearson product-moment correlation coefficient was computed to assess the relationship between PAM-13 and MMAS-8 scores, resulting in a significant correlation ($r = .312, p < 0.01$). As patient activation scores increased (indicating better self-management and more engagement in healthcare), medication adherence rates also increased.

Implications: Our findings are similar to other emerging study findings which suggest that participants who have higher activation levels may have better medication adherence.

Thus, interventions that improve patient activation may provide a mechanism to improve medication management among persons with multiple chronic conditions—a population estimated to take only about 50% of prescribed medications. Further research is needed to determine whether there is a directional cause and effect relationship between activation and medication adherence. Understanding whether we are seeing a downstream effect of patient activation on medication adherence could allow us to identify an intervention point that may result in individual and public health benefits. Additional research with larger samples, diverse populations, and longitudinal, controlled designs is needed to determine whether there is potential to improve medication adherence by promoting patient activation.

Funding: This study was supported by a grant from the National Institute on Aging. Grant# R01 AG042467.

CHRONIC ILLNESS

Ultrasound Guided Cannulation of Dialysis Arteriovenous Fistulas

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Background: Individuals with chronic kidney disease, who require renal replacement therapy, overwhelmingly choose outpatient hemodialysis, as opposed to home therapy. In December 2013, 62.5% of these patients, were using an arterial venous fistula (AVF) and 15% were using an arterial venous graft (AVG) for hemodialysis access. Appropriate cannulation techniques are an essential element in access preservation and prevention of access related complications. Missed cannulations of arterial venous fistulas (AVF) result in damage to the fistula. Ultrasound-guided cannulation has proven to be an effective technique for the placement of peripheral venous catheters (IVs) and for placement of central venous dialysis catheters (CVCs). Research concerning the use of ultrasound-guided cannulation of dialysis AVFs is scarce.

Purpose: Determine if ultrasound guided cannulation of AVFs decrease the number of missed cannulations.

Design, Setting, Participants, and Measurements: A Quality Improvement Project undertaken at a rural hospital based 13-station dialysis center to develop a policy and procedure, training program and competency program for ultrasound-guided cannulation of AVFs.

A retrospective analysis from the EHRs of 53 dialysis patients utilizing AVFs as their primary dialysis access was undertaken. The number of missed cannulations in relation to the purchase and use of a bedside ultrasound machine was divided into three phases. Phase 1 occurred from October 1, 2013 to March 31, 2014; the six months prior to purchase of a bedside ultrasound machine for the dialysis department. Phase 2 comprised two periods from April 1, 2013 to September 30, 2014 (2A: six months immediately following the purchase of an ultrasound machine) and January 1, 2017 to July 31, 2017 (2B: six months immediately prior to the initiation of a policy and procedure, training program and competency evaluation). Phase 1: 74 missed cannulations out of 4711 attempts (1.57%). Phase 2A: 44 missed cannulations out of 4666 attempts (0.94%). Phase 2B: 23 missed cannulations out of 3095 attempts (0.74%). Likert scale surveys were distributed to staff and patients to determine familiarity with ultrasound guided cannulation. Nine staff and seven patients returned the surveys.

Results: Staff surveys demonstrated a need for policy and procedure, training, and competencies for ultrasound-guided cannulation. Patient surveys demonstrated a need for more consistent ultrasound use and showed an increase in patient satisfaction with their cannulation experience if ultrasound was utilized. EHR data revealed a 53% reduction in the number of missed cannulations after the purchase and use of a bedside ultrasound machine for ultrasound-guided cannulation.

Conclusion/Implications: Having a bedside ultrasound machine available for use during AVF cannulation significantly decreased the number of missed cannulations within this dialysis facility. Implementation of an ultrasound-guided cannulation policy and procedure, training program, and competency helped guide staff with this cannulation technique. These results support expanding studies regarding ultrasound guided cannulation to larger dialysis facilities with greater patient populations.

CHRONIC ILLNESS

Chronic Disease Self-Management Program in a Prison

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Purpose: A mixed-methods pilot study was conducted in two correctional facilities in Washington State to explore the efficacy of the Chronic Disease Self-Management Program in a prison. No previous study has measured the efficacy of the program with an incarcerated population.

Background: The six-week peer-facilitated program was designed by Stanford University for use in the community with the purpose of increasing self-efficacy and decreasing adverse symptoms related to chronic disease. It is being offered in prisons, with no research support of the efficacy or adaptability for that population.

Methods: This study included pre- and post-surveys, which measured the symptoms of depression, anxiety, pain, fatigue, quality of life, and self-efficacy. Additionally, one-hour semi-structured interviews were conducted with a total of 22 participants. Lastly, a subset of participants wrote letters to their providers as part of the program, and these were collected and analyzed using qualitative thematic analysis.

Results: Quantitative results demonstrated several methodologic flaws, as well as a large ceiling effect, which will be discussed during the presentation. The interview data was analyzed thematically for three emerging themes: incarceration as a chronic condition, the phenomenology of institutionalization, and self-efficacy. Each theme will be explored in-depth, using exemplar cases from the interviews. The overall efficacy of the Chronic Disease Self-Management Program cannot be measured well without the strength of quantitative data, but many other lessons can be gleaned from this project, such as the challenges in conducting research with incarcerated individuals, the efficacy of self-management skill enhancement in a prison, and the adaptability of the Chronic Disease Self-Management program for this specific population.

Significance: Quantitative results will be shared and critiqued, and qualitative results will be discussed at length, with the hope of further enhancing our communal knowledge about the overall health effects of institutionalization, both positive and negative, and the health impact of group activity and self-efficacy enhancement using programming with incarcerated individuals.

Funding: The transcription and transportation costs were supported by the UW Royalty Research Fund grant number A97203. There are no conflicts of interest to disclose.

CHRONIC ILLNESS

Effects of Modifiable Risk Factor Video Education on Self-Efficacy in Adults with AF

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Purposes/Aims: The objective of this pilot study is to utilize video education to improve atrial fibrillation patient self-efficacy, or the belief in their own ability to manage and improve their health. Researchers seek to target the growing incidence of atrial fibrillation by increasing patient education of modifiable risk factors, and therefore increasing patient-self efficacy and desire to alter lifestyle habits. The health belief model was used as a guide through this study and in the creation of the educational materials provided to patients as a means of improving patient self-efficacy and increasing the likelihood of lifestyle change.

Background: Atrial fibrillation, also known as Afib or AF, is the most common heart arrhythmia among the United States adult population. AF impacts 6.1 million Americans and accounts for 750,000 hospitalizations, 130,000 deaths and \$26 billion in health care costs annually (CDC, 2017; January et al, 2014). When left chronically untreated, this condition places the patient at risk for insufficient systemic blood flow, blood clot formation, myocardial infarction, and stroke. AF has many modifiable risk factors, meaning contributing actions within the patient's control that may worsen the condition. Communication of these modifiable risk factors to patients with AF is important in improvement of quality of life and reduction of disease symptoms. Compelling evidence supports video education as the superior method of patient education for improvement of quality of life and self-efficacy. Therefore, video education was selected for use in this study to teach patients about AF modifiable risk factors.

Methods: An original, six-minute video was created that describes the condition of AF, the modifiable risk factors, and how the patient can alter their lifestyle to potentially improve the disease process and quality of life. Researchers developed a survey questionnaire that patients would complete prior to and immediately after viewing the video. The questions examined both knowledge of the condition and its modifiable risk factors along with self-efficacy. This survey was administered along with the Atrial Fibrillation Effect on Quality of Life (AFEQT) survey. The video was then shown to patients in the clinical setting to determine its effect on improving patient self-efficacy. Patients consented for this study and viewed the video a total of three times at zero, four, and eight-week marks.

Results: A total of six patients were tested, and four attended all three visits. Results showed a general increase in total knowledge and self-efficacy scores across the eight-week period. Non-parametric statistical analysis revealed a significant relationship after the participants' second visit and viewing, supporting the hypothesis that video education improves self-efficacy. A repetition of this study format with a greater sample size may yield further significant results.

Implications: Lifestyle alteration to reduce the impact of modifiable risk factors may help to improve quality of life and reduce health care costs. The results of this pilot study or further research on patient education can help nurses and health care providers to improve education measures. In the long-term, patients may enforce lifestyle modifications to lower disease incidence and related health care costs.

Abstracts of Poster Presentations

COMMUNITY OF INQUIRY:
MULTI-CAMPUS NURSING SCHOOL SUSTAINABILITY INITIATIVE

COMMUNITY OF INQUIRY: A MULTI-CAMPUS
NURSING SCHOOL SUSTAINABILITY INITIATIVE
Tatum Korin, Annette Garner

BUILDING BLENDED AND ONLINE PEDAGOGY
THROUGH THE COMMUNITY OF INQUIRY FRAMEWORK
Annette Garner, Martha Cleveland-Innes

PROMOTING A COMMUNITY OF INQUIRY UTILIZING
A LEARNING MANAGEMENT SYSTEM
Michelle Hall, Trish Kohan

FACULTY SCHOLARSHIP USING
THE COMMUNITY OF INQUIRY
Glenise McKenzie, Annette Garner

COMMUNITY OF INQUIRY:
MULTI-CAMPUS NURSING SCHOOL SUSTAINABILITY INITIATIVE

Overview: Community of Inquiry: Multi-Campus Nursing School Sustainability Initiative

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Purposes/Aims: The purpose of this symposium is to share innovative and transformative approaches to sustaining the implementation and application of the Community of Inquiry (CoI) principles to blended and online teaching and learning standards in a multi-campus school of nursing.

Rationale/Background: There is a large, growing population of online and blended students in this country. Nursing education is one of the fastest growing professions to have an online presence for career advancement. The Community of Inquiry is an evidence-based, learner-centered approach to engaging teachers and students in a framework that promotes and supports various "presences" in the blended and online environments. The "presences" that make up this framework are: Cognitive, Teaching, Social, and possibly Emotional. Variables within each presence outline/state the attributes needed for an effective and wholistic online and blended teaching and learning environment. Understanding and applying CoI principles to teaching and learning require faculty to engage in the scholarship and research in this area. Faculty teaching in a fully RN-BS program spearheaded the effort to generate enthusiasm and momentum for the adoption of the CoI framework across the school with special emphasis on programs and courses delivered online. This effort was intended to educate, engage, train, and support educators in the implementation of CoI principles at a large, urban, multi-campus nursing school. The symposium will highlight several initiatives that emerged from this effort.

Brief Description of the Methods Used: Share a CoI faculty development model through a description of innovative approaches to sustainability and transformation of teaching and learning. The symposium provides strategies to integrate the Community of Inquiry as the framework for teaching and learning. Examples from this collaborative effort include a description of the: 1) Education Summit and, two initiatives as an outgrowth of that experience.

Outcomes Achieved: The symposium will provide an opportunity to describe and discuss emerging practices for contemporary teaching and learning strategies for blended and online education. Specifically, a description of the Education Summit, the development and design of learning management system collaborative faculty resources site, and scholarship related to sustaining this initiative.

Conclusions: Collaborating on identifying and developing resources and opportunities for faculty development using an evidence-based framework for teaching and learning in blended and online environments, yielded sustained commitment for ongoing faculty development. Sharing our experience is intended to invite further discussion and exploration of the application of this model to nursing education.

COMMUNITY OF INQUIRY:
MULTI-CAMPUS NURSING SCHOOL SUSTAINABILITY INITIATIVE

Building Blended and Online Pedagogy through the Community of Inquiry Framework

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Purpose: Describe the approach and process of developing an innovative faculty development initiative to improve collaborative learning and teaching in blended and online courses in a large multi-campus school of nursing.

Background: The initiative addressed a current trend in higher education, and in nursing programs specifically: Pressure to provide high quality blended and online programs and courses to students in our graduate and undergraduate programs. Twenty-seven percent of masters programs in US schools of nursing offer courses online as do the majority of RN-BS programs. Further, a growing number of RN to MSN programs are also finding new homes in blended and full online courses. Despite this growing demand and need for online programs that allow current RNs to further their education and careers (undergraduate and graduate), faculty development in this rapidly expanding teaching modality is often limited. Faculty teaching in these blended and online courses need training in designing and delivering effective high quality blended and online learning.

Approach/Process: The authors consulted with multiples stakeholders to create a relevant and dynamic two day Education Summit. The overall goal was to engage faculty from multiple programs and regional campuses, and instructional designers, in discussion of current pedagogy and the application of evidence-based strategies for teaching of online, blended and face-to-face courses. The initiative included expert training and consultation for faculty using a well-researched course design framework called the Community of Inquiry (CoI). Faculty from six regional campus faculty were invited to select two champions from each campus to attend the Education Summit for face-to-face training. Goals for the Summit included:

- Assistance and support for faculty concerns about learner, disciplinary, and professional differences in the application of online and blended learning using the CoI framework.
- Expand ideas and opportunities for collaborative evaluation and implementation of online and blended learning environments.
- Increase faculty experimentation and innovation in use of online and blended teaching.
- Deliberate and intentional practice of the application and use of the CoI framework components with a cohort of engaged and committed SoN faculty and instructional designers.

Outcomes: Input from representative faculty and an instructional designer informed the design and learning objectives of a two day Education Summit focused on the application of the CoI to class and/or course design. Participants included faculty from each of the six campuses across the undergraduate and graduate programs with 40+ faculty attending. On day one, the main objective was to engage undergraduate and graduate faculty in discussions on the components of CoI. On day two, faculty participants paired with consultants to apply the CoI framework and relevant teaching strategies to their individual teaching domains and specialties.

Conclusions: The initiative provided expert training and consultation for faculty using a well-researched course design framework called Community of Inquiry (CoI). Education Summit evaluations revealed attendees positive experience and supported continued faculty development for integrating CoI design into their classes, courses and/or program.

COMMUNITY OF INQUIRY:
MULTI-CAMPUS NURSING SCHOOL SUSTAINABILITY INITIATIVE

Promoting a Community of Inquiry Utilizing a Learning Management System

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Purpose/Aims: To create a web presence and communal space where school of nursing (SoN) faculty can easily access resources to develop their teaching practice with the principles of Community of Inquiry.

Rationale/Background: The Community of Inquiry framework is a well-researched model of online and blended learning that supports student learning outcomes and learner satisfaction. Nursing faculty attended a workshop on the CoI framework with representatives from each of six campuses in attendance. The application of CoI to nursing courses and programs including online, blended, and face to face in both undergraduate and graduate programs generated interest. Faculty involved in the conference expressed the desire to continue discussing and sharing ideas around the CoI with the goal of making a faculty learning community available for teaching and learning scholarship. The learning management system (LMS) used by all programs for the school of nursing was identified as an appropriate platform with a variety of tools available for facilitating discussions and presenting material for our faculty learning community.

Approach: A task force of faculty with representation from all 6 campuses was formed to work on website development. Representatives included educators from the graduate and undergraduate programs as well as an assistant dean. The team met regularly to create the website, and monthly meetings are scheduled for site maintenance. The team identified the purpose for the site as: "To create a dynamic space, to engage and share ideas with educators; a place to share resources, host webinars; a place often visited and creates a buzz." The site includes information on the CoI framework with links to resources and articles; a research corner for current research and scholarship on teaching and learning; a section on upcoming conferences and webinars with recordings and materials; a place to share innovative teaching strategies; a section on emerging evidence on emotional presence; a section on how students learn; and an area for collaboration. The community collaboration space includes a discussion forum, a blog area, a journal club, and a Q and A section.

Outcomes Achieved: A site was created using the school's already robust LMS as the vehicle to ensure sustainability for faculty interaction and sharing of information on teaching and learning. The site was highlighted at the October SoN faculty meeting and is accessible to all SoN faculty. At the time of this writing, two blogs have been posted and ideas have been shared regarding the application of CoI in courses across campuses and programs. A plan is in place for site maintenance, monitoring of the discussions, and facilitating a journal club.

Conclusion: Faculty development and sustainability around an evidence-based framework is a worthy goal. By using the LMS site, over 200 faculty have access to this learning community. An evaluation plan has been drafted to look at site use and identify areas for improvement. We will continue to evaluate the usefulness of the site including the amount of faculty engagement, and plan to integrate faculty feedback as part of the sustainability plan.

COMMUNITY OF INQUIRY:
MULTI-CAMPUS NURSING SCHOOL SUSTAINABILITY INITIATIVE

Faculty Scholarship and the Community of Inquiry

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Purposes/Aims: This paper presents scholarship of teaching and learning (SoTL) activities related to a faculty development initiative based on the community of inquiry (CoI) framework. We describe several faculty-driven activities and reflect on respective opportunity for enhancing and supporting faculty development in SoTL in a school of nursing.

Rationale/Background: The implementation of the CoI practices into classroom, clinical and simulation instruction provides an evidence-based framework for measuring and improving effective teaching and learning strategies. CoI is a learner-centered framework with strong demonstrated success in the nursing literature. There are a number of studies in undergraduate and graduate nursing programs describing and/or testing the application and aptitude of CoI components (cognitive, teaching and social presence) in teaching and learning environments. For instance, targeted inclusion of cognitive learning strategies (cognitive presence) support the advancement of critical thinking skills; teaching presence improves teamwork and collaboration; and social presence is associated with increased student engagement behaviors and satisfaction.

Approach/Process: In Winter 2017, nursing faculty attending a 2-day workshop on CoI expressed interest in learning more about and participating in SoTL activities. For instance, faculty wanted to pursue scholarly endeavors by applying discovery, reflection, and evidence-based methods to identify and measure outcomes of teaching and learning strategies. A faculty-initiated interest group included the goal of increasing faculty knowledge, access to resources, and participation in SoTL activities. The CoI interest group planned and coordinated opportunities for faculty to engage in meaningful dialogue.

Outcomes Achieved/Documented: Interested faculty collaborated with a CoI expert to design an instrument validation study, completed the IRB approval process and planned dissemination of findings at an international conference. Additional activities, opportunities and scholarship have included ongoing faculty development in SoTL at regional campuses, journal discussions of current CoI research, participation in writing retreats, development of manuscripts for publication, and collaboration with international colleagues involved in CoI scholarship and research.

Conclusions: There is a growing body of international literature across disciplines in educational settings testing best practices related to the application of the Community of Inquiry. Findings from faculty development initiatives may provide additional opportunities for nursing faculty to contribute to the scholarship of teaching and learning.

Abstracts of Poster Presentations

CONCEPT ANALYSIS

EVALUATION OF THE PROQOL CONCEPTUAL MODEL:
USEFULNESS IN NURSING RESEARCH

Marlene Steinheiser, Kate G. Sheppard

SUPPORTED CONVERSATION FOR ADULTS
WITH APHASIA: A CONCEPT ANALYSIS

Amy Barrett Thomas, Cynthia Corbett

STIGMA IN THE CONTEXT OF HEAD LICE:
A CONCEPT ANALYSIS

Sheila K. Hurst, JoAnn Dotson

CONCEPT ANALYSIS OF MORAL INJURY

Jane Tiedt, Jeff Ramirez

CONCEPT ANALYSIS

Evaluation of the ProQOL Conceptual Model: Usefulness in Nursing Research

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Purpose: To examine the usefulness of Professional Quality of Life (ProQOL) conceptual model to underpin nursing research exploring the shared meaning of compassion fatigue among long term care registered nurses caring for older adults in skilled nursing facilities

ProQOL Conceptual Model: The ProQOL model is comprised of compassion satisfaction, defined as positive aspects of the helping role, and compassion fatigue (CF), the negative aspects of the helping role. CF stems from burnout (environmental) and secondary traumatic stress (internal emotional reactions).

Method: The ProQOL model evolved from social psychology, but there is no clear evidence that the model adequately captures compassion fatigue in nurses. Fitzpatrick and Whall's criteria was used to analyze the ProQOL's fit for one specific registered nurse population: those working in skilled nursing facilities.

Findings: The nursing metaparadigm consists of person (recipient of care), nursing (care of others), health (goal of nursing), and environment (internal and external surroundings). Health is reflected in the ProQOL as professional quality of life. The ProQOL theoretical path analysis includes associated characteristics of the client, person and work environments which capture the remaining concepts within the nursing metaparadigm. The client environment of the ProQOL defines the person. Nursing is defined as the therapeutic nurse-patient relationship formed by compassionate care. The environment is described as the organization's characteristics and the role of the nurse in the work environment. The ProQOL outlines protective factors and risk factors that may compromise compassion. Within the model, internal consistency is demonstrated by uniform use of compassion satisfaction, compassion fatigue, secondary traumatic stress and burnout. External inconsistencies exist regarding the onset of compassion fatigue as well as its relationship to burnout. External semantic inconsistencies are present with use of the construct/concepts of compassion fatigue, secondary traumatic stress and burnout.

Link to Nursing Practice: The ProQOL is the most widely used conceptual model to support our understanding of compassion fatigue among nurses. The model and the theoretical path analysis align with the nursing metaparadigm demonstrating the interconnection of the nurse-patient relationship influenced by the work, personal or client environments which determine the nurse's professional quality of life.

Conclusions: The ProQOL is a broad, abstract, non-nursing model which can support nursing research aimed at understanding compassion fatigue. However, the following improvements would enhance its use within nursing: semantic consistency and clarity within nursing, consideration of how nurses' personal attributes, work environment and the nature of nurse-patient relationships affect professional quality of life.

CONCEPT ANALYSIS

Supported Conversation for Adults with Aphasia: A Concept Analysis

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Purpose: To present the findings of a principal-based concept analysis of supported conversation for adults with aphasia within the context of the nursing discipline.

Description of Concept: Aphasia is present in up to 38% of the 795,000 patients that suffer a stroke each year in the US. Communication barriers prevent patients with post-stroke aphasia from making vital decisions regarding their care, restrict engagement in healthcare planning, and increase their risk for harm. Ineffective communication is further exacerbated by a lack of resources that allow patients with aphasia to participate in care decisions. Supported conversation for adults with aphasia is an evidence-based tool to assist healthcare professionals in communicating with patients with aphasia. This tool capitalizes on conversational partnerships that develop from a set of communicative strategies as well as the skills and experience of both the patient with aphasia and the communication partner. The concept of supported conversation for adults with aphasia is well-defined within the realm of speech and language pathology, but has yet to be effectively used and adopted in the nursing discipline.

Internal Consistency of the Concept: The concept was critiqued for internal consistency and critically explored for (i) definitional clarity (epistemological principle), (ii) relevance to nursing (pragmatic principle), (iii) consistency in meaning (linguistic principle), and (iv) differentiation from related concepts (logical principle). Principle-based concept analysis methods were employed to evaluate the existing state of the science of supported conversation for adults with aphasia. A systematic literature search was conducted in CINAHL, PubMed, and PsycINFO databases. Parameters were placed for adult (18+ years) subjects, peer reviewed, and English language articles. Due to the relatively recent development of supported conversation for adults with aphasia, parameters were not placed for publication dates.

Logic Linking Concept to Research Problem: Analysis of the scientific literature relevant to supported conversation for adults with aphasia revealed: (i) the concept is poorly differentiated from other similar concepts, derives meaning from theoretical assumptions that are ambiguously described, and lacks definitional clarity; (ii) the philosophical framework used to construct the concept is both relevant and useful for the nursing discipline; (iii) the conceptual meaning of supported conversation for adults with aphasia was variable in the literature; and (iv) the intervention of supported conversation is not well-defined, terms are used interchangeably, and there is a disconnect in differentiating supported conversation for adults with aphasia from the related concept of communicative partner training.

Conclusions, Including Utility of Concept: Communication is an essential component of nursing and universally fundamental to patient-centered care. The results of this principle-based concept analysis demonstrate an organizing framework to address nursing phenomena involving patients with aphasia as well as illustrate the importance of integrating multidisciplinary theoretical and conceptual knowledge. Supported conversation is a promising intervention for enhancing communication, care processes, and health outcomes for patients with post-stroke aphasia. However, supported conversation must be more clearly defined and delineated from other concepts in the knowledge base of nursing. Research testing the feasibility and effectiveness of supported conversation as a nursing intervention will be required.

CONCEPT ANALYSIS

Stigma in the Context of Head Lice: A Concept Analysis

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Purposes/Aims: The purpose of this concept analysis is to clarify stigma in the context of head lice management.

Description Concept: The concept of stigma is complex, differing over time and context in which it is applied. Stigma also varies among different medical diagnoses. Nursing, medical, social, and educational research has explored the concept of stigma in areas such as human immunodeficiency virus, chronic health illnesses, physical deformities, mental illness, and among others. Stigma is often cited in the literature as a significant component in the management of head lice phenomenon. Treatment of head lice infestation is multifaceted however; it is unclear how the concept of stigma may impact successful eradication. The concept in this context continues to remain ambiguous and poorly defined.

Method: Rogers' Evolutionary method. A literature review from 1996 - 2016 using health, education, and social sciences databases was used to extract data from 20 articles. Thematic analysis was used to identify defining attributes, consequences, and antecedents.

Logic Linking Concept to Practice/Research Problem: Children of school age are a vulnerable population and are disproportionately affected with head lice. Head lice are generally not transmitted in the school setting however, many schools maintain policies prohibiting infested children from attending. School re-admittance is dependent upon successful head lice eradication. Disproportionate responses to head lice infestation and its associated stigma, may affect the treatment response by individuals. Responses may include inappropriate application of potentially toxic chemicals to a child's head. The misuse and overuse of head lice treatments have been associated with negative health effects. Understanding the concept of stigma in this context aligns with nursing principles in the protection and promotion of health and the prevention of disease. The knowledge gained may provide nursing with insights regarding how people treat head lice to develop effective nursing interventions.

Conclusions: The concept of stigma in the context of head lice management is an intricate web of intrapersonal, interpersonal, and institutional factors of head lice management and is intertwined with the evolving nature of the concept. The findings included the following attributes, consequences, and antecedents. *Attributes:* mark of infestation, negative and unfair beliefs, and shame. *Consequences:* economic costs, social costs, mistreatment and overtreatment. *Antecedents:* actual or perceived cases of head lice, negative perception of a louse, negative perception with a group or person with head lice, or being associated with a group or person of lesser status that is believed to be a carrier of head lice.

Implications: Understanding stigma contributes to new insights, the role stigma serves in the phenomenon of head lice management, policy development and application, and the provision of care. Additionally, the gained knowledge may contribute to the development of research tools and theories for the successful eradication of head lice. Further research is required to understand the magnitude of stigma as well as other factors involved in managing and treating head lice infestations.

CONCEPT ANALYSIS

Concept Analysis of Moral Injury

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Purpose/Aims: Moral injury is an emerging concept in psychology, traumatology, social work, religion and philosophy. However, it is essential to identify the utility and application to the discipline of nursing. The purpose is to analyze the concept of moral injury as it relates to nursing practice and to distinguish moral injury from post-traumatic stress disorder (PTSD), spiritual distress, spiritual pain, and moral suffering. The aim of the analysis is to gain a clear understanding and to conceptualize moral injury as a human phenomenon.

Review Method: The 8-step method by Walker and Avant were used to analyze the concept of moral injury. Identification of the attributes, antecedents, and consequences led to the conceptualization of moral injury from nursing's frame of holistic care.

Processes: The databases used for the literature review of the concept moral injury were: CINAHL, ERIC, HealthSource, Medline, PsycArticles, PsycCritiques, PsycLit, Psychology & Behavioral Science Collection, SocIndex, Religion & Philosophy Collection. Key search terms included: moral injury, moral suffering, soul injury, soul pain, spiritual pain, spiritual distress, veterans of war, veterans, military soldiers, military personnel, military, war, and soldiers. Articles were included that had the key search words in the title or abstract published between 2005-2015 and were available electronically. Thirty-six articles and sixteen abstracts were reviewed for this concept analysis.

Relevance to Nursing Practice: Nurses across the spectrum of health care must understand the needs of combat veterans to better support veteran's health and improve outcomes. Although the healthcare literature is notable for concerns around high suicide rates, PTSD, depression and traumatic brain injury among returning combat veterans, many nurses are unfamiliar with the military cultural and lack knowledge about the invisible wounds war, namely moral injury. Given the diverse geographic dispersion of the veteran population, it is critical that nurses in the civilian sector are knowledgeable about moral injury to provide holistic care to this population. Conducting a concept analysis provides an in-depth understating and may be applied to explain and describe the phenomenon in other populations.

Conclusions: Moral injury cannot be reduced to a pathology nor psychiatric diagnosis because it is a deep wound at the core of the human condition. Interventions focusing on forgiveness and healing unresolved shame and guilt show promising results. It is critical that nursing develop appropriate treatment strategies for moral injury. Without such interventions, we will continue to see the consequences of the deep emotional pain veterans and others are living and suffering with.

Abstracts of Poster Presentations

CRITICAL CARE

VIDEOGRAPHY IN THE ICU: DEVELOPMENT OF
A CODING SCHEME TO QUANTIFY PHYSICAL ACTIVITY

Sarina Fazio, Amy Doroy

MOST STAGE 1 PRESSURE INJURIES IDENTIFIED
AMONG ICU PATIENTS PERSIST

Jenny Grace Alderden

SYMPTOM PROFILES FOLLOWING INITIAL
IMPLANTABLE CARDIOVERTER-DEFIBRILLATOR

Megan Streur, Elaine Thompson

CURRENT PRACTICE TRENDS
IN NEUROMUSCULAR MONITORING

Darryl DuVall, Kenn Daratha

DURATION OF GENERAL ANESTHESIA IS
ASSOCIATED WITH DEVELOPMENT OF DELIRIUM

Hannah Nakashima, Jenny Grace Alderden

EFFECT OF GLYCEMIC CONTROL ON DEEP STERNAL
WOUND INFECTION IN CARDIAC SURGICAL PATIENTS

Diane Baruch

ACUPUNCTURE FOR POSTOPERATIVE PAIN MANAGEMENT

Tiffanie L. Rampley

CRITICAL CARE

Videography in the ICU: Development of a Coding Scheme to Quantify Physical Activity

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Purpose: The purpose of this project was to develop a video annotation coding scheme to quantify physical activity in adult intensive care unit (ICU) patients participating in an early mobility and progressive exercise program.

Background: Accurate measurement of physical activity is crucial for assessment, implementation, and evaluation of mobility related interventions. However, existing methods to measure activity in practice rely on self-report and clinician assessments manually entered into the clinical record. Videography is increasingly used in clinical research to record and analyze human behavior and interactions continuously.

Methods: This project was part of a larger research study to evaluate actigraphy-based sensors and clinician documentation for quantifying patient activity in the ICU compared to a gold standard data set derived from clinician annotated video recordings of 35 ICU patients, each with 24 hours of activity monitoring. To develop the coding scheme for video analysis, a literature review was initially conducted to synthesize evidence-based standards for early mobility interventions in the ICU. A series of meetings were convened with experts in early mobility from nursing, medicine, and physical therapy to review definitions and initial codes. The coding scheme was developed using an iterative approach through pilot testing using video from simulated patients and later with ICU patient video.

Outcomes Achieved: The video annotation coding scheme for quantitative mobility in the ICU was finalized in August 2017 after an iterative process and review of seven hours of patient mobility data. The coding scheme consisted of eight categories describing activity related to activity duration, counts, start and stop times, activity types, patient position, activity purpose, person initiating the activity and narrative description. Within each category, a predetermined list of options was defined numerically to facilitate ease of annotation by reviewers.

Conclusions: There is growing interest in early mobility and exercise interventions in the ICU to reduce sedentary time, prevent adverse effects of hospitalization and improve recovery of critical illness. Obtaining objective and precise activity estimates are crucial for establishing ground truth of patient activity and developing data driven models of care to improve assessment, implementation, and evaluation of mobility related interventions.

Funding: This study was supported in part through, 1) scholarship from the Gordon and Betty Moore Foundation; 2) donation of research equipment from Leaf Healthcare Inc; and 3) support for the Research Electronic Data Capture (REDCap™) database from the University of California Davis Clinical and Translational Science Center (National Center for Advancing Translational Sciences, National Institutes of Health, UL1 TR000002).

CRITICAL CARE

Most Stage 1 Pressure Injuries Identified among ICU Patients Persist

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Background: Hospital acquired pressure injuries are areas of localized damage to the skin or underlying tissue as a result of pressure. Hospital acquired pressure injuries occur among 3-24% of critical care patients and result in increased cost, longer length of hospital stay, and human suffering. Pressure injuries are classified into six categories: Stages 1-4, suspected deep tissue injury, and unstageable. Among those, stages 2-4, suspected deep tissue injury, and unstageable represent at least partial-thickness tissue damage, whereas stage 1 pressure injuries are areas of non-blanchable redness that may indicate only superficial tissue damage. In people with darker skin tones, stage 1 pressure injuries may appear as a discoloration or a change in sensation, temperature, or firmness.

Although about half of all hospital acquired pressure injuries are stage 1, no studies have examined the clinical relevance of stage 1 pressure injuries among critical care patients. Specifically, no data exist about how many stage 1 pressure injuries resolve quickly (within 24 hours) and how many persist. Identification of factors associated with persistent stage 1 pressure injuries will allow nurses to identify patients with stage 1 injuries who may benefit from maximal treatment intervention, such as specialty bed allocation, to avoid further tissue damage.

Purpose: The purpose of this study was to examine factors associated with persistent (present for >24 hours) Stage 1 pressure injuries versus transient (resolved within 24 hours) stage 1 pressure injuries.

Methods: We worked with a biomedical informatics team to identify patients with stage 1 pressure injury who were admitted to the surgical critical care unit at a level 1 trauma center and academic hospital between January 1, 2008 and May 1, 2013. We excluded patients with community acquired pressure injuries due to concern about misattribution of community acquired pressure injuries as hospital acquired. We defined a stage 1 pressure injury as transient if it resolved within 24 hours and persistent if it was present for >24 hours. We obtained data about stage 1 pressure injury persistence from the electronic health record.

Results: Our sample consisted of 6,376 patients. Among those, 516 (8%) developed a pressure injury of any stage and 260 (4%) developed a stage 1 pressure injury. Among the patients with stage 1 pressure injuries, only one patient's stage 1 pressure injury resolved within 24 hours. Because nearly all of the patients' stage 1 injuries persisted over 24 hours we were unable to identify factors associated with persistent versus resolved stage 1 pressure injuries.

Implications: Stage 1 pressure injuries identified among surgical critical care patients are likely to last for more than 24 hours. Because so few stage 1 pressure injuries resolve quickly, nurses should consider rapid implementation of maximal preventative measures such as specialty beds for all critical care patients with stage 1 pressure injuries to avoid further pressure injury worsening.

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CRITICAL CARE

Symptom Profiles Following Initial Implantable Cardioverter-Defibrillator

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Background: Little is known regarding the symptom profiles of adults who undergo ICD placement. Patients receive an ICD either for primary prevention of sudden cardiac arrest, or for secondary prevention if they have previously experienced sustained ventricular arrhythmias or survived sudden cardiac arrest. Although patients undergoing ICD implant may have diverse clinical histories, the experience of having an ICD implanted may result in similar symptom experiences.

Purpose: The study aims were to: 1) determine the most common symptoms experienced following initial implantable cardioverter-defibrillator (ICD) implantation, 2) identify clusters of patients with similar symptom profiles, and 3) determine clinical and demographic characteristics that are associated with cluster membership.

Methods: This is a secondary data analysis of a randomized controlled trial that compared a Patient + Partner versus a Patient-Only intervention; both interventions were designed to assist patients to manage physical and psychological symptoms, safely resume ADL's, and prepare for potential ICD shocks/management. The study included 301 adult patients with an initial ICD implant. Symptoms were assessed within 3 days of hospital discharge following ICD implant using the Patient Concerns Assessment, with which frequency of 32 symptoms were rated on a Likert-type scale, where 0 meant "not at all" and 7 "every day." The 10 most commonly experienced symptoms were identified using descriptive statistics (proportions, mean). Latent class analysis (LCA) was used to identify clusters of patients with similar symptom profiles using the 10 most frequently reported symptoms. Six clinical and demographic variables were selected for inclusion as covariates in the latent class model: age, gender, ICD reason, Charlson Co-Morbidity Index, income, and left-ventricular ejection fraction. Covariates that were statistically significant ($p < 0.05$) when entered alone were retained in the final model. Bayesian Information Criterion (BIC) and Akaike Information Criterion (AIC) were used to determine the number of classes/patient clusters.

Results: Participants were primarily male (74%) with a mean age of 64 ± 11.9 years. The 10 most commonly reported symptoms by rank were: 1) tiredness, 2) feeling rundown, 3) interrupted sleep, 4) reduced sexual activity, 5) shortness of breath, 6) difficulty falling asleep, 7) feeling anxious, 8) pains in low back, 9) short-term memory loss, and 10) dizziness/near-fainting. For the LCA, only age ($p < 0.000$) and Charlson Co-Morbidity Index ($p = 0.04$) were retained as covariates in the final latent class model. Three patient clusters were identified using LCA: 1) Multi-Symptom (N=119, 40%), 2) Tired-Rundown (N=130, 43%), and 3) Mostly-Asymptomatic (N=52, 17%).

Implications for Practice and Research: We identified 3 unique symptom profiles among patients with a recent initial ICD implantation. To adequately address patient concerns and offer guidance for symptom alleviation, clinicians need to be aware of the most commonly experienced symptoms. Knowledge of the common symptom profiles experienced by ICD patients will contribute to development and refinement of symptom management strategies designed to address the most common symptom profiles experienced in this population. Future research will evaluate whether experiencing a specific cluster of symptoms is associated with outcomes such as depression, increased healthcare utilization, or reduced quality-of-life.

Funding: The clinical trial was funded by the National Institutes of Health, National Heart Lung and Blood Institute (R01 HL 086580, Dr. Dougherty PI). Dr. Streur is supported in part by the National Institutes of Health, National Institute of Nursing Research (NINR) Aging and Informatics Training Program at the University of Washington (T32 NR014833).

CRITICAL CARE

Practice Patterns in Neuromuscular Monitoring

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Purpose/Aim: This study aimed to provide accurate estimates of rates of qualitative neuromuscular blockade (NMB) monitoring during surgical procedures utilizing NMB agents. Secondly, the study sought to determine if baseline NMB monitoring rates were affected by provider type and/or patient comorbidity.

Rationale/Background: Residual neuromuscular blockade in patients admitted to the post anesthesia care unit (PACU) is common, with inadequate postoperative neuromuscular block reversal event rates ranging from 16% to 70%. NMB monitoring is effective in detecting residual NMB, yet research findings suggest that in patients whom have had NMB agents administered, up to 40% do not receive intraoperative NMB monitoring. NMB monitoring reduces adverse patient outcomes and is recommended during emergence and recovery from anesthesia. Anesthesia practice guidelines suggest performance of NMB monitoring when a NMB agent is administered, and data suggests adherence to evidence-based practice guidelines of NMB monitoring may improve patient outcomes in the early post-operative period. Despite best practice guidelines recommending NMB monitoring, estimates of the rate of NMB monitoring are dated and low.

Methods: Inclusion criteria in this retrospective observational study required a surgical procedure at one of two hospitals in the Inland Northwest between April 1, 2014 and April 1, 2016; use of a neuromuscular blocking agent; and patient age 18 years or older. A binary response was coded for evidence of neuromuscular blockade monitoring. Continuous data were summarized as means; categorical data were summarized as frequencies. Chi-square tests were performed for categorical variables to examine differences between the monitored and not monitored groups. Statistical significance was considered at $p < 0.05$. To examine the association between each of the factors and evidence of NMB monitoring, a multivariable logistic regression was performed. A Delphi panel of five anesthesia experts were recruited to lend further expertise regarding current NMB monitoring practice and to provide recommendations of future research based on study results.

Results: The estimated overall rate of NMB monitoring was 98.9%. No statistically significant differences in NMB monitoring rates were found for surgery year, provider type (MD/DO or CRNA), patient BMI, patient age, or length of surgery. There were a disproportionate number of females that had NMB monitoring performed compared to males ($p = 0.002$). Additionally, there were a disproportionate number of patients aged 40-69 and 70-80+ that had NMB monitoring performed compared to patients aged 18-39 ($p = 0.01$). Several variables were included in the final logistic regression model as significant predictors of the lack of NMB monitoring. The Delphi panel recommended future research examining adverse respiratory events in the PACU to establish a standard of care for quantitative versus qualitative NMB monitoring in the perioperative period.

Translation to Practice: The reported qualitative NMB monitoring rate was high and may not suggest the need for practice change. However, our Delphi panel emphasized the only way to establish an accurate level of adequate reversal of NMB block to 90% is through quantitative monitoring not qualitative monitoring. Our study findings advocate for further research, analysis, and professional practice standard evaluation of current standards in NMB monitoring.

CRITICAL CARE

Duration of General Anesthesia Is Associated with Development of Delirium

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Background: Delirium is a serious problem among critical care patients and results in longer length of hospitalization, increased cost of care, and higher mortality in the year after hospitalization. It is important for nurses to recognize which critical care patients are at risk for delirium because studies show delirium can be prevented or ameliorated with targeted interventions like occupation therapy and sensory environment modification; however, these interventions may not be feasible for every patient. Surgical patients are at higher risk for delirium than medical patients, but the mechanism is unclear. Some authors conclude that simply having surgery places the patient at risk due to the effects of general anesthesia on the brain, whereas other authors assert that risk associated with surgery comes from severity of illness or the physiologic stress associated with surgery.

Purpose: The purpose of our study was to elucidate the relationship between general anesthesia and development of delirium among critical care patients. The specific aim was to determine whether the presence or absence of general anesthesia, the duration of general anesthesia, or a combination of both affect risk for delirium.

Methods: We utilized electronic health record data to obtain information about delirium among critical care patients at a level 1 trauma center and academic medical center. The nurses assessed delirium once per 12-hour shift using the confusion assessment method ICU (CAM-ICU). The total duration of general anesthesia was also recorded for each patient. For patients with multiple surgeries, we recorded the total minutes of general anesthesia for all surgeries combined.

Results: Among 2,936 patients 2,347 (78%) did not have delirium whereas 491 (16.7%) experienced delirium. Delirium could not be assessed among 125 (5.3%) patients due to decreased level of consciousness; we excluded those patients from the analysis. The mean age was 55 (+/- 18). Patients with delirium had longer total durations of general anesthesia (mean= 406 minutes, SD= 320) compared with patients who were not delirious (mean= 279 minutes, SD= 197), $t(2810)=10.46$, $p= 0.000$. When we dichotomized general anesthesia into a yes or no variable there was no significant relationship between the presence of general anesthesia and subsequent development of delirium. Similarly, the presence of a short duration of general anesthesia (<60 minutes) was not significantly associated with delirium.

Implications: Patients with longer durations of general anesthesia are at increased risk for developing delirium. Nurses should consider maximal preventative interventions (occupational therapy, environmental modifications, careful attention to sleep wake cycles) for patients with longer durations of general anesthesia. Furthermore, nurses can utilize these findings to guide counseling and education of surgical patients, especially for those with additional risk factors associated with delirium.

CRITICAL CARE

Effects of Glycemic Control, Graft Choice, BMI, and Diabetes on the Development of Deep Sternal Wound Infections in Cardiac Surgical Patients

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Background: A complication of cardiac surgery, the deep sternal wound infection (DSWI) rate in our institution has risen over the past three years and is currently twice the state benchmark. In our institution the internal mammary arteries are routinely used for its patient long-term survival benefit, which increases DSWI risk. The biochemical effect of stress hyperglycemia in critically ill patients is a contributing factor to the development of infection. Glycemic control reduces infection risk by avoiding the body's metabolic syndrome.

Objectives: To determine if there is a difference in glycemic index, graft choice, BMI and diabetes in cardiac surgery patients who have developed DSWI and those who did not.

Methods: Our longitudinal study is a retrospective medical record review being conducted in an academic medical center. 130 cardiac surgery patients developing a DSWI will be matched with 130 patients who did not. Statistical analysis will compare the differences in glycemic index, graft choice, BMI, and diabetes.

Results: Study results will reflect the significance of glycemic control in cardiac surgical patients and its role in the development of DSWI. Secondary results will reflect the role of graft choice, BMI and diabetes in the development of DSWI in cardiac surgical patients.

Conclusions: Anticipated results of this study will demonstrate not only valuable data to improve patient outcomes in preventing DSWI but also to evaluate of DNP trained clinicians to identify and conduct research to improve patient outcomes.

CRITICAL CARE

Acupuncture for Postoperative Pain Management

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Specific Aims: Approximately 75% of patients report moderate to severe pain following surgery¹. Postoperative pain that results from surgical trauma is typically managed with opioid medications that carry harmful side effects such as respiratory depression, nausea, vomiting, itching, reduction in bowel motility leading to ileus and constipation and can ultimately lead to dependence and addiction^{1,2}. Many patients receive their first exposure to opioids following surgery and many leave the hospital with an opioid prescription^{3,4}. It is estimated that more than two million individuals transition to persistent opioid use following surgery each year⁴. Currently there is a national opioid epidemic affecting millions of Americans with over 35,000 overdose related deaths last year alone⁴. Therefore, new and innovative approaches to pain management in the postoperative setting are desperately needed.

Acupuncture, a component of Traditional Chinese Medicine (TCM), is a well acknowledged and widely used treatment for pain and other conditions that has been utilized in China for more than 3,000 years⁵⁻⁷. Acupuncture has been shown to reduce postoperative pain on the first day after surgery with reduced opioid use and a decrease in overall pain scores⁵⁻⁸. Twenty years ago, the NIH Consensus Conference determined there was sufficient evidence to conclude that acupuncture is safe and effective for postoperative pain and postoperative nausea and vomiting⁹. However, acupuncture in the US is still rarely used in postoperative settings, including after colorectal surgery, and it appears the evidence is not translating into practice⁶.

Colon resection surgeries are known to require large doses of analgesic medications and continued opioid dosing for pain control^{1,3}. Inadequate treatment of acute pain may contribute to the development of persistent postsurgical pain^{10,12}. The primary concerns with continued opioid use after surgery are dependence and overdose with a strong association between opioid dosing and mortality^{11,12}. Incorporating acupuncture as an adjunct to current postoperative pain management protocols for patients undergoing colorectal surgery has the potential to reduce the overall quantity of opioids consumed following surgical intervention, therefore significantly diminishing the potential for adverse effects and opioid dependence or abuse.

Accordingly, the following aims are proposed:

Aim 1: Evaluate the feasibility and acceptability of incorporating an acupuncture protocol in the immediate postsurgical setting to manage postoperative pain.

Participants will be randomly assigned to either the acupuncture group, the placebo (sham) acupuncture group, or the usual care group. Each group will include individuals (adults age 18 to 65) scheduled for colorectal surgery. The acupuncture group will receive either acupuncture or placebo (sham) acupuncture by a licensed acupuncturist prior to scheduled surgery and in the immediate postoperative setting. The usual care group will receive the current standard of care per unit protocol for patients following colorectal surgery.

Aim 2: To test the effectiveness of acupuncture as an adjunct to usual care for treatment of postoperative pain management and reduce need for use of opioids administered through the patient-controlled analgesia (PCA).

Participants receiving acupuncture, placebo (sham) acupuncture, and usual care will be evaluated for frequency of opioid requirements via PCA dosing in the postoperative setting.

Impact: Findings from this study will support incorporating acupuncture as an adjunct to current postoperative pain protocols for patients undergoing colorectal surgery to greatly diminish adverse effects of opioid use while reducing potential abuse and dependence as opposed to the continued use of strong and harmful opioids that perpetuate the epidemic.

Abstracts of Poster Presentations

CULTURAL CONSTRUCTS OF ILLNESS: STIGMAS AND
BARRIERS TO NURSING EDUCATION AND PRACTICE

OVERVIEW: CULTURAL CONSTRUCTS OF ILLNESS: STIGMAS
AND BARRIERS TO NURSING EDUCATION AND PRACTICE

Sharee B. Anzaldo, Felicia Schanche Hodge

FILIPINO HEALTH BELIEFS AND CULTURAL VALUES:
IMPLICATIONS FOR AUTISM

Sharee B. Anzaldo, Felicia Schanche Hodge

THE IMPACT OF CONTAMINATED LANDS ON NAVAJO
CULTURAL CONSTRUCTS OF ILLNESS BELIEFS

Christine Samuel-Nakamura

LATINAS' PERCEPTIONS OF MENTAL HEALTH
HELP-SEEKING FOLLOWING TRANSMEDIA

Patricia Soderlund, MarySue V. Heilemann

CULTURAL CONSTRUCTS OF ILLNESS: STIGMAS AND BARRIERS TO NURSING EDUCATION AND PRACTICE

Overview: Cultural Constructs of Illness: Stigmas and Barriers to Nursing Education and Practice

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Purpose: This symposium provides information on the cultural constructs of illness beliefs among the following: (1) Filipino parents of children with autism; (2) American Indian cancer survivors; (3) Navajo reservation residents; (4) Latina women with depression and/or anxiety; and (5) Afghan refugee women and cancer screening. We highlight the stigmas and barriers to nursing education and practice.

Rationale: Vulnerable populations are social groups with an increased risk or susceptibility to poor health outcomes, and often include women and children, ethnic people of color, immigrants, the homeless, and elderly. Stigma is a risk factor that creates barriers and prevents vulnerable populations from seeking needed medical care services. Understanding of the role of stigmas and/or barriers that underlie the cultural constructs of illness serves to inform nurse education and practice.

Methods: Five papers presented in this symposium employ quantitative and qualitative methods to examine stigmas and barriers to care. The first study reviews the words and conditions associated with Filipino parents of children with autism. The second study examines the use of contemporary “ledger art” to facilitate pain reports among a group of American Indian cancer patients. The third study examines the impact of contaminated lands on illness beliefs among Navajo reservation residents. The fourth study describes the perceptions of English speaking Latina adults with elevated depression and/or anxiety symptoms about what served to prevent or enhance their use of needed mental health resources. The fifth study explores socio-cultural barriers to uptake preventive screening among Afghan refugee women, years after resettlement.

Results: Our studies reveal the underlying issues associated with stigma that facilitate barriers to health care services. Difficult communications arose from the cultural constructs of illness beliefs and from language interpretation. All too often, English words do not capture the experience of illness in a cultural context and hinder an individual from attaining culturally tailored health care. The perceived need for health care treatment varied among individuals and cultural groups. Decisions to seek health treatment were informed and influenced by negative attitudes, beliefs, communication difficulties and cultural practices regarding physical problems. In addition to social stigma, the process for seeking healthcare services was an inherent source of stigma since many were reluctant to disclose emotional and physical symptoms to their provider to receive the necessary referral. For example, fear of diagnosis, cancer screening misconceptions and religious modesty may inhibit Afghan refugee women from mammography or colonoscopy screenings.

These individual level barriers may be understood within the socio-cultural and political context of health care experiences before and after displacement from a country with low cancer surveillance.

Implications: These research studies offer unique insight into engaging several distinct vulnerable populations in nursing research. Vulnerable populations are at continued risk for poor communication and underreporting of illness and/or conditions. Misunderstanding of symptoms, etiology of conditions, and consequences of delayed or lack of treatment contributes to health disparities and poor health outcomes. Nurses who undertake a research role with vulnerable populations need to understand the cultural constructs of illness beliefs to facilitate needed healthcare services.

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CULTURAL CONSTRUCTS OF ILLNESS:
STIGMAS AND BARRIERS TO NURSING EDUCATION AND PRACTICE

Filipino Health Beliefs and Cultural Values: Implications for Autism

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Purpose: Autism spectrum disorder (ASD) is a developmental disability affecting 1 in 68 children in the United States (U.S.). This disability impairs an individual's behavioral and communication patterns, and hinders social interactions. ASD affects 11.3 per 1,000 Asian Americans in the U.S. In the Filipino American community, parents may not report ASD due to stigma and shame related to parenting a child with a developmental disability. We report on a study that explored how traditional Filipino terminology related to health beliefs and cultural values influenced perceived parental stigma and barriers to treatment in children diagnosed with ASD.

Background: Families raising a child with ASD experience perceived stigma within the community and in public settings due to the nature of the symptoms, such as repetitive motions, atypical language use (e.g., echolalia), and incongruent social behaviors in given situations. Filipino culture attributes behavioral-related conditions as closely linked to family upbringing, which stigmatize families and delay treatment.

Methods: Grounded theory methodology examined parental views of traditional Filipino health beliefs and cultural values influencing parental management of care for a child with ASD. Filipino terminology related to traditional health beliefs and cultural values were explored in the context of ASD among 40 parents.

Results: Traditional Filipino health beliefs and cultural values influence the parental perception of ASD. Health is achieved by *timbang* (balance), which denotes that one is healthy when it is in equilibrium, and illness results from an imbalance. Additionally, when an individual is *burara* (disorderly or unkept), it is viewed negatively, and one can "lose face" in societal situations (e.g., child with ASD experiencing tantrum). Cultural values that influence perceived social stigma include: (1) *pakikisama* (getting along with others)—child with ASD may experience challenges with interacting with others; (2) *hiya* (shame)—parents of a child with ASD may experience humiliation from child exuding atypical behaviors; (3) *amor propio* (self-esteem)—parents may feel inadequate in caring for their child, as there is no cure for ASD and it can be difficult to control symptoms that manifest; and (4) *personalismo* (interpersonal relationships)—others may not display warmth and hospitality that is inherent in Filipino social interactions due to ASD. Barriers to seeking treatment may include communication with health care providers who are *ibang tao* (not one of us), as there may be a level of distrust with providers not familiar with Filipino culture.

Implications: Understanding traditional Filipino health beliefs and cultural values are salient to providing culturally sensitive nursing care for children with ASD and their families. Shame and stigma result from the social perceptions of disabilities, where children with ASD are often viewed negatively compared to typically developing children. Experiencing social stigma from the community and health care providers may hinder parents from seeking treatment in a timely manner. Delays in treatment and disclosure negatively impacts child development, as seeking early intervention optimizes health outcomes and potential for the child with ASD.

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CULTURAL CONSTRUCTS OF ILLNESS:
STIGMAS AND BARRIERS TO NURSING EDUCATION AND PRACTICE

The Impact of Contaminated Lands on Navajo Cultural Constructs of Illness Beliefs

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Purpose: This presentation reports on the potential threat that contaminated environments have on traditional tribal communities. The wellness concept of living in harmony with grounding in a sense of “place” that supports life can be threatened when the land, water, and food is contaminated. A study on the Navajo (Diné) reservation that documents Uranium (U) and associated heavy metal contamination will be discussed.

Rationale: Nurses and nurse researchers may minimize or eliminate identified barriers to research in vulnerable populations without limiting scientific rigor and scope. There are a myriad of advantages in developing collaborative partnership between researchers and American Indian (AI) communities including improving communication that strengthened group identity, empowerment, and tangible community tribal benefits. Knowledge of the cultural constructs of illness is essential.

Methods: A multifaceted environmental health study examined subsistence food contamination in a U mining impacted area. Data collected on the Diné reservation site included determining U, Arsenic, Cadmium, Cesium, Lead, Molybdenum, Selenium, Thorium, and Vanadium in soil, water, various sheep tissue, and multiple plant samples. The unique challenges to the researcher were many and include physical environment constraints, cultural illness beliefs, and communication.

Results: The impact of contaminated lands on the illness beliefs of Diné reservation residents are evident. Tribal lands give life to reservation residents that include water, food, and medicine. Contamination of lands can alter the balance of harmony thus creating the need for environmental health screening and surveillance. Care is needed in the research process so that collaborative research undertaken in a culturally sensitive manner is more likely to reap real benefits for participants and researchers. Tribal members can identify culturally or site-specific risks that supports or hinders their help-seeking behaviors to obtain needed environmental assessment and risk management. Information on contaminated water, plants, animals, and soil allows Diné reservation residents to plan for securing clean water and access to safer food chains for their families.

Implications: American Indian community research projects are becoming more common as NIH-required mandated research include promoting research in diverse groups. The implications to nursing research are great given that access and approval by tribal government entities and tribal Institutional Review Boards have become an important step for nurse researchers. The requirements to undertake research in AI and other Indigenous communities needs special attention to inform and advance nursing research, education, and practice. A significant part of this research is understanding the cultural constructs of illness that are grounded in the beliefs, practices and lands occupied by tribal groups. There are many factors that influence tribal participation and they include attitudes and ethics of the researcher, participant’s perceived need for the study, the participant’s interest in the study topic, fear of the unknown or distrust, time and travel constraints, financial compensation, and nature of informed consent. Unique communities such as AI groups have additional needs and process requirements to undertake research in their communities, which are highlighted in this presentation.

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CULTURAL CONSTRUCTS OF ILLNESS:
STIGMAS AND BARRIERS TO NURSING EDUCATION AND PRACTICE

Latinas' Perceptions of Mental Health Help-Seeking Following Transmedia

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Aim: The purpose of this qualitative analysis was to use Grounded Theory methodology to analyze and describe the perceptions of English-speaking Latinas with elevated symptoms of depression and anxiety about what served to prevent or enhance their use of needed mental health resources after engagement with a Transmedia Storytelling Intervention.

Rationale/Background: Depression is a leading cause of disability in the United States, and women suffer from depression more often than men. Depression and anxiety are highly comorbid, with co-occurrence rates as high as 50%. Of concern, Latinas have higher rates of depression than non-Latino Whites, yet receive less than half the psychotropic medication or counseling treatments for their symptoms. Stigma is a major risk factor that prevents Latinas from seeking needed mental health resources. Furthermore, English-speaking Latinas report higher levels of mental health stigma, and are more likely to conceal mental health problems. Thus, our story-based transmedia intervention (plot and characters created from de-identified data from earlier studies with depressed Latinas) may be a convenient and socially acceptable way to help Latinas overcome barriers to seeking needed mental health resources. The web-based transmedia intervention was accessible using a password protected website (via smart phones, tablets, or computers) and included: 1) 3 short story-based videos that portray how a Latina woman struggling with daily life challenges seeks emotional help, 2) 5 psycho-educational videos that included 4 interactive therapeutic exercises delivered by a Latina nurse-therapist, and 3) A mental health resource blog. Content validity for the videos, scripts, and exercises were confirmed by a Community Advisory Board (4 mental health experts who provide care for underserved Latinas).

Methods: Constructivist Grounded Theory methodology was used to analyze data from 28 English-speaking Latina women aged 21-50 with moderate to severe symptoms of Depression (PHQ-9) and/or Anxiety (GAD-7) after engaging with a transmedia storytelling intervention.

Results: Participants expressed various types of social, cultural, and structural barriers and facilitators for using needed mental health resources. Identified properties for barriers included, 1) Feeling stigmatized, 2) Lacking time, 3) Encountering system access issues, and 4) Lacking insight for mental health needs. Identified properties for facilitators included 1) Gaining insight for mental health symptoms, 2) Knowing of resources for care, 3) Believing mental health services are beneficial, and 4) Having convenient access to services.

Implications: These findings provide insight on how to further develop socially desirable and culturally appropriate interventions for Latinas who suffer from the debilitating symptoms of depression and anxiety. Such interventions, like transmedia storytelling, can attract users and reduce the cultural and structural barriers that prevent Latinas from seeking needed mental health resources.

Funding: This study was funded by an Intramural Grant from the UCLA School of Nursing and by the National Institutes of Health/National Institute for Nursing Research T32 NR007077.

Abstracts of Poster Presentations

CULTURAL ISSUES

LIVED EXPERIENCES OF ACUTE PAIN AFTER
SURGERY AMONG HISPANIC ADULTS

Kimberly Sanchez

A DESCRIPTIVE STUDY OF THE SCHOOL FOOD & POLICY
ENVIRONMENT IN AMERICAN INDIAN SCHOOLS

Regina S. Eddie

KOREAN AMERICAN ADOLESCENTS' PERCEPTION
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Gloria Nam

THE INFLUENCE OF CULTURE AND RELIGION ON
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Sarah A. Alkhaifi-Gonzalez, MarySue V. Heilemann

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Jane H. Lassetter, James LeCheminant

CULTURAL ISSUES

Lived Experiences of Acute Pain after Surgery among Hispanic Adults

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Purpose: The purpose of this proposed study is to explore the lived experiences of acute pain after surgery among Hispanics adults.

Specific Aims: To reveal more fully the (1) meanings and essence of the acute pain experience and (2) comprehensive descriptors of the acute pain experience.

Background: Mismanaged acute pain worsens the economic and social burden experienced nationally by contributing to the development of chronic pain, currently costing the US up to \$635 billion annually. Despite efforts to improve pain management practices, acute pain after surgery continues to affect over 80% of patients, indirectly affecting their families and healthcare systems. Ethnicity and culture influence the expression and description of pain. Hispanics, in particular, disproportionately experience in pain treatment disparities as they are less likely to receive analgesics. And when they do, Hispanics are more likely to wait for analgesics and receive inadequate analgesic dosing. Routine pain assessments conducted with instruments may be inaccurately capturing pain expressions by Hispanic adults. No research has been conducted exploring pain quality descriptors used by this population.

Methods: The proposed qualitative study will follow a phenomenological approach to explore the lived experiences of acute pain after surgery among adults over the age of 18, who self-identify as Hispanic and have experienced the phenomena of acute pain after surgery. At least 10 participants will be interviewed and purposive, criterion sampling will continue until data saturation is reached. Participants will be selected from an academic medical center in Los Angeles County. Participant interviews will be digitally recorded and transcribed. A multi-step thematic analysis using Colaizzi's approach will be performed. Participants will be used to validate the themes identified by the investigator. Trustworthiness will be addressed using constant review and reflexivity for credibility and audit trail and dissertation committee review for dependability, transferability, and confirmability.

Results: Participants will be characterized using demographic data and themes will be presented upon conclusion of the study.

Implications: This qualitative study will be the first step in describing acute pain quality among Hispanic adults who have had a surgical procedure. Exploring the lived experience of acute pain and describing valid pain descriptors after surgery among Hispanic adults may support the promotion of bidirectional communication between providers and patients leading to the most appropriate treatments and optimal pain control. Pain-related healthcare costs may also be reduced with improvements in acute pain assessments and subsequent treatment.

CULTURAL ISSUES

A Descriptive Study of the School Food Practice & Policy Environment in Select American Indian Schools

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Navajo and other American Indian children are most affected by overweight and obesity in comparison to their US counterparts, and schools have become a focal setting for prevention interventions. The study applied an ecological and a cultural framework to analyze the various factors that influence the food choices available to students and the impact of these choices on childhood obesity. The overall purpose of this descriptive study was to examine and describe how schools that participate in the National School Lunch Program (NSLP) are contributing to the diets of Navajo students since the passage of the *Healthy Hunger Free Kids Act of 2010*. National data have shown that schools have not always supported a healthy food environment, and with no current data about the food environment of schools serving Navajo students, this study was designed to collect data from multiple sources that included survey questions with quantitative and qualitative questions, conversations with participants, and observations.

As a baseline study, the results of this study addressed a number of areas. Overall, school lunches were meeting the nutrition standards by providing healthy food options, while a few schools also offered unhealthy foods through *a la carte* food options. Participants offered mixed views about students' nutrition behaviors. One on hand, students were making healthy food choices, but there were also concerns about food waste of nourishing foods. Further, students' access to unhealthy foods often displaced healthful food choices. From a policy and policy implementation perspective, there are areas where schools are doing well, and other areas that still need additional work. Schools have an opportunity to incorporate strategies to enhance their food environment, including finding ways to further strengthen and integrate Navajo culture teachings and practices that will ultimately create a school environment that reflects the teachings of *Hozho'*, as well as restoring *Hozho'* in health and wellness within Navajo children.

CULTURAL ISSUES

Korean American Adolescents' Perception of Parental Acceptance/Rejection Behaviors

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Purpose: This content analysis study explored the Korean American adolescents' perception of parental acceptance and rejection behaviors.

Background: The Korean American Adolescents' perception of parental acceptance and rejection has been found to be associated with psychosocial adjustment and depressive symptoms. Korean culture is characterized with Confucianism, in which parents are encouraged to suppress the expression of their emotions and affection towards their children, which differs from the individualistic culture of the United States. Korean American adolescents who were born or raised in the United States may perceive this as parental acceptance or rejection behavior. However, previous studies had not explored what type of parental behaviors were perceived as acceptance and rejection by Korean American adolescents.

Methods: One hundred and one Korean American adolescents, from 14 to 18 years old, were recruited from 10 local Korean ethnic churches in the Pacific Northwest area. The participants answered open-ended questions through an on-line survey, WebQ, which was created for anonymous data collection. The qualitative data was analyzed for overlying themes using content analysis with Nvivo software program.

Results: Overall, 72.3% were girls and 27.7% were boys, and the average length of stay in the United States for the participants was 12.4 years. The results indicated that the participants perceived parental acceptance through verbal affirmation, acts of service and/or sacrifice, physical contact, time spent together, gift-giving, and prayer. Parental rejection was determined by the adolescents through verbal hostility and/or harassment, neglect, uncaring behavior, physical punishment and/or harassment, and argument engagement. Several participants indicated that their parents' love was unconditional and self-sacrificing. However, they also noted that there were misunderstandings or lack of communication between themselves and their parents, which caused disconnection.

Implications: Although Korean American adolescents perceive their parents as warm and self-sacrificing, they still wanted to have more connection, communication with, and emotional expression from their parents. The findings suggest a need for the development of culturally appropriate intervention programs to teach Korean parents how to effectively demonstrate acceptance and minimize rejecting behavior, therefore promoting psychosocial well-being among Korean American adolescents.

Keywords: Korean American adolescents, content analysis, parental acceptance, parental rejection

Funding: Hester McLaws Nursing Scholarship, University of Washington.

CULTURAL ISSUES

The Influence of Cultural and Religious Related Factors on Arab American Women Mammogram Screening

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Aim: The purpose of this qualitative study is to understand how family, cultural, and religion-related factors influence Arab American Women's (AAW) mammogram use. The researcher aim to answer the following question based on AAW's views: How do factors related to family, culture, and religion influence AAW's mammogram utilization?

Background: Studies have shown that incidences of advanced stage breast cancer (BC) diagnoses and BC mortality are high among women from ethnic minorities living in developed countries. Nevertheless, those women, including AAW, are less likely to obtain mammograms (American Cancer Society [ACS], 2016). A study in Michigan among 365 of AAW, observed that only 58% of AAW had obtained a mammogram within the last two years (Schwartz, Fakhouri, Bartoces, Monsur, & Younis, 2008). This screening rate is significantly low in comparison to the recommended 81% target for BC screening by Healthy People 2020.

To date, only a limited number of studies have explored the reasons why AAW demonstrate such low mammogram utilization. The results of these studies reveal barriers such as cultural stigma, religiosity, fear and other barriers. Nevertheless, no qualitative study guided by grounded theory has addressed AAWs' experiences with mammograms to understand how those factors influence their mammogram utilization.

Method: Constructivist grounded theory guided data collection and analysis of 10 individuals, semistructured interviews with AAW. Eight interviews were conducted in English and two in Arabic. Translation was done by the primary researcher. The eligibility criteria included: 1) AAW 45 years and older; 2) speak Arabic or English; 3) immigrated to the US from an Arab country; and 4) no history of BC.

Result: In this study, religion was used by AAW as a source of coping throughout the different phases of undergoing a mammogram, including before and during the procedure, while waiting for the results, and after receiving the results. The women used religion as a source of coping to compensate for their feelings of fear and anxiety about unknown outcomes. Their religious coping was expressed in different forms, including reciting religious quotes, retelling religious stories and metaphors, using religious phrases, and performing religious rituals.

Implication: The findings of this study urge the need to tailor a sensitive program about BC screening among AAW. The program should include religious-based idea about health practices and should be integrated with religious practices related to coping with the negative emotions that emerge from mammogram screenings.

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CULTURAL ISSUES

Community Based Strategies Addressing Chronic Disease Prevention among Refugee Women

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Background: The global rise in non-communicable disease (NCD) and increased susceptibility to chronic diseases of the developed world suggests that US-based refugees are increasingly affected by chronic conditions. However, there is a lack of published reports about interventions that focus on health promotion and chronic disease prevention among refugee populations. Purpose: The purpose of this study is to systematically review interventions developed to improve preventive health behaviors among refugee women from Afghanistan, Iraq and Somalia. The question that guides this study is: what interventions address disease prevention among refugee women in industrialized nations?

Methods: A mixed-methods systematic review of the literature was conducted. Database searches of PubMed, EBSCOhost and CINAHL were utilized to identify studies published between 1979 and 2015. Specific key word searches included “refugee health”, “health and refugees” and “refugee health promotion” and “refugees”. Due to the wide variability in results due to differences in populations, settings, outcomes and interventions - a narrative synthesis guides the evaluation of this review.

Results: Eleven peer-reviewed journal articles conducted in Canada, New Zealand and the United States were included in this study. Health promotion topics included nutrition health promotion, physical activity, cervical cancer, breast cancer and colorectal cancer screening. Seven studies quantitatively evaluated the effectiveness of health promotion interventions, while four early-stage studies described strategies to develop a health promotion program. Community-based participatory approaches to improving the health of refugees by utilizing the learning tools and techniques familiar to the community seem to be most effective. These include peer education, peer navigators, building community partnerships, incorporating faith based approaches, storytelling through digital media, ESL classes to deliver nutrition education and primary care home visits. All interventions were language specific.

Implications: Health promotion and education is crucial in improving the physical health of refugee women. There is an increased need for evidence based research on chronic health among refugee populations that are culturally sensitive, gender and language specific interventions. Studies that aggregate which interventions are most effective provide better strategies for educating and promoting health among refugee women. Nurses and community health workers can address refugee women’s health issues by creating policies that support evidence-based interventions to promote health of refugee women.

Funding: This study was supported in part by the NIH Pre-doctoral Training Fellowship for Health Disparities Research in Vulnerable Populations (T32NR007077) and Sigma Theta Tau Gamma Chapter Award.

CULTURAL ISSUES

Stop, Meditate, and Listen: A Treatment Modality for Iraqi Refugees with Depression

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Purposes: To implement a mindfulness meditation program in Arabic as an adjunctive treatment of depression

Background: Depression rates among Iraqi refugees are between 28.3 and 75% compared to 8.6% in the general population. Treatment options are limited at Neighborhood Healthcare in El Cajon due to budget limitations, cultural beliefs, and language barriers, among other reasons. Individual therapy is intended to be a brief intervention due to limited staffing. Many middle eastern refugees decline group therapy due to stigma surrounding mental health treatment and concerns about privacy. Even though traditional treatment options are effective in many cases, there is also a gap in care. Numerous patients continue to exhibit significant depression with the current interventions in place. Mindfulness interventions are shown to have a medium to large effect size for the treatment of depression. In addition, mindfulness interventions are easy to teach and be practiced by the patient independently.

Methods: The nurse practitioner will meet with the clients for individual sessions. Inclusion criteria are a Patient Health Questionnaire 9 (PHQ-9) score greater than 10 and primary language of Arabic. The nurse practitioner will instruct clients regarding guided meditation and mindfulness. The patients will have access to meditation tracks and will get reminder calls from clinic staff encouraging practice at home during the initiation of treatment. Quality of Life Scores (QOLS) and PHQ-9 scores will be measured at each session.

Outcomes Achieved: The project is scheduled to begin in November 2017.

Conclusions: Meditation is a treatment option already widely used in western cultures. Although meditative practices are used in some religious practices, most Middle Eastern patient have little expose to meditation. Recently, resources for meditation in Arabic were developed in Australia and have already shown to be effective in the treatment of depression for people from the Middle East.

CULTURAL ISSUES

Bridging Cultural Divides in Therapeutic Relationships: A Concept Analysis

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Aim: To report on a concept analysis of bridging cultural divides.

Background: Fissures often exist between the perspectives and goals of patients and nurses in therapeutic relationships. In a nurse/patient encounter, both persons bring their own unique knowledge and lived experience into a dialogue for the purpose of optimizing the health and wellbeing of the patient. The challenge for the nurse lies in honoring and coming to know the patient's cultural beliefs and viewpoints, then situating them within the context of a nursing paradigm. Nurses who fail to bridge the cultural divides between themselves and their patients often contribute to treatment nonadherence and poor health outcomes. Effective evidence based practices and therapies do not translate into improved health outcomes if patients are unable to adhere to recommendations. Therapeutic relationships are also especially important, as nurses strive to advance initiatives, such as collaborative patient centered care, medical homes, and shared decision making.

Method: Bridging cultural divides was explored using Liehr and Smith's (2014) adapted ten step process for concept building.

Data Sources: Literature was queried from across disciplines using the key phrases "bridging cultural divides" and "cultural divides".

Results: Literature from philosophy, business, education, and other disciplines revealed openness, reciprocal communication, and co-creation as the three core qualities of bridging cultural divides. Combining core qualities, bridging cultural divides is defined as a process requiring reciprocal communication marked by openness that ultimately leads to a jointly constructed reality.

Conclusion: Therapeutic relationships in nursing should be open and lead to a jointly constructed care plan that incorporates the wishes of both patient and provider. Approaching patients with humility, respecting their personal sovereignty, and co-creating a plan of care will help bridge cultural divides and foster therapeutic relationships. The process of bridging cultural divides in nurse/patient relationships may transform healthcare by improving patient outcomes, treatment adherence and patient participation in care, through honoring the individual cultures and perspectives of patients. Further, bridging cultural divides could increase the strength of authentic, caring, therapeutic relationships between nurse and nursed.

CULTURAL ISSUES

View Changes on Crossing-Over among American Indians Living on a Reservation

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Aims: To comprehend traditional and current views on death and end-of-life discussions and planning by American Indians living on a reservation in the northwestern United States.

Background: Addressing the hospice disparity is critical for American Indians as they have a shorter life expectancy than Whites. A shorter life expectancy combined with a higher birth rate means that American Indians will encounter more deaths in their lifetime. Recurring losses affect emotional well-being and cause prolonged grief or depression. A tribe-academic collaborative research team was formed to improve end-of-life experiences among the tribal people. The team found: (1) minimal conversations regarding end-of-life topics among the tribal people; (2) minimal use of the local hospice room (two tribal patients in four years); and (3) a fear/aversion to death (a hospice-like hospital room is called the “death room”). The core barrier identified was the cultural differences in values, beliefs, and attitudes towards death and end-of-life care between Westerners and American Indians.

Methods: The community based participatory research approach was used to conduct the study. Using convenient sampling, we interviewed 10 tribally recognized elders and surveyed 102 tribal members who were over 18 years old using a modified Duke End-of-Life Care Survey. The interview questions were: (1) the perception of death; (2) the perception of discussing end-of-life; (3) clarifying any connection between the taboo perception of discussing end-of-life and the concept of death as a part of life; and (4) ideas for reconciling the hospice requirement with the feelings of “giving up” on an ill family member.

Results: An evidence table was created based on the data collected. The elders stated that a discussion about end-of-life care among families was not against tradition. A physical body ends while the spirit continues a life cycle. Confirmed were the importance of a family gathering and the need for knowledge about end-of-life care. They cautioned us about using the appropriate terminology (i.e. not death and dying, rather end-of-life or crossing-over). Stressed was that when introducing hospice care, positive wording be used in concert with concepts such as hope, healing, and compassion, as these concepts are valued. Negative phrases and direct expression like “nothing can be done” and “no hope” were deemed too harsh and negative. A survey (response rate 90%; n=92) showed that 94% of the respondents think dying is a normal part of life and 81% feel comfortable talking about death.

Implication: There is a shift in the American Indian’s attitudes from reluctance to a desire for knowledge about and being open to discussion regarding end-of-life care. The study may have been affected by the team’s persistence and influential factors such as increases in educational levels, out-of-reservation experiences, mixed racial marriages, Christianity, and experiences with advanced medicine. To use this shift as an advantage, the team will conduct a workshop to introduce the hospice concept, further create a tribally appropriate home-hospice care service, partially ease suffering, and improve end-of-life experience.

Funding: Montana State University, Bozeman, College of Nursing Block Grant.

CULTURAL ISSUES

Improving Cultural Competence through Reflection: A Critical Interpretive Synthesis

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Aim: The aim of this analysis is to conduct a critical integrative synthesis of the literature on the concept of reflection/self-reflection and the reflective practices used to enhance learners' cultural competence.

Conceptual Basis/Background: The health disciplines, including nursing, advocate for fostering healthcare workers' cultural awareness and understanding as mechanisms by which health disparities can be addressed. A concept and practice that frequently is encouraged is healthcare professionals' use of reflection. A variety of terms and concepts are used to describe this type of practice ranging from reflection and self-reflection to self-awareness, self-efficacy, reflexivity and critical consciousness. The concept and its attending practices often are viewed as constructive and empowering. Reflection is believed to help reduce biases and increase empathy despite evidence that altering either is difficult. Additional critiques of self-reflection include learners' resistance to being labeled as being biased, as well as the "confessional" nature of self-reflection.

Methods: Critical Interpretive Synthesis is a method of reviewing literature by integrating qualitative and quantitative evidence through an interpretive process. The steps of the process include developing the research question, conducting the literature search, determining the quality of the data, sampling, extracting the data, and finally an interpretive synthesis. A search strategy will be developed that uses broad search terms for cultural competence education and reflection and a search of the PubMed and CINAHL databases will be conducted. Inclusion criteria for obtaining the full text of an article will be that it describes a cultural competence education program for nurses that uses or recommends learner reflection, and is published in English. All years will be considered.

Results: This literature synthesis will describe the consistency of the theories and concept/s used to support the use of reflective practices, the various goals of reflective practice with respect to cultural competence, and the outcomes of applying reflection and reflective practices. Challenges that accompany reflection and reflective practices will be highlighted.

Implications: The findings from this analysis will be helpful in clarifying the usefulness of reflection and reflective practices as means to achieving cultural competence. Efforts to promote cultural competence require critical understanding of the possibilities and limitations of the concepts and processes underlying cultural competence training.

CULTURAL ISSUES

Continence Care Needs on the U.S.-Mexico Border

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Purpose: Continence care needs of rural, primarily Hispanic, community dwelling adults living along the U.S.-Mexico border are explored from the perspective of the community health workers, or *promotoras*, of the region. The purpose of this pilot study is to do a U.S.-Mexico border region rural community needs assessment in order to guide future development of effective community-based continence care educational modules.

Background: Urinary incontinence is a prevalent condition for U. S. adults. Among urban Hispanic adults age 60 years and older who were participating in a behavioral intervention to increase physical activity, 29.5% of the women and 18.3% of the men reported living with some form of urinary incontinence. In a large cohort of Mexican-American men age 75 years and older, 29% reported urgency incontinence. Although there are significant physical, economic, and psychosocial costs to living with urinary incontinence, people who have mild to moderate symptoms often respond well to behavioral interventions.

Complicating the identification and treatment of urinary incontinence is the documented phenomenon of not seeking care for incontinence, or non-disclosure of symptoms when people do seek health care for other reasons. A community-based strategy to improve screening, identification, assessment, and early intervention for urinary incontinence is key to improving outcomes for Hispanic adults living in the rural U.S.-Mexico border region, and for whom access to health care providers is limited. This study is guided by Persily and Hildebrandt's Theory of Community Empowerment and follows the Community Involvement in Health 8-step program development model.

Methods: This pilot study uses an exploratory, descriptive, qualitative design to gather data for a community needs assessment on bladder health and continence care. First, an introduction to the topic of continence care is presented to groups of *promotoras* during monthly meetings at community resource centers. Subsequent focus group discussion and anonymous written feedback of *promotoras*' experiences with continence care provided qualitative data for this needs assessment.

Results: Verbal feedback during focus group discussion and written responses to a brief questionnaire will be analyzed for themes by methods of content analysis.

Implications: Both urinary incontinence symptom severity and the effect of symptoms on quality of life may be improved through nurse-led education and behavioral interventions that promote bladder health and teach continence care management strategies. The goal of this community-based study is to keep people with incontinence symptoms active and independent, mitigating through education any negative effect of incontinent episodes on lifestyle. The information from this community needs assessment regarding the continence care needs of adults living along the U.S.-Mexico border will be used to guide development of future nurse-led community-based continence care educational modules. Future research includes evaluating outcomes of the modules in addressing quality of life concerns.

Funding: Supported by a grant from Sigma Theta Tau International, Pi Omega Chapter.

CULTURAL ISSUES

Native Hawaiian and Pacific Islanders' BMI and Other Health Indicators

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Purposes/Aims: To explore the relationship between Native Hawaiian and Pacific Islander adults' BMIs and other health indicators, including percent body fat, hip/waist ratio, skin fold measurement, cholesterol, glucose, blood pressure, muscular strength, and endurance.

Rationale/Conceptual Basis/Background: Native Hawaiians and Pacific Islanders (NHPIs) have an overweight (Body Mass Index [BMI] ≥ 25) and obesity (BMI ≥ 30.0) prevalence that is among the highest in the world. In Hawaii and Utah, 80.7% of NHPI females and 90.9% of NHPI males (ages 18 to 85 years) are overweight or obese. Many NHPIs suffer with obesity-related disease that are chronic and non-communicable.

Methods: In partnership with the Utah Department of Health (UDOH) and the Pacific Islander Health Coalition, we helped host "Family Wellness Day." We used convenience sampling to recruit 54 adult NHPI participants. Participants (1) answered demographic questions, (2) had their blood pressure taken, (3) blood glucose tested, (4) grip strength tested, (5-6) completed as many standard sit-ups and as many as 25 partial curl-ups as they could, (7) were weighed, (8) had their heights, hips, and waists measured, (9) had a bioelectrical impedance analysis to assess body fat, and (10) had a skin fold measurement of their triceps. Data were entered into SPSS and cleaned. Univariate statistics (frequencies, means, standard deviations) were used to describe the demographic characteristics. Correlation coefficients were used to calculate the relationships between study variables.

Results: Participants ranged in age from 19 to 74 years ($M = 41.5$; $SD = 15.9$). The majority were Samoan (59.3%) and Tongan (24.1%) with 7.3% selecting multiple ethnicities. 48.1% had household incomes less than \$25,000 per year. 87.5% of the women and 77.3% of the men were obese. However, 29.6% of both genders considered themselves to be a "healthy weight," and 40.7% considered themselves "a little overweight." BMI was not significantly related to their self-reported physical activity, self-reported screen time, household income, or blood pressure categories. However, participants' self-reported activity was significantly related to their body perception categories (underweight, healthy weight, a little overweight, overweight). In other words, if they perceived themselves as heavier, they were more likely to participate in physical activity.

Implications: Results suggest that how much physical activity NHPIs engage in is associated with how they perceive their own body size rather than with their actual BMI categories. Although 87.5% of the women and 77.3% of the men in our sample were obese according to their BMI categories, 70.3% considered themselves to either be at a "healthy weight" or a "little overweight." Consequently, there is work for nurses to do in helping NHPIs understand what a health body shape and BMI range is for them. Nurses doing health education and patient teaching with NHPIs should keep in mind that unless NHPIs perceive themselves as heavy, they may not engage in much physical activity.

Funding: Myrtie Fulton Endowed Mentorship Award, Brigham Young University, College of Nursing.

Abstracts of Poster Presentations

A DECADE OF ACADEMIC PROGRESSION IN WASHINGTON STATE:
THE POWER OF PARTNERSHIPS

OVERVIEW: A DECADE OF ACADEMIC PROGRESSION
IN WASHINGTON STATE

Mary A. Baroni, Renee Hoeksel

DOES REGULATORY OVERSIGHT OF RN TO BSN PROGRAMS
ASSURE QUALITY ACADEMIC PROGRESSION?

Mary Sue Gorski, Mary A. Baroni

RN-TO-BSN EDUCATION AT OLYMPIC COLLEGE:
A UNIQUE PARTNERSHIP WITH A PUBLIC UNIVERSITY

Gerianne Babbo, Sharon G. Fought

RN-TO-BSN EDUCATION AT WESTERN WASHINGTON:
UNIQUE ACADEMIC-COMMUNITY PARTNERSHIPS

Sarah Bear, Christine Espina

RN-TO-BSN NURSING EDUCATION AT COLUMBIA
BASIN COLLEGE: A UNIQUE MENTORING PARTNERSHIP

Kim Tucker, Renee Hoeksel

A DECADE OF ACADEMIC PROGRESSION IN WASHINGTON STATE: THE POWER OF PARTNERSHIPS

Overview: A Decade of Academic Progression in Washington State

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Purpose: The purpose of this symposium is to highlight a decade of state-wide efforts to promote academic progression in nursing (APIN) in Washington State that are grounded in the power of innovative partnerships.

Background: Washington State has a long-standing history of statewide collaboration providing synergy essential to meeting the IOM recommended target of 80% BSN prepared workforce by 2020. Academic progression has been a critical priority for the state as highlighted in the Masterplan for Nursing Education in Washington State (2008) and the IOM Report on the Future of Nursing (2011). From 2012-2016, Washington received one of 9 Robert Wood Johnson APIN grants providing additional funds and technical assistance. In 2013, the Nursing Care Quality Assurance Commission (NCQAC), our board of nursing, expanded its regulatory oversight to include in-state and out of state online post-licensure nursing education programs including RN-to-BSN options.

Description: This symposium will provide an overview of changes in our state higher education context, efforts to evaluate the effectiveness of expanded regulatory oversight, and to highlight challenges and opportunities experienced by 3 of our newer in-state RN-to-BSN programs. The first paper will examine efforts to determine the effectiveness of NCQAC regulatory oversight of RN-to-BSN programs in promoting quality academic progression. The second paper provides insights from the first community college based RN-to-BSN program (2007) that was established through legislation and implemented in partnership with a long established RN-to-BSN program at a public university. The third paper will highlight the development of a new RN-to-BSN program at a public university in partnership and support from a local medical center and three area community colleges (2013). The fourth paper will describe the newest community college based RN-to-BSN program and their innovative mentoring partnerships designed to assist the new program director and faculty to transition from teaching at the ADN to BSN level. Each of the RN-to-BSN program exemplars will highlight their unique institutional context for new program development, provide examples of unique partnerships contributing to their success, and discuss challenges and opportunities experienced, lesson learned, and visions for the future.

Outcomes: Washington State has made significant progress in supporting academic progression for nurses over the last decade made possible through the power of innovative partnerships. In 2006, there were only 4 university-based RN-to-BSN programs in Washington state. By 2017, this number has increased to 9 including 4 public universities, 4 community colleges and 1 private university. Enrollments have more than quadrupled and graduations have increased over three-fold since 2006. With regulatory oversight of post-licensure programs, approximately 20 out-of-state online RN-to-BSN programs have been approved to date that provide additional access opportunities for academic progression.

Conclusions: The IOM goal of improving patient outcomes through a more highly educated nursing workforce will only be successful if the emerging RN-to-BSN educational options are of sufficient number and quality to transform nursing practice. Experiences in WA State highlight the need for both increased access and assurances of quality educational outcomes.

A DECADE OF ACADEMIC PROGRESSION IN WASHINGTON STATE:
THE POWER OF PARTNERSHIPS

Does Regulatory Oversight of RN to BSN Programs Assure
Quality Academic Progression?

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Purpose: The purpose of this paper is to describe the nursing education trends associated with quality before and after extending regulatory oversight of RN-to-BSN programs in Washington State in the renewed context of academic progression.

Background: Although the evidence shows improved health outcomes associated with a more educated nursing workforce, evidence of the quality of emerging new BSN completion programs is limited. Examining trends can help identify and inform effective and efficient policies to promote a more highly educated nursing workforce.

Methods: Nursing education program trends between 2006 and 2016 in ADN, BSN and RN-to-BSN programs were examined before and after a 2013 pivotal change in regulation by the Washington Nursing Commission. All nursing programs complete a survey annually which includes the information examined in this study. The survey responses are validated, analyzed, published in an annual report, and used in the program approval process. The descriptive data trends examined between 2006 and 2016 were chosen for their potential to measure quality and successful academic progression; 1) the number and education level of Washington state ADN, BSN, GE and RN-to-BSN graduates, 2) number and education level of NCLEX RN first time test takers, and 3) state and national NCLEX RN pass rates. Although there are many factors that could affect these trends in nursing education, this examination was intended to begin to answer the question, “Does regulatory oversight of RN to BSN programs assure quality academic progression?”

Results: Between 2010 and 2016 there was a 71% increase in RN-to-BSN graduations with most of the growth realized since 2013 (54%). In 2006 there were 60% ADN and 40% BSN graduates from RN programs and by 2016 there were approximately 50% ADN and 50% BSN. The most significant increases in BSN graduates were after the change in regulatory oversight. The total graduates taking the NCLEX for the first time with a BSN increased from 47% in 2010 to 57% in 2016. The pass rates in Washington State were above the national averages every year from 2009 through 2016, but the positive difference between national and Washington state pass rates increased after 2013.

Implications: Between 2006 and 2016 there were significant shifts in the national and state health care systems requiring changes in nursing education. More research is needed to determine quality measures of nursing education. In addition more research is essential to evaluate the impact of regulation on quality of education. Even given these limitations, the findings of this study suggest regulatory oversight of nursing education programs are positively correlated with quality academic progression.

A DECADE OF ACADEMIC PROGRESSION IN WASHINGTON STATE:
THE POWER OF PARTNERSHIPS

RN-to-BSN Education at Olympic College: A Unique Partnership with a Public University

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Purpose: The purpose of this paper is to describe sustained efforts to provide access to baccalaureate education for associate degree nurses in a geographically isolated part of Western Washington.

Background: The mountains and bays of South Puget Sound are beautiful—and significant barriers to many registered nurses (RNs) desiring baccalaureate and higher degrees. With only associate degrees in nursing offered for the region several daunting obstacles existed for Olympic College, a community college, in becoming the first in the state to offer a bachelor's degree in nursing. The absence of relevant structures and resources (curriculum, faculty) were initial challenges. Processes, such as, program/institutional procedures for admissions and graduation needed to be developed.

Description of Project: With support from our respective president and chancellor, OC and the University of Washington Tacoma (UW Tacoma) created a partnership. While some nursing faculty were skeptical and others chose to not participate, the partnership aimed to maximize opportunities to advance nursing and nursing education through offering the bachelor's degree, while simultaneously minimizing risks. Risks involved quality curriculum, faculty prepared to teach at the baccalaureate level, securing doctoral prepared faculty, and seeking national accreditation. Within the academic unit and OC, new processes for admission and graduation had to be created. Mechanisms for creation and approval of an upper division curriculum and degree approval were required. Trust had to be established and sustained to support sharing documents and strategies across faculty, staff and administrators at both institutions. The partnership commenced and developed, facilitated through new processes and structures including measures to insure sustained enrollment, fiscal responsibility and joint admission to insure students would graduate from an accredited institution.

Outcomes: Ten years after creation of this partnership, the goal of offering the bachelor's degree in nursing resulted in 130 graduates in the last 7 years. Significant financial structural, political, and academic barriers were addressed. Processes and structures were created and modified to support this program and institutional faculty, staff, and students engaged in this initiative. From full and part time schedules for working adults to creative recruitment to engage experienced RNs as learners, activities and outcomes were closely monitored by OC, state higher education agencies, legislative committees, and accrediting bodies.

The partnership was a catalyst for change, evidenced by OC associate degree alums earning bachelor's degrees from a CCNE-accredited institution, some successfully going on to graduate school. Faculty continued their professional development, some now in doctoral programs and others having earned doctoral degrees, with significant benefits to OC.

Conclusions: The goal of providing baccalaureate education to this geographically isolated area of state has been achieved. While there are always concerns about sustaining demand for such a program, innovative structures have continued to make this possible. This high quality RN-BSN program is the catalyst for OC alums (n=130) continuing for their graduate degrees at UW Tacoma and other universities, ongoing accreditation, positive student evaluations and the significant support of alums and healthcare organizations in the community.

A DECADE OF ACADEMIC PROGRESSION IN WASHINGTON STATE: THE POWER OF PARTNERSHIPS

RN-to-BSN Education at Western Washington: Unique Academic-Community Partnerships

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Purpose: To illustrate the importance of strong community partnerships in developing a successful RN-to-BSN program.

Background: Western Washington University is located in Bellingham, WA serving over 15,000 students, offering undergraduate and graduate degrees and is the only university in this region. Over the past decade, there has been strong community interest in offering a RN-to-BSN program in Whatcom County where only 45% of nurses were BSN prepared. Academic nursing programs in the region include one community college and one technical college in Bellingham and one community college 35 miles south (SVC) collectively graduating 170 new RNs each year. The associate degree programs in the region have experienced persistent shortages of BSN prepared clinical faculty, with the nearest RN-to-BSN program 75 miles south of Bellingham.

Description of Project: Community engagement has been central to program inception and continues to remain central in program growth and expansion. During the program development phase, one challenge was to create innovative RN-to-BSN curriculum in the absence of nursing faculty at WWU. From 2011-2013, an ad-hoc interdisciplinary RN-to-BSN curriculum committee was formed comprised of a highly experienced nurse educator consultant from the closest university program, community and technical colleges, practice partners as well as interdisciplinary WWU faculty interested in a successful RN-to-BSN program (2011-2013). Initial partnerships with Bellingham Technical College, Whatcom Community College, Skagit Valley College, PeaceHealth St. Joseph's Medical Center, and interdisciplinary WWU faculty colleagues have significantly expanded to include additional community stakeholders. The curriculum and courses were designed to remain responsive to such community stakeholders' needs as reflected in our Practice Experience and Service Learning courses.

Outcomes: The RN-to-BSN program was launched in fall 2013 and became retroactively accredited by the Commission on Collegiate Nursing Education (CCNE) as of October 2014. The first cohort of 29 students graduated in December 2014 followed by 4 additional cohorts generating an alumni pool of 112 between 2014-2017. Two additional cohorts were enrolled in fall 2017 with 41 students and community interest in a graduate program is growing. Our practice partnerships remain strong. The numbers of affiliation agreements and type of service learning and practice experiences are built on collaborative academic-practice partnerships. WWU nursing faculty have worked to clearly delineate roles and responsibilities of faculty, students and mentors and form innovative partnerships in the healthcare sector and beyond for our practice experience courses.

Conclusions: Developing student projects in collaboration with clinical practice partners provides students real-world, relevant learning experiences as well as challenges. For example students and faculty worked closely with the PeaceHealth St. Joseph Medical Center Nurse Residency program for evidence based practice (EBP) projects to fulfill course and nurse residence requirements. The EBP PICO Project was on "Quiet Zones for Medication Administration." The students then piloted quiet zones in two inpatient units. Nurses in the pilot project reported that they experienced fewer distractions during medication administration and felt more comfortable talking with patients and families about waiting until after meds were administered. PeaceHealth plans to replicate their pilot project system-wide.

A DECADE OF ACADEMIC PROGRESSION IN WASHINGTON STATE:
THE POWER OF PARTNERSHIPS

RN-to-BSN Nursing Education at Columbia Basin College:
A Unique Mentoring Partnership

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Purpose: Columbia Basin College (CBC) was the third community college in Washington State to be granted approval to offer an Registered Nurse to Bachelor of Science in Nursing (RN-BSN) program in the community college setting.

Background: Columbia Basin College (CBC) is a rural, public, Washington State community college located in Pasco and Richland. A needs assessment conducted by the Nursing Program in 2013 demonstrated an overwhelming necessity and demand for an RN-BSN program in this area, as evidenced by the strong support by local healthcare employers, practicing nurses, and nursing students. Columbia Basin College has had the authority to grant the Bachelor of Applied Science (BAS) degree since 2009 and currently has seven BAS degree tracks. The BSN is the first Bachelor of Science degree offered at the College.

Description: Approval for the program was granted by the State Board of Community and Technical Colleges, Northwest Commission of Colleges and Universities, and Washington State Nursing Care Quality Assurance Commission (NCQAC). Final approval from the NCQAC required the development of a unique mentoring partnership for the Program Director and faculty. A formal mentoring partnership with two seasoned BSN educators was designed to assist the Program Director and faculty to transition from teaching at the ADN level to BSN level as well as assist with curriculum review and ongoing mentoring for two years.

Outcomes: The mentoring partnership proved to be instrumental in helping to launch the new program and meet timelines. The first cohort of eight students was admitted in spring 2017 and a second cohort of 17 in fall 2017. The first cohort is progressing well in the program and all eight are on track to finish March 2018. An application to the Commission on Collegiate Nursing Education (CCNE) for new applicant status was submitted in September 2017 and accepted. An on-site visit is scheduled for fall 2018.

Conclusions: Development of a new academic program has had its challenges and successes. Challenges related to campus policies such as granting academic credit for passing the NCLEX-RN exam, residency requirements, and tuition costs and fees for the self-support program required open communication with the business office and registrar to create innovative solutions. Finding a seasoned mentor who was available to provide periodic on-site and continuous support for two years was another challenge, but also a success. The mentors provided guidance for curriculum development, faculty development for teaching at the BSN level, and assistance in developing policies and procedures for the new program. Strong administrative support from the College for the RN-BSN program was critical for funding the mentoring partnership.

Abstracts of Poster Presentations

DIABETES

TYPE 1 DIABETES IN ADOLESCENCE: TRANSITION
READINESS TO INDEPENDENT SELF-MANAGEMENT

Rita E. J. Meadows, Marylyn McEwen

DIABETIC FOOT CARE: A QUALITATIVE INQUIRY
OF PATIENTS' AND PROVIDERS' PERSPECTIVES

David Abiodun Oni, Gail Oneal

SELF-FOOT CARE PRACTICES AMONG TYPE II
DIABETES PATIENTS WITH DIABETIC FOOT ULCERS

David Abiodun Oni, Julie Postma

INTEGRATING COACHED CARE INTO SHARED MEDICAL
APPOINTMENT IN ADULTS WITH TYPE 2 DIABETES

Janet Amanda Hildebrand, Lorraine S. Evangelista

AIR TRAVEL WITH INSULIN: EXPERIENCES
AND ADVICE FROM THE BLOGOSPHERE

Adrienne Martinez

DIABETES

Adolescents with Type 1 Diabetes: Transition Readiness to Independent Self-Management

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Purpose: To conduct a focused literature review to examine how adolescent development (biological, psychological and psychosocial) influences readiness for transition from dependent to independent Type 1 diabetes (T1DM) self-management.

Background: Type 1 diabetes (T1DM) is one of the leading chronic diseases in childhood. In 2009 an estimated 166,984 U.S. children ≤ 20 years old had a diagnosis of T1DM. Based on a 21% increase in the rate of T1DM between 2001-2009, it is projected that 600,000 children and adolescents will have T1DM by 2050. Adolescents with T1DM will eventually join the 1.25 million adults independently managing their T1DM. A smooth transition from dependent to independent self-management is imperative to prevent harmful long-term outcomes of the disease.

Objectives: To examine the literature for key adolescent biological, psychological and psychosocial development variables that will inform assessment of transition readiness for T1DM self-management in the late adolescent into emerging adulthood subgroup.

Methods: A literature review using several computerized databases including PubMed, PsychINFO, Embase, and CINAHL was conducted using multiple MESH terms and Boolean phrases including, "Adolescent Development", "Diabetes Mellitus, Type 1", "Diabetes", "Puberty", "MH Child Development: Adolescence (12-17 years child development)", and "Chronic Illness." Search parameters included english language, adolescent 13-18 years of age, and articles published between 2012 and 2017. Adolescent growth and development and the deviations from normal growth and development that result from the diagnosis of T1DM were reviewed in the current literature.

Results: Significant to subtle glycemic excursions impact skeletal growth, brain growth, and damage to the macro and microvascular systems. The increasing risk and predominance of co-morbid autoimmune diseases in adolescents with T1DM, such as Celiac Disease (CD), magnifies the risk for nutritional imbalance. Diabetes distress, depression, and anxiety impacts the cognitive functioning and proper self-management practices of the adolescent with T1DM. Communication and timing of social support from family, peers, and the healthcare community is key to healthy clinical outcomes and smooth transitions from dependent to independent self-management.

Implications: Knowledge of the unique biological, psychological and psychosocial developmental needs of adolescents with T1DM is needed for formulation of nursing interventions to facilitate the transition from dependent to independent T1DM self-management.

ABSTRACT
WITHDRAWN

ABSTRACT
WITHDRAWN

DIABETES

Integrating Coached Care into Shared Medical Appointment in Adults with Type 2 Diabetes

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Aims: This 6-month exploratory research study will test the feasibility of integrating shared medical appointment (SMA) with coached care (SMA-CC) in adult Latino participants with type 2 diabetes (T2DM). The central hypothesis is that an integrative approach such as SMA-CC can provide support for self-care goals that result in improved clinical outcomes for individuals and their families.

Background: Shared medical appointments bring peer groups of patients, with similar diagnoses, to a single appointment with a health care provider (HCP) to facilitate a supportive clinical and social environment. Studies show that SMA improves glycosylated hemoglobin (A1C), blood pressure, self-management behaviors and self-efficacy. Can the SMA construct be re-engineered to increase effectiveness? One feasible option is the use of health coaching to span the concepts from the SMA into the daily life of the patient through consistent support. Coached care provides self-management support, bridges the patient to the HCP, navigates patients in the health system, offers emotional support and provides continuity in care. However, there is a paucity of coached care studies in patients with diabetes and no published research study has been conducted that integrates coached care into the SMA.

Methods: Participants will be randomly assigned to SMA or SMA-CC. The study will be conducted at two community clinics that serve low income populations with Medicaid Health Plan, Emergency Medicaid, or no insurance. Participants will be recruited through provider referral and face-to-face contact at the two clinics. All subjects will participate in SMA or SMA-CC over six months at their respective clinical site. The SMA will provide an opportunity to facilitate structured diabetes education in a group setting according to American Diabetes Association and American Association of Diabetes Educator guidelines. Participants randomized to SMA-CC will receive follow-up phone calls scheduled two weeks after each SMA visit. Following the presentation of the material, there will be facilitated discussion that focuses on goal-setting specific for the topic and individualized to the participant. Time is allotted for participants to share problem-solving techniques they experienced in the past month. During this time, the principal investigator will meet with any participant that has a specific problem not appropriate for the open discussion. The post visit will be completed by the principal investigator and includes documentation, specialty referral or medication refills.

Results: Outcome data will be measured at baseline, 3 months and 6 months. Data analyses will be done using SPSS with an alpha level of .01 or less will be used as a control for the overall Type I error rate considering multiple comparisons. Data collection is in progress and will be presented during the conference under “results.”

Conclusions/Implications: This is the first study to demonstrate the feasibility and efficacy of SMA-CC using a patient-centered approach. The notion of self-care through integrative practices and its importance in diabetes management is gaining acceptance in the US. Health coaches provide a cost-effective continuum of care between medical office visits to encourage participants achieve or revise their goals.

DIABETES

Air Travel with Insulin: Current Recommendations and On-Line Resources

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Problem Statement: Diabetes Mellitus is a chronic illness of the endocrine system that has been projected to affect more than 422 million people globally (Mather & Loncar, 2006). Individuals using insulin for their diabetes must be constantly (self)monitored for life-threatening episodes of hypoglycemia, making its use potentially daunting for persons functioning outside of a controlled environment. In those individuals who traveled extensively prior to receiving their diagnosis, concerns surrounding the use of blood sugar monitoring equipment and the administration of insulin in public may be magnified by the reality of traveling with needles and medication that requires constant refrigeration. In those individuals who travel internationally, language barriers and social stigma associated with some chronic illnesses may serve to discourage their navigation of the often-intimidating environment of an airport terminal and at security checkpoints.

Purposes: To recognize and explore any tools/resources currently in use supporting international travel for individuals with diabetes; and, To evaluate the need for the creation of an informational card to be used by individuals with insulin-dependent type 1 or 2 diabetes when traveling internationally.

Methods: A literature review was undertaken using search engines: Google Scholar, PubMed using the terms “Insulin”, “Diabetes” and “Travel”. Eight (8) Peer-reviewed articles, published in scholarly journals were identified. Ten (10) Additional articles, resource cards, editorials and information sheets were obtained via websites, blogs, and mentor suggestions, *including:* The American Diabetes Association (ADA), The US Centers for Disease Control and Prevention (CDC), The Transportation Security Administration (TSA) and The Diabetes Hands Foundation.

Findings: Inconsistent first-person, online and scholarly reports of need for insulin refrigeration (temperature and timing) is confusing to patients. Many commercial refrigeration units are available, but may be unknown to patients or cost-prohibitive. Varying reports of insulin pump management during TSA screenings across these platforms may confuse patients. Lack of knowledge or inconvenience of processes may cause individuals to hide their condition during screening. Travel across five (5) or more time zones was associated with the need for adjustments to meal and dose timing per the literature and anecdotal reports. As many as 1/4 of travelers “run out of insulin” and must attempt to fill a prescription in a foreign country. Insulin placed in luggage may also be lost during transport. Generic medical identification cards are available, but the sterile design may discourage use. Online information is not accessible to all (language/access barriers) and may not be reputable.

Conclusion: Creation of an info card may be a cost-effective way to address these issues.

Abstracts of Poster Presentations

END-OF-LIFE CARE

CHARACTERISTICS OF MORTALITY CASES
WITH ADVANCE CARE PLANNING ISSUES

Anna Dermenchyan

KNOWLEDGE LEVEL OF SENIOR BSN STUDENTS
REGARDING END-OF-LIFE CARE

Julie Kientz Elting, Tanya Tadeo

IMPLEMENTATION OF MEANING-CENTERED PSYCHOTHERAPY
FOR VETERANS WITH ADVANCED CANCER

Sharon M. Martin, Katherine Kenny

END-OF-LIFE CARE

Characteristics of Mortality Cases with Advance Care Planning Issues

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Abstract Summary: The purpose of this study is to examine characteristics of mortality cases that are more likely to have advance care planning (ACP) issues identified during an in-person, near real-time, standardized interdisciplinary mortality review process.

Purpose: The UCLA Department of Medicine (DOM) Rapid Mortality Review (RMR) is an innovative in-person, near real-time review of all deaths to capture the unique insight of the care providers into aspects of end-of-life care quality that otherwise go undocumented and unreported. The purpose of this study is to examine characteristics of mortality cases that are more likely to have advance care planning (ACP) issues identified during RMR.

Methods: This study is a primary analysis of a mortality database that is used in tracking patients who expired in the medicine wards and intensive care units from October 2012 to May 2016 at the Ronald Reagan and Santa Monica UCLA Medical Centers. The data elements were obtained through chart abstraction as well as during the RMR meetings with the primary medical team. Descriptive statistics and logistic regression was performed. The study sample is 498 patients, 299 males (60.0%) and 199 females (40.0%), with a mean age of 69.6 (range 21-105, SD 16.51). The dependent variable is the identifiable ACP issue and covariates include demographic and clinical characteristics of the sample, such as, age and length of stay, primary and secondary reason for mortality.

Results: In a sample of 498 mortality cases, issues with ACP were identified in 112 cases (22.49%). Goals of care discussions took place at multiple outpatient and inpatient settings: outpatient (12.7%), hospital admission (50.0%), clinical deterioration (62.7%), and the day of death (18.7%). From the total sample, 131 (26.3%) were Do Not Resuscitate/Do Not Intubate (DNR/DNI) at the time of admission and 422 (84.7%) were DNR/DNI at the time of death. In addition, 352 (70.7%) were placed on comfort care with 196 (39.4%) receiving palliative care consultation.

The results of logistic regression examined characteristics of mortality cases that are more likely to have ACP issues. Strong associations were seen for female gender (OR: 1.601; 95% CI: 1.011-2.536; $p=.045$), longer length of stay (OR: 1.014; 95% CI: 1.003-1.025; $p=.016$) and primary reason for mortality infection (OR: 2.02; 95% CI: 1.144-3.567; $p=.015$) or acute medical ($p=.04$). All other variables were not significantly associated with ACP issues, including older age, transfer patient, preventability, UCLA patient with primary care physician, goals of care discussion in the outpatient setting, DNR/DNI at admission and time of death, and palliative care consult.

Conclusion: The findings of this primary data analysis demonstrate some characteristics of mortality cases that will more likely have ACP issues. Gender (being female), length of stay (longer), and primary reason for mortality (acute and infection) were all strongly associated with the cases that had ACP issues. Further study could investigate the etiology of the gender association, whether improved ACP reduces lengths of stay, and the potential benefit of more universal ACP.

Implications: Health system improvements are needed in the areas of outpatient goals of care discussions, more frequent palliative care consultation, and improved communication and handoffs between medical services.

END-OF-LIFE CARE

Knowledge Level of Senior BSN Students Regarding End-of-Life Care

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Purposes/Aims: The purpose of this study is to identify the knowledge level of senior nursing students regarding end-of-life care. Results will inform nursing faculty about the quality of the current curriculum in meeting program outcomes aligned with end-of-life content as well as contribute to the small, but growing, body of research with undergraduate nursing students related to end-of life care.

Rationale/Conceptual Basis/Background: BSN curriculum should be designed to prepare safe, competent nurse generalists. Current population demographics necessitate nurses have a basic understanding of aging that promotes client autonomy and encourages evaluation of choices that contribute to a quality life, and death. In a healthcare environment that relies on life-prolonging technology and supports philosophical approaches that accepting death is accepting defeat, the integration of end-of-life content in nursing curricula is fundamental to preparing students for competent practice.

Methods: This is an exploratory, descriptive study using a survey methodology. The End-of-Life Nursing Education Consortium (ELNEC) Knowledge Assessment Test (KAT), a validated tool for assessing end-of-life knowledge in nursing students and nurses, will be administered to 50 senior level BSN students. The KAT is a 50-question, multiple-choice assessment with a score of 80% demonstrating appropriate working knowledge of the content. IRB approval has been secured.

Results: Data collection with the KAT will occur in November 2017 with 50 senior level BSN students. Demographic information including gender, age, religion, and clinical experience providing end-of-life nursing care will be reported.

Implications: Research related to undergraduate nursing students and end-of-life knowledge is limited, but increasing. The results of this study will contribute to this body of knowledge. Comparison of student scores to the identified competency level for the KAT, combined with a description of the current end-of life content experienced by these students, encourages nurse educators to evaluate their curriculum. This will promote quality end-of-life experiences for clients and families cared for by the next generation of nurses.

END-OF-LIFE CARE

Implementation of Meaning-Centered Psychotherapy for Veterans with Advanced Cancer

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Purpose/Aims: The purpose of this study is to implement the 7-week individualized Meaning-Centered Psychotherapy Intervention with veterans with advanced cancer and evaluate its effectiveness in decreasing distress and depression and increasing quality of life.

Background: In advanced cancer, the fear of death and the transition from curative to palliative treatment increases depressive symptoms and existential distress. The diagnosis is also associated with increased pain, nausea, fatigue, desire for hastened death, and decreased quality of life (QOL). Veterans represent an especially vulnerable cancer population with unique psychosocial needs and high rates of depression and distress. The prevalence of depression and psychosocial distress in veterans with advanced cancer, the associated physical and emotional challenges, and the cost incurred with associated increased healthcare utilization necessitates a psycho-oncologic intervention that can be tailored to diverse populations. Meaning-Centered Psychotherapy (MCP) is a psycho-oncologic intervention that has shown efficacy in decreasing distress and increasing QOL in prior studies. The intervention can be adapted and applied to different cancer specific patient populations.

Methods: Guided by Victor Frankl's (1969) theory of meaning, a multi-disciplinary team trained in MCP delivery implemented a 7-week, individualized MCP program for a convenience sample of veterans receiving care in an outpatient Palliative Medicine Clinic following Institutional Review Board approval from the clinical agency and the university where the project lead was a current student. A quantitative study design was utilized to measure distress (Distress Thermometer), depression (PHQ-9), and quality of life (McGill Quality of Life Questionnaire) at three points in time; before the first session, immediately after the 7-week intervention, and 2-months post intervention. Demographic information was collected prior to the first session. Data were collected on paper questionnaires and manually entered into a password protected data base known only to study investigators. All paper documents were stored in a locked cabinet accessible only to study investigators. Data analysis will be descriptive and analytical.

Outcomes: This project is still being implemented and data collection ongoing. Results of the study will be reported in aggregate, without any personal identifying information.

Conclusion: Meaning-Centered Psychotherapy (MCP) is a psycho-oncologic intervention that has shown efficacy in decreasing distress and increasing QOL in prior studies. The intervention can be adapted and applied to different cancer populations. This study will evaluate the effectiveness of MCP on distress, depression, and quality of life in veterans with advanced cancer. The study aims to improve psychosocial outcomes for veterans and meets the American College of Surgeon's Commission on Cancer's new standards to screen for and effectively manage cancer associated psychosocial distress.

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Abstracts of Poster Presentations

EXERCISE

EXERGAMES TO IMPROVE THE PHYSICAL AND
PSYCHOSOCIAL WELL BEING IN HEART FAILURE PATIENTS

Marysol C. Cacciata, Lorraine S. Evangelista

FOCUS ON FITNESS: INTEGRATING EXERCISE INTO
THE TREATMENT PLAN OF INDIVIDUALS WITH ADHD

Kristin Marie Lulich

IN HONOR OF SELF: WEIGHT LOSS PROJECT FOR A
MILITARY POPULATION WITH MENTAL DISORDERS

Tanya D. Stevenson-Gaines

MEASURING THE EFFECTS OF MARTIAL ARTS AND
ATTENTION DEFICIT HYPERACTIVITY DISORDER

Takara Naylor, Linda Larkey

NUTRITION AND ACTIVITY EDUCATION FOR
HISPANIC CHILDREN: AN UPDATED CURRICULUM

Allison J. Tooms, Carol J. Stevens

EXERCISE TRAINING IN PATIENTS WITH CARDIAC
IMPLANTABLE DEVICES: A SYSTEMATIC REVIEW

Ana Carolina Sauer Liberato, Afnan Hammad Alswyan

PERCEPTIONS AND EXPERIENCES OF TEACHERS
IN A PHYSICAL ACTIVITY INTERVENTION

Deborah Koniak-Griffin, Monique Gill

A VOLUNTEER PROGRAM TO PROMOTE AMBULATION
OF HOSPITALIZED ADULT PATIENTS

Gordana Dermody, Tamara Odom-Maryon

AN INNOVATIVE COLLABORATION FOR
COMMUNITY HEALTH CLINICALS

Diane Katsma, Robin Swartz

EXERCISE

Exergames to Improve the Physical and Psychosocial Well Being in Heart Failure Patients

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Aims: The purpose of this study is to evaluate the effects of exergaming on the physical and psychosocial well being in patients with heart failure.

Background: Heart Failure (HF) is debilitating chronic disease associated with significant morbidity, mortality, frequent hospital admission, and marked health care costs. Most patients diagnosed with HF experience physical and psychosocial impairments including shortness of breath, fatigue, anxiety and depression, and overall decreased quality of life. Recent HF guidelines advise regular exercise to improve patients' functional capacity and decrease their symptoms. Exercise through video or virtual reality games also known as exergaming has grown in popularity among older adults to increase physical activity and improve health and physical function. The word 'exergaming' is a combination of 'exercise' and 'gaming,' a term for video games that are also a form of exercise. The Nintendo Wii platform was the most tested exergame in older population. However, to our knowledge there is no research conducted in the U.S. on the effects of exergaming among adult HF population.

Methods: This is a mixed method study combining survey questionnaires and qualitative interviews to determine the effectiveness of structured access to Nintendo Wii. This pilot study will compare the impact of exergaming vs. standard of care (SC) on several physical and psychosocial variables in adults with HF (New York Heart Association Class I-III) from baseline to three months. A total of 50 patients (25 in SC; 25 SC + Nintendo Wii game) will be enrolled from medical offices and HF clinics. Inclusion criteria include patients 35-85 years old diagnosed with HF by a cardiologist independent of ejection fraction. Exclusion criteria include patient with visual, hearing, motor and cognitive impairment, has restrictions that would prevent him/her from completing the study protocol and has a life expectancy shorter than 6 months. Patients will be randomized to SC -- motivational support where patients get exercise advise from the HF team vs. SC plus structured access to a Nintendo Wii game. Patients randomized to the intervention group will be provided with a Wii game including an instructor for training on the use of the device and technical support for 3 months. Patients from both groups will be advised to be active (SC group) or play the game (Nintendo group) for 30 minutes or adapted to the capabilities of the individual patient.

Results: Data collection is in progress. Data will be analyzed using descriptive statistics to check the distribution of the data, identify outliers, and describe the sample characteristics. T-tests and Chi-square tests will be used to check the balance in baseline characteristics across the two trial arms. The fixed effects model will determine time and intervention group and the time*group interaction.

Conclusions/Implications: Exergaming has shown potential to improve the physical and psychosocial well-being in older adults. Findings from this study can be useful to health care professionals to improve their understanding of the potential role of exergames in the treatment and management of patient with HF and may potentially impact health programs and health care policies.

EXERCISE

Focus on Fitness: Incorporating Exercise into the Treatment of Individuals with ADHD

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Background: Psychotropic medications, particularly stimulants are frequently used as the first-line treatment for Attention Deficit Hyperactivity Disorder (ADHD). Many patients and their caregivers have concerns about psychotropic options for treatment. Review of current literature demonstrates the efficacy of physical activity in reducing symptoms of ADHD.

Purpose: This evidence based practice (EBP) project introduced regular, scheduled aerobic activity into the treatment plan of children and adolescents with ADHD. The aim of this EBP was to reduce symptoms of ADHD measured by caregivers using the Vanderbilt Ratings Scale. The Johns Hopkins Nursing Evidence Based Practice Model was used to implement this project.

Methods: Participants were children and adolescents (N=12) aged 7-17 years receiving psychiatric treatment in an outpatient psychiatric practice with a diagnosis of ADHD. Caregivers completed the Vanderbilt Rating Scale prior to intervention. Participants were asked to participate in 30 minutes of aerobic activity at least three days a week for one month. Exercise was tracked by participants using a fitness application of their choice or by handwritten logs. At the end of the month caregivers completed a second Vanderbilt Rating Scale and scores were compared to initial scores.

Outcomes: Pending.

Conclusions: The project hopes to demonstrate the efficacy of incorporating exercise into the treatment plan of patients with ADHD. This will give providers, patients and/or their caregivers a possible alternative or augmentative treatment modality to traditional medication options. Providers may require training or instruction in how to best implement this with patients and how to allocate time for the intervention during patient visits.

EXERCISE

In Honor of Self: Weight Loss Project for a Military Population with Mental Disorders

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Background: Obesity in people diagnosed with mental disorders is at an epidemic level. Individuals with mental illness who are prescribed medication for stability are at risk to develop obesity and metabolic syndrome, a group of diseases that can result in cardiovascular disease. People with mental disorders have a 10 to 30 year decrease in life expectancy associated with heart disease and other chronic illnesses. Military personnel are separated from service as a result of physical measurements outside of body fat standards.

Purpose of Project: Thus, the weight loss program addresses the problem of obesity in military members and their families by providing structured and collaborative weight management education with telephonic coaching using evidence based practices.

EBP Model/Frameworks: The Ottawa Model of Research Use (OMRU) is the evidence based practice (EBP) framework for the project. The model promotes stakeholder education, implementation surveillance, patient involvement, and project adoption with sustainment.

Evidenced Based Interventions/Processes: Behavioral healthcare and wellness leaders, mental health providers, and stakeholders were instructed on the purpose and outcome goals for the intervention. The project timeline is 5-months to provide an adequate weight loss assessment period. The participants will attend 2 integrated nutrition and exercise classes, and will be encouraged to maintain food intake and exercise journals. Participant weight and BMI measurements will be assessed with follow-up telephonic coaching conducted.

Evaluation/Outcomes: Weight loss, body mass index (BMI) measurements, healthy eating habits, and the frequency of exercise activity will be evaluated. Forty percent of the participants are expected to lose at least 10-pounds, and 40% are anticipated to increase their intake of fruits and vegetables. A significant increase in regular moderate intensity aerobic activity from baseline is expected in 50% of the participants.

Implications for Practice: The next step is to include collaborative weight management support in mental health treatment planning to promote an optimum quality of life in military and civilian healthcare settings in support of best practice.

Conclusions: Weight loss support has been reported to be a health necessity and highly beneficial in a behavioral healthcare setting.

EXERCISE

Measuring the Effects of Martial Arts and Attention Deficit Hyperactivity Disorder

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Purpose: The purpose of this study was to explore the effects of a four-week martial arts program implemented once a week with children diagnosed with ADHD under the age of seven. The results from this feasibility study will be used to consider the implications of further research involving martial arts and its potential to reduce symptoms of ADHD in children under the age of seven.

Background: Children with ADHD exhibit challenges in paying attention to details, make careless mistakes, and struggle to complete tasks that require sustained attention (National Institute of Mental Health, 1999). Adults with ADHD are at greater risk of developing comorbid disorders, including substance abuse disorders and mood and personality disorders (Houghten, 2006). Martial arts have been explored as a promising alternative treatment method to reduce inattention in children over the age of seven with ADHD in several previous studies. However, there have been strong claims made to implement earlier interventions and thereby change the trajectory of the disorder when the brain is more “plastic,” particularly before comorbid conditions from academic and social failure take root (Sonuga-Barke et al., 2011). Barkley’s model of executive function helps pinpoint the dynamic relationship between executive function and attention (Barkley, 2011). Based on Barkley’s ideas of ADHD etiology, professionals have recommended utilizing sports to help children with ADHD, and martial arts training has been highlighted as a potentially beneficial behavioral adjunct for children with ADHD because of its focus on not only physical skills, but discipline and focus (Lakes & Hoyt, 2004).

Methods: Utilizing convenience and snowball sampling, participants were recruited from the Phoenix metropolitan area. Inclusion criteria included English-speaking children between the ages of four to seven who had been diagnosed with ADHD, per parental report. All participants’ parents completed a screening/eligibility form and demographic form prior to the start of the study. Each intervention was held once a week for approximately forty-five minutes, during which participants were lead through a traditional kenpo karate class led by this author and an additional instructor. Data collection utilized the Behavior Rating Inventory of Executive Function (BRIEF), 2nd edition. Gioia et al. (2000) stated that the BRIEF rating scale demonstrated consistency, temporal stability, and validity, and that it had the ability to capture different profiles of executive dysfunction such as those seen in ADHD. The BRIEF-2 was administered to the same parent pre-intervention and post-intervention. Class material practiced outside of the classroom was recorded by parents and returned at the end of the study for additional analysis.

Results: The results of this study are currently in the process of being reviewed and analyzed, to be completed by the end of 2017.

Implications: The implications of this study are currently waiting on the data analysis and results, to be completed by the end of 2017.

EXERCISE

Nutrition and Activity Education for Hispanic Children: An Updated Curriculum

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Purposes/Aims: The project modifies an existing theory-based culturally responsive nutrition and physical activity curriculum designed for early adolescent Hispanic children. Modifications to the Salud con Sabor Latino para los Niños (SSLN) curriculum, originally designed for fourth to sixth graders, include didactic content and activities which are evidence-based and age appropriate for younger children (second to fourth grade). Using a community based participatory research approach, culturally responsive and developmentally cognizant modifications were made based on child development theories, social behavior theory, and evidence of successful obesity interventions among this age group. The end goal is to assist the community partner, Esperança, and provide an opportunity to impact obesity rates in this high risk population.

Rationale/Background: According to Ogden and Carroll (2016), 17.4% of Hispanic children aged six to eleven in the United States in 2013-2014 were obese. Obesity at a young age can lead to comorbidities, including high blood pressure, abnormal glucose levels, and abnormal lipid levels (Ogden & Carroll, 2016). The goal of the sixteen session SSLN program is to decrease BMI, increase nutritional knowledge, and improve attitude and behavior towards nutrition and physical activity in Hispanic school aged children. Six years since its inception, Esperança requested a condensed curriculum, which included updating content based on new research and implementing new evidence based nutrition and exercise activities for a younger population of participants.

Methods/Approach: After meeting with Esperança to identify which elements of the curriculum needed modification, an extensive literature review was conducted to identify new and relevant research appropriate to the modifications. Integrating child development theories, social behavior theory, and results from earlier successful obesity intervention programs, curriculum sessions will be condensed and modified using a community base participatory research approach. Once edits to the curriculum are completed and approved, Esperança will implement the newly modified curriculum, and evaluate the success of the curriculum changes.

Outcomes: The final project will compose of a condensed, theory-based, culturally responsive, and developmentally age appropriate eight session curricula that will educate Hispanic school aged children on nutrition and physical activity. Elements that are modified, evidence-based rationale for the modifications, and the compiled final project will be presented.

Conclusions: Updating a curriculum designed for younger Hispanic children is a project which uses evidence-based, culturally sensitive and innovative methods to educate children on nutrition and physical activity. The finished product will fulfill the needs of Esperança while providing the participants with valuable lessons in promoting health and wellness. In its pilot years, the SSLN curriculum had an impact on students' attitude and behavior towards healthy eating and activity. Catering an updated curriculum to the needs of Esperança and younger SSLN students will further promote the success of the program and enhance the students' retention as well as provide better success to healthier lifestyle changes that can prevent obesity in this high risk population. Further research evaluating the success of the updated curriculum, will allow for the curriculum to evolve and remain relevant.

EXERCISE

Exercise Training in Patients with Cardiac Implantable Devices: A Systematic Review

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Purpose: This systematic review identified exercise-based intervention studies in patients with cardiac implantable devices (CID)s: Implantable Cardioverter Defibrillator (ICD), Cardiac Resynchronization Pacemaker or Defibrillator (CRT), or Ventricular Assist Device (VAD), and assessed evidence for the safety and efficacy of exercise-based interventions alone or in combination with psycho-educational components.

Methods: A systematic search of PubMed, EMBASE, CINAHL Plus, Web of Science, Cochrane, and PEDro was conducted for each of the 3 CIDs: (1)ICD; (2)VAD; and (3)CRT/resynchronization pacemaker. All 3 searches included a combination of the search terms: exercise, aerobic exercise, rehabilitation, resistance exercise, cardiopulmonary rehabilitation, exercise therapy. Search parameters were adapted to database requirements using different terms for each CIDs. The titles of publications identified in the searches were independently screened by 2 authors and coded for eligibility for the review. After exclusions were completed by the title, abstracts were reviewed. Articles were identified based on the following inclusion criteria: published articles that focused on the effect of exercise training in patients with a CID, involvement of human subjects, article published in English in a peer-reviewed journal, and patients were adults aged ≥ 18 years. Two authors independently extracted study characteristics from included studies, with a third author verifying all the extracted data. Study quality was evaluated using the JADAD scale for randomized trials. A total of 3991 articles for all CIDs (ICD: 1015, pacemaker: 1630, and VAD: 1346) were screened for relevance. Subsequently, 24 full-text articles (ICD: 14, CRT: 4, and VAD: 6) were deemed eligible for this review. The outcomes of interest were peak VO₂, quality of life (QoL), anxiety, depression, and adverse events (ICD shocks, hospitalizations, and mortality).

Results: A total of 5308 study participants, of whom 2702 participated in exercise interventions. The average age of all study participants was 56.0 ± 10.1 years. The majority of participants were male and Caucasian. The average LVEF = 23.7%. Dropout rates from all studies averaged 17% (range 0-31%). Studies of aerobic exercise training demonstrated an average increase in peak VO₂ consumption by 2.61 ml/kg/min, (ICD=2.43, VAD=2.2, CRT=3.2). These incremental increases were statistically significant when compared to the usual care or other comparison groups. The impact of exercise interventions on QoL, anxiety, and depression was most often not statistically significant. Adverse event rates were very low at 1.1-2.2% for all CIDs. Death rates were reported in only a few studies. Hospitalization rates in the ICD group ranged from 13% to 67%; and was not reported in the VAD studies. In the CRT group, the hospitalization rates (composite of all- cause death or hospitalization) was higher in CRT (26%) than in no CRT.

Conclusion: Exercise interventions tested to date in the CID population (ICD, CRT, VAD) indicate that exercise training at moderate to high intensity is safe and effective in improving cardiopulmonary outcomes without adverse events. Future investigations can include a more diverse sample of participants, designs that include translation of exercise to routine practice, the destination therapy VAD population, and measurement of costs and patient centered outcomes.

EXERCISE

Perceptions and Experiences of Teachers in a Physical Activity Intervention

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Purpose: Addressing health disparities in childhood obesity and overweight among ethnic minority groups requires implementation of school-based programs to promote physical activity (PA). The purpose of this study was to enhance understanding about the daily experiences of physical education teachers in middle schools and to explore contextual factors that influence practice. This knowledge will inform nurses involved in multi-component and collaborative efforts to decrease obesity among youth.

Background: Schools have played a central role in the provision of PA to youth. Over the years, many nursing, public health and medical authorities have called on schools to give greater attention to the delivery of PA programming to students. Efforts to promote physical education (PE) programs can be stifled by an increasingly complex school landscape where health and wellbeing are de-prioritized. Additionally, intervention research frequently overlooks the perspective of teachers, obscuring the role of physical educators in collaborative school-based health promotion efforts.

Methods: In-depth individual interviews were conducted with a convenience sample of 9 PE teachers from 8 middle schools in Los Angeles, California who participated in an intervention study and completed the full 12 hours of training. A semi-structured interview guide was developed by the research team to examine the experiences of teaching PE and teachers' perceptions of a PE curriculum intervention. Interview questions were developed based on an extensive literature review and informal conversations with teachers during the intervention study. Interviews were conducted by two specially trained graduate students. Transcripts were coded by the same two graduate students using consensus coding. Initial codes were inductively generated during the first cycle of coding. This was followed by a coding sort and pattern coding to arrange the data into a smaller number of categories. Last, overarching concepts were identified to bring together similar categories of data.

Results: Several themes emerged from the analyses. The level of administrative support was a driving factor in PE teacher morale, practice, and perceived success. Class size, class composition, facilities, equipment, and funding were commonly cited as barriers to effective PE teaching and job satisfaction, while training opportunities and collaboration with other teachers were identified as facilitators. Teachers described a shift to standards-based instruction in recent years, resulting in changing paradigms of instruction. The curriculum intervention and training were viewed as useful and fun; however, several limitations remained, including the inability to adapt certain lessons for all contexts.

Conclusion: Findings emphasize the value of including PE teacher perspectives in developing effective and sustainable PA interventions in the school setting. Additionally, there is an opportunity to more deeply engage PE and PE teachers, along with nurses, in school health promotion efforts. Working collaboratively with school nurses, PE teachers have an opportunity to most effectively leverage interventions to promote PA and prevent overweight and obesity.

Funding: National Institute of Nursing Research, 5R01NR012676.

EXERCISE

A Volunteer Program to Promote Ambulation of Hospitalized Adult Patients

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Purposes/Aims: The promotion of physical activity in hospitalized older adults has become increasingly complex for nurses. Studies suggest that barriers interfering with the promotion of physical activity could be related to the work environment (i.e. staffing, prioritization). This may lead to insufficient physical activity in hospitalized older adults. The purpose of this pilot study was to: 1) Examine the feasibility of a volunteer program to ambulate hospitalized adult cardiac and oncology patients. 2) Examine the characteristics of patients, and factors associated with their willingness to participate in program. 3) Compare ambulation distance and frequency of patients participating in the program to patients receiving usual care. 4) Examine potential associations between the frequency and distance of ambulation and 30-day re-admission rates, length of hospital stay, and falls, and discharge disposition.

Methods: A descriptive correlation design with convenience sampling was used. Participants were recruited from 40-bed cardiac and oncology units, in a 200-bed community hospital located in the Pacific Northwest. For comparison, de-identified data were collected for the group of usual care patients (n=276) who met the eligibility criteria and who were hospitalized in the same units during the same timeframe as the walking study participants. The volunteer walking program was developed in collaboration with bedside nurses, nurse managers, physical therapists and volunteer coordinator in direct response to the findings of a study that identified that hospitalized patients had very low mobility, even if patients were able to ambulate, and had activity orders to ambulate. Nursing, medicine, physical therapy (PT), and pharmacy students submitted their application to volunteer. Selected candidates received extensive training from PT experts and designated charge nurses on the safe promotion of mobility, and HIPAA. Charge nurses used criteria to determine if patients were eligible to be ambulated by a volunteer. Volunteers offered to take patients for a walk; if patient agreed, the volunteer assisted with ambulation. Volunteers completed a mobility log for each patient that they approached, and were trained to track the distance (feet) using hallway markers. Ambulation data collected included distance in feet, frequency of ambulation, level of assistance required, and assistive devices used; possible reasons for declining were also documented.

Results: This pilot study is ongoing. Preliminary findings show that of 442 patients, 166 patients with a mean age of 62 consented to be ambulated by a volunteer. The average distance ambulated (n=166) was 456 feet with a range of 5 feet to 2,750 feet. Chart audits are currently in progress for the (n=166) participants in the walking group and for the (n=276) usual care patients who were approached by the volunteers but declined to ambulate during the same time frame. Chart reviews are underway and due to be completed in December, 2017.

Implications: Nurses in collaboration with the interdisciplinary health care team need to generate and pilot innovative, new approaches to patient care to address persisting problems such as immobility in hospitalized patients.

EXERCISE

An Innovative Collaboration for Community Health Clinicals

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Purposes/Aims: The purpose of this educational approach was to develop a quality community health clinical for pre-licensure and RN to BSN students by collaborating with a community partner launching a fitness program in a local school district.

Rationale/Background: As the specialty of community/public nursing continues to expand beyond traditional settings, schools of nursing must provide clinical placements that reflect new and varied roles of community health nurses. Yet there is a dearth of literature describing innovative community health clinical options for undergraduate nursing students.

Best Practice: A clinical rotation for community health nursing was piloted in an elementary school focusing on promoting physical fitness with fifth graders and teaching third graders about nutrition. Nursing students spent weekly clinical afternoons at the elementary site working with the community partner to deliver the fitness program and to act as mentors to the participating grade school students. In addition, nursing students developed and implemented a teaching module on nutrition for three third grade classes.

Outcomes Achieved: Three indicators to assess success were evaluated: nursing student evaluation of clinical, elementary school student feedback, and community partner analysis of the role nursing students played in the fitness program initiative. Nursing students had above average ratings of the clinical course based on the formal university evaluation tool. Elementary students looked forward to their time with the “college teacher” mentor, and the community partner was able to extend the fitness program with the help of nursing students.

Conclusions: The community health clinical collaboration pilot was successful enough to continue the next semester. Nursing schools need to seek out health gaps in the community and base community health clinicals with a faculty to assist in meeting local needs. Both nursing students and community programs can benefit from working together to deliver health focused programs. Recommendations for future research includes encouraging nursing faculty to engage in the scholarship of teaching and learning to evaluate clinical effectiveness.

Abstracts of Poster Presentations

GERIATRICS

THE IMPACT OF MUSIC ON DEMENTIA: PHASE I FINDINGS
FROM THE CAHF MUSIC AND MEMORY PROJECT

Debra Bakerjian, Kristen Bettega

CHALLENGES IN QAPI IMPLEMENTATION: EARLY RESULTS
FROM THE CAHF MUSIC AND MEMORY PROJECT

Debra Bakerjian, Kristen Bettega

NURSING STUDENTS' CARE WILLINGNESS
TOWARD OLDER ADULTS

Yeon Sook Kim, Insun Jang

EXPLORING NURSE-PHYSICIAN COMMUNICATION
IN NURSING HOMES

Susan M. Renz, Jane M. Carrington

AN EXPLORATION OF OLDER ADULT INFORMAL
CAREGIVER SELF-CARE PROMOTING WELL-BEING

Laura J. Blank, Julie Fleury

GERIATRICS

The Impact of Music on Dementia: Phase I Findings from the CAHF Music and Memory Project

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Purposes/Aims: The purpose of this study is to understand the impact of the Music and MemorySM program on nursing home (NH) residents with dementia. M&M is a program that provides personalized music to older adults with dementia and other cognitive or behavioral symptoms with the goal of reducing the need for antipsychotic medications. This poster focuses on findings from the Phase 1 pilot Aim #1: To study and document the effects of M&M on reducing antipsychotic medications and improving behavioral and psychiatric symptoms for people with dementia and other cognitive or behavioral challenges in the participating facilities.

Rationale/Background: Alzheimer's disease (AD) affects 1 in 9 Americans over age of 65 years and 32% of those 85 years of age and older. Currently, there are 5.4 million Americans with AD, 70% reside in NHs and a significant number are reported to have behavioral and psychiatric symptoms. In 2016, the cost of dementia care was \$236 billion on top of the 18.1 billion hours of unpaid time for personal or family care. In 2010, CMS initiated the National Partnership to Improve Dementia Care in Nursing Homes, a federal-state plan designed to improve dementia care in NHs. The goal is to reduce antipsychotic medication use by 25%. While the effort has been somewhat successful, there are still many NHs with very high rates of antipsychotic use.

Methods: This was a quasi-experimental study with NHs randomized to intervention and control groups. All NHs received M&M equipment (laptop computer, iPods, and earphones for 15 residents) and national certification in the M&M program; the intervention group received a tailored quality improvement tool. We studied NHs ability to implement M&M and the program's impact on residents. NHs submitted data related to their implementation process, resident response to the music, and select MDS data (antipsychotic use, behaviors, etc.) on a quarterly basis.

Results: There were 43 NHs enrolled in the Phase 1 pilot of the study that reported on 344-393 residents depending on the quarter. Over 2/3 of residents are > 89 years and 80% have some type of dementia; 33%-44% have at least one mood disorder, 20-26% are on antipsychotics and 40% are on antidepressants. There was wide variance in use by residents. On average, almost half of residents used the program 1-3 days per week with 75% using the iPods 2 hours or less daily. As measured with Brief Inventory of Mental Status (BIMS), mean aggregate scores decreased (7.03 to 5.6) over the study period, but mean physical and verbal aggression scores improved. Multiple challenges exist in getting the program implemented including time to assess residents, inconsistent documentation, and staff turnover.

Implications: Early findings suggest that, despite implementation challenges, Music & MemorySM may improve physical and verbal aggression even as cognition declines. Mean antipsychotic rates remained relatively high (18-26%) for the residents targeted for the program, so higher rates were anticipated. Overall, the use of iPods was less than expected, so it is possible that the program is not being used to its fullest extent.

Funding: Provided by the California Department of Public Health Contract: #15-10334 (Centers for Medicare and Medicaid Services: Civil Money Penalty Funding).

GERIATRICS

Challenges in QAPI Implementation: Early Results from the CAHF Music and Memory Project

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Purposes/Aims: One purpose of this study is to understand whether the national Music and MemorySM (M&M) program, designed to help residents with dementia, could be implemented as a Quality Assurance Performance Improvement (QAPI) process. We developed a QAPI guideline tool for use by NHs to enhance the implementation and sustainability of M&M as a QAPI project. This poster focuses on NH responses to the use and usefulness of this tool during the pilot phase.

Rationale/Background: Alzheimer's disease (AD) affects 1 in 3 (32%) people 85 years of age and older. Currently, there are 5.4 million Americans with AD, 70% reside in nursing homes and a significant number are reported to have behavioral and psychiatric symptoms (BPSD). There are few non-pharmacologic interventions available for these residents. The high use of antipsychotics has been problematic in NHs. Music & MemorySM is a program that provides an alternative to antipsychotics through personalized music, but little is known about how M&M is implemented. NHs are being required to implement QAPI this year and must demonstrate that they can both develop a QAPI program and implement QAPI processes, intended to improve the quality of resident care. Improving care of dementia residents with M&M is an excellent QAPI opportunity.

Methods: We developed an evidence-based implementation tool tailored to facilitate NHs' implementation of the M&M program using a QAPI approach. This is a quasi-experimental study with NHs randomized to intervention and control groups. All NHs received M&M certification and equipment – a laptop computer, iPods, and earphones for 15 residents. The intervention group received the QAPI tool and the control group were provided QAPI at a Glance and companion tool, both publicly available. NHs responded to a quarterly survey asking questions about their QAPI approach, implementation of the M&M program, and the use and usefulness of the tailored QAPI tool.

Results: Data response varied widely across the study period (Phase 1); however, over 68% (n=30) of enrolled NHs submitted data at least once. Of the NHs submitting data, 74% of NHs were planning, in progress, or fully using a QAPI approach at the end of 12 months; however, 18- 25% reported they did not intend to use a QAPI approach. Of the intervention group NHs (n=16) that received the QAPI tool and submitted data, 50-75% reported they were in progress or fully using the QAPI tool. Over 40% reported the tool to be somewhat helpful and 37-42% reported the tool mostly to extremely helpful.

Implications: Early findings from this study suggest that most NHs are taking a QAPI approach to implementing Music & MemorySM and that a specific QAPI implementation guide may be helpful. There was variability between NHs with where they were in developing the QAPI program and implementation process, which may have impacted the usefulness of the QAPI tool. Significant work remains to address challenges and reduce barriers to implementation of QAPI in NHs; however, if this tool proves to be useful, it may indicate that NHs would benefit from tailored QAPI tools.

Funding: Provided by the California Department of Public Health Contract: #15-10334 (Centers for Medicare and Medicaid Services: Civil Money Penalty Funding).

GERIATRICS

Nursing Students' Care Willingness toward Older Adults

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Purpose: This presentation is to describe the process of conducting the literature search, reviewing the evidence, and determining the best evidence to incorporate into the study of Korean nursing students' willingness to take care of geriatric population. The team applied the steps in Johns-Hopkins Nursing Evidence Based Practice Model.

Background: The world's population of people age 65 and over is dramatically increasing. In 2015, approximately this age group made up 8% of population and is expected to increase to 17% by 2050 (National Institute on Aging, 2016). Compared to younger people, the geriatric population requires greater nursing support to maintain their health. Therefore, the nursing workforce should prepare for quality care with a willing spirit to this age group. Many studies in the States describe the negative attitudes nursing students have toward older adults. A team of nurses from Korea decided to design a study to identify the attitudes and practices of elder care of Korean nursing students considering Korean culture embraced respect for elders. The study design process required a thorough review of the published literature relevant the proposed study.

Methods: The evaluation of the evidence provided the team with the study design and the survey instruments for the Korean nursing student study. The descriptive study was conducted in October of 2016 with 286 nursing students in South Korea. The tools included in the study assessed contact frequency and contact quality, attitude toward older adults, care willingness for older adults, anxiety about aging, and empathy about older adults. Collected data were analyzed by using SPSS 21.0 and descriptive statistics were used. This study was also conducted by using t-test, ANOVA, Scheffe's test, Pearson correlation coefficients, and multiple regression analysis.

Results: The following factors were significantly associated with positive attitudes toward elder care: a geriatric clinical rotation, working with the extended family, more frequency and duration for quality interactions with older adults. These factors were also associated with less anxiety about aging process and greater empathy for older adults.

Implication: These findings will be used to develop educational programs to decrease anxiety about aging processes, improve empathy for older adults, and increase the quality of student-older adult interactions. The ultimate goal is to prepare a workforce that is well prepared to provide excellent geriatric nursing care. Further studies are needed to generalize the result of the study.

GERIATRICS

Exploring Nurse-to-Physician Communication in Nursing Homes

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Background and Purpose: Residents in nursing homes are transported for acute care at a rate of three times higher than those under the age of 65. Approximately 25 percent of these hospital transfers are avoidable. This could be the result of ineffective nurse-physician communication. Little is known about communication in nursing homes and how rates of avoidable transfers can be reduced, lowering costs, and increasing resident safety. Here I will present the findings of a study designed to explore nurse-physician communication of clinical events in nursing homes. Clinical events (CEs) are defined as changes in condition and represented by six high risk events: fever, pain, bleeding, changes in level of consciousness, changes in output, and changes in respiratory status. The purpose of this presentation is to report the results of a qualitative study designed to examine what words nurses use to communicate clinical events to physicians in nursing homes.

Methods: This study used a qualitative descriptive (QD) design, with in-depth, semi-structured interviews of nurses and physicians. Phone communications between nurses and physicians regarding clinical events experienced by nursing home residents were digitally recorded and transcribed. Text data were analyzed using Linguistic Inquiry and Word Count (LIWC[®]), a natural language processing (NLP) software program and conventional content analysis, as a means of within methods data triangulation. A purposive convenience sample of nurses and physicians who provided clinical care to nursing home residents at two sites were recruited. The two nursing home sites differed in size, profit versus not-for-profit status, and use of paper versus electronic health record charting. In addition to obtaining recorded communications between nurses and physicians pertaining to CEs, these same study participants were interviewed to determine their perceptions regarding communication of the clinical events.

Outcomes: Twenty (20) phone communications pertaining to clinical events were digitally recorded, transcribed, and analyzed. Nurses were interviewed within 24 hours of the phone recording. Demographics: 15 nurses participated with a mean 20 years nursing experience, 13 years in nursing homes. Three physicians participated who were designated as the nursing home resident's primary care physician. Using content analysis revealed nurses used the following examples of key words to describe CEs: pain, short of breath, lethargic, grimacing, shaking, fever, chest pain, pale, and bleeding. Then using LIWC[®] this same text was analyzed, demonstrating that these words used by nurses in both nursing homes exhibited confidence in communicating data pertaining to CEs. Phone communications also demonstrated lower levels of emotional tone and analytical thinking. The results of the content analysis and NLP provided a broader understanding of the words chosen and the outcomes associated with the use of these words.

Implications: Findings from this study will increase understanding of nurse-to-physician communication and its contribution to avoidable hospitalizations. Results will inform the development of an electronic interface that supports nurse-to-physician communication in the nursing home setting.

GERIATRICS

Exploration of Older Adult Informal Caregiver Self-Care Promoting Well-Being

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Background: By 2060, Americans 65 years and older will number nearly 98 million, more than double that in 2013. Older adults aged 85 and older will double from 6 million in 2003, to 14.6 million by 2040 (Administration on Aging, 2014). Two out of three older adults have multiple chronic conditions that may require caregiving (Fortin et al., 2006; Marengoni et al., 2011). Sixty-five million adults serve as informal caregivers, many themselves suffering from chronic conditions (National Alliance for Caregiving & AARP, 2009). While contemporary research perspectives have characterized the burden of caregiving, little is known about caregiver strengths and resources that foster personal self-care and well-being. A health empowerment perspective may be relevant to understanding the strengths and capacity of older adult caregivers who are themselves over the age of 60 years, to attain individual health goals and well-being.

Purpose: The purpose of this presentation is to explore caregiver recognition of personal and social contextual resources guiding purposeful participation in self-care and well-being. The research builds on the Health Empowerment Theory, a middle range theory which conceptualizes health empowerment as an inherent process, a relational process, an ongoing process of change, and a process expressive of a human health pattern of well-being (Shearer, 2009).

Methods: A qualitative descriptive approach, guided by the Health Empowerment Theory, provided a conceptual lens recognizing strengths and purposeful participation in self-care for older adult caregivers, promoting well-being. Twenty-one older adult informal caregivers participated in focus groups or individual interviews. Length of time as caregivers ranged from one year to more than ten years; twenty-four percent of the participants were men. Seventy-six percent of the participants reported having one or more chronic condition. Data collection continued until no additional relevant codes or themes emerged, achieving saturation. An audit trail process was maintained to ensure trustworthiness and methodological rigor.

Results: Themes generated from qualitative content analysis provided a basis for validating and extending the Health Empowerment Theory among older adult informal caregivers. Across participants, empowerment reflected recognition of strengths and resources, as well as growth consistent with valued goals, which facilitated new health patterns and well-being.

Implications: The Health Empowerment Theory provided a conceptual perspective to understanding caregiver recognition of personal and social contextual resources guiding self-care and well-being. This perspective provides a relevant basis for theory-based intervention focused on promoting strengths, abilities and potential among older adults, limiting vulnerability to diminished health and well-being.

INNOVATIONS IN ADVANCING DEDICATED EDUCATION UNITS

OVERVIEW: INNOVATIONS IN ADVANCING
DEDICATED EDUCATION UNITS

Casey R. Shillam

BUILDING BRIDGES: EXPLORING COMMUNICATION
BETWEEN THE UNIVERSITY AND THE DEU

Nicole Auxier, Michelle Collazo

TRANSLATING ORGANIZATIONAL CULTURE OF
EXCELLENCE INTO AN INTRAPROFESSIONAL DEU

Kelly Espinoza, Amy Doepken

EVALUATING STUDENT LEARNING
IN COMMUNITY-BASED DEUs

Janet M. Banks, Mary T. Quinn Griffin

CLINICAL EDUCATION FOR THE FUTURE:
INNOVATIONS IN THE COMMUNITY-BASED DEU

Casey R. Shillam, Larizza Limjuco Woodruff

INNOVATIONS IN ADVANCING DEDICATED EDUCATION UNITS

Overview: Innovations in Advancing Dedicated Education Units

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The Dedicated Education Unit (DEU) is a well-established, effective method of academic-practice partnership for clinical nursing education. The model aims to maximize students' clinical learning through advanced training for nurses in the practice setting serving as clinical instructors. Clinical faculty coordinators serve as liaisons between the academic and practice settings, providing clinical reasoning support to students and evaluating the students' development of clinical judgement in collaboration with the clinical instructor. With rapidly developing changes in healthcare delivery, there is high demand to adapt the DEU model to meet emerging needs. This symposium presents the current state of the science in evaluation of the effectiveness of the DEU model and highlights findings of advances in DEU innovations.

While the traditional DEU model is driven by an academic organization in an effort to provide high-quality education to students in that particular program, advantages to hosting the DEU in practice agencies have been profound and lend to the agency, itself, becoming the driver. Practice agencies find that the designation of DEU nurses as clinical instructors increases the professional preparation and education capacity of the entire unit. The consistent presence of students on a unit also serves as a pipeline for new graduates well-versed in the culture of the unit and the target patient population. Thus, practice agencies are now serving as the driving force for advancing the effectiveness of DEUs into alternate settings outside of acute care. There is also a new focus on practice agencies establishing interprofessional DEUs to meet the need for interprofessional education that is often not addressed effectively in academic sectors.

Building on the success of DEU clinical education, innovations in DEU models will be presented in this symposium. Emerging needs in ambulatory care, assisted living, post-acute and interprofessional nursing models are driving the establishment of DEUs in a variety of clinical settings. These advances in DEUs represent the future of academic-practice partnerships. The pipeline for new graduates into these developing practice settings has posed challenges in two key areas. First, there was a lack of systematic orientation for onboarding and orienting new graduates into these settings outside of acute care. Second, a lack of exposure to these settings in nursing school limited the understanding of nursing in these roles. The evolution of establishing DEUs in these settings has resulted in more exposure of nursing students to these nursing roles, and provided practice agencies with a foundation for orienting new graduates into these roles. This symposium will build on the state of the science of the DEU in nursing education to provide attendees with an innovative look to the future of nursing education that meets the emerging demands of diverse nursing models.

INNOVATIONS IN ADVANCING DEDICATED EDUCATION UNITS

Building Bridges: Exploring Communication between the University and the DEU

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Purpose: The purpose of this research study was to identify facilitators and barriers to effective communication and to identify short term and long term supportive measures to improve collaboration between clinical sites and the University of Portland faculty.

Rationale: A critical shortage of nurse educators exists and will continue to worsen in the coming years. Approximately 64,067 nursing students were turned away from baccalaureate and graduate nursing programs in 2016 due to several factors. Insufficient numbers of faculty to teach students, a lack of clinical placement sites, and various financial constraints all contribute to limited access to nursing education. One possible solution to overcoming these barriers is focusing on the recruitment and retention of part-time adjunct clinical instructors. The majority of studies focus on job satisfaction and retention rates of full-time academic nurse faculty, and yet the state of the science is just beginning to emerge on retention rates of clinical teachers and other part-time nurse educators. A review of the literature reveals a lack of research on interventions to support the retention and recruitment of adjunct nurse faculty based on these principles.

Methods: One intervention found to increase recruitment and retention of adjunct faculty is effective and efficient communication. All adjunct faculty and adjunct clinical instructors employed through the University of Portland School of Nursing were invited to participate in focus group discussions. The goal of the focus groups was to identify facilitators and barriers to effective communication. Data was analyzed using content analysis procedures.

Results: Five key themes were identified through qualitative analysis: resources, recognition, communication, orientation, and mentorship. Participants these areas as critical for improvement to support clinical instructors and clinical faculty.

Implications: Based on these findings, the School of Nursing has incorporated into the strategic plan targeted interventions to improve communication with adjunct clinical instructors. Onboarding and training now includes standardized learning modules and continued access to faculty for clarification of questions regarding evaluation and procedures. Further, findings of this study contribute to long-term implementation of the curriculum revision of the pre-licensure BSN program.

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INNOVATIONS IN ADVANCING DEDICATED EDUCATION UNITS

Translating Organizational Culture of Excellence into an Interprofessional DEU

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The Dedicated Education Unit (DEU) is a well-established educational practice in nursing education. Building upon the established DEU model, an innovative design to develop a training program for interprofessional education in an organization setting will be explored. By learning together and preventing siloed learning experiences, the goals are to improve interprofessional communication and clinical quality outcomes.

Nursing practice involves constant communication among peers, patients, and other clinicians. Therefore, strong communication skills are essential in establishing a foundation for safe delivery of care. Failure to effectively communicate with members of the healthcare team can and does result in medical error. Communication has been consistently linked with patient safety, yet organizations continue to face challenges in determining effective communication pathways among interprofessional teams to enhance outcomes and reduce or eliminate harm to patients

Legacy Salmon Creek Medical Center (LSCMC) is a unique organization with an environment whose culture is founded on interprofessional engagement, innovation, quality improvement and patient safety. These elements define a culture of excellence. Staff and provider engagement translates into a positive patient experience and successful quality improvement. Engaged providers and staff have led to collaborative quality improvement projects that have made significant improvements for our patients. In a six- year period, our heart-failure readmission rates have dropped by 15.7% to an overall rate of 9.8%. Hospital acquired pressure injuries decreased from a SIR of 0.15 to 0.02. In one year, our COPD readmission rates were cut by 5.1%.

Quality and patient safety gains has been made and sustained through a collaborative approach between our providers, nursing, respiratory therapists, pharmacists, and rehabilitation team. Each disciplines education is conducted as a separate entity and it is not until the professional, clinical experience in an organization that the siloed education programs come together to train with licensed individuals from their own discipline. LSCMC believes this culture of excellence comes from this collective collaboration. Having multiple disciplines working together is a learned trait, and it is hypothesized that establishing a Interprofessional (IP) DEU will provide nursing and students of other allied health professions the structure to enhance communication subsequently achieving improved patient safety and clinical quality outcomes.

INNOVATIONS IN ADVANCING DEDICATED EDUCATION UNITS

Evaluating Student Learning in Community-Based DEU

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Study Aim: The purpose of this study was to evaluate differences in student learning outcomes of an Adult and Elder Health course series between undergraduate nursing students whose clinical education took place in Acute Care Dedicated Education Units compared to Long-Term Care Dedicated Education Units.

Background: The shortage of appropriate clinical learning environments for undergraduate nursing students, the evolution of healthcare delivery, and demand from community-based agencies have all spurred innovation in nursing clinical education. Innovation to meet these challenges include introduction of the dedicated education unit (DEU), and making use of community-based clinical sites, including Long-term Care (LTC) settings.

Methods: A descriptive, correlational study was conducted to compare learning outcomes between students in acute care and LTC. A retrospective study design retrieved formative simulation scores, summative simulation scores, course grades and standardized exam scores of students during the Adult and Elder Health II course. These scores were used to determine differences in student learning outcomes of the Adult and Elder Health II course between students whose clinical education in Adult & Elder Health I took place in acute care versus LTC settings. A convenience sample of 116 undergraduate baccalaureate degree nursing students from a large, private school of nursing in the Northwest United States were included in the study. Data were collected from the students who graduated in May 2014. Adult & Elder Health II builds on Adult & Elder Health I by increasing the level of practice and application of nursing management knowledge in medical-surgical nursing for adult and elderly clients. The Adult & Elder Health I course includes clinical education in either LTC (nursing home) or acute care (hospital) setting. All students in Adult & Elder Health II are placed in acute care settings for their clinical education.

Results: Demographic data were recorded at the start of the undergraduate program. Most the 116 students were female. The mean age was 18.3 years. There were no differences in the learning course outcomes between nursing students placed in acute care versus long-term care. The acute care student evaluation of clinical sites was significantly higher than long-term care evaluation of clinical sites, supporting the literature in that students prefer the experience of acute care over that of LTC, despite having similar learning outcomes.

Implications: All student clinical placements in this study were on DEUs, and results must be limited to this clinical environment. Recommendations for future research include expansion of this study to traditional clinical placements and adaptation of an existing clinical learning environment evaluation tool. Prospective longitudinal studies will help provide evidence on using alternative clinical environments for undergraduate education.

INNOVATIONS IN ADVANCING DEDICATED EDUCATION UNITS

Clinical Education for the Future: Innovations in the Community-Based DEU

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Purpose: The purpose of this project was to expand on the successful Dedicated Education Unit (DEU) model of clinical nursing education. DEUs were originally established in acute-care settings, in traditional hospital-based clinical environments. This presentation will describe the steps taken to engage with clinical partners outside of acute-care settings in establishing DEUs for expanding clinical learning opportunities in community-based settings for pre-licensure baccalaureate nursing students.

Rationale: With the expansion of healthcare delivery into community-based, primary care, and ambulatory care settings, nursing roles are more diverse today than ever before. The state of Oregon nursing workforce center recently published findings that revealed only 55% of nurses today work in acute care settings. Yet, despite this trend of movement of nursing practice into the community, limited efforts have successfully transformed clinical education to fully explore the range of practice environments outside of acute care.

Methods: During quarterly DEU meetings with clinical practice partners, concerns were voiced regarding the lack of educational training opportunities for students in settings outside of acute care. In particular, the first mention of a desire to improve the pipeline of new graduates into ambulatory care arose from acute-care DEU nurses who shared the concerns of their colleagues in ambulatory care nursing. This sparked multiple conversations between the university and clinical practice partner, and resulted in a purposeful collaboration with key stakeholders to establish methods for clearly defining roles of interdisciplinary partners within the DEU model.

Outcomes: The resulting 18-month-long stakeholder engagement effort identified early-adopters and practice champions and establish a structured interdisciplinary education program to launch the first ambulatory care DEU. After the successful launch, other community agencies approached the university for expansion of the DEU model into community-based, long-term care, assisted living, and now primary care nursing settings. These advances in DEUs represent the future of academic-practice partnerships. The pipeline for new graduates into these developing practice settings has been quite limited. These emerging areas of nursing role expansion have not yet established clearly defined roles for the full scope of nursing practice in these environments. As such, the onboarding and orientation of new graduate nurses into these roles has been fragmented. Additionally, nursing students have little exposure to these roles in acute-care-focused clinical experiences, and are not prepared to launch into the workforce as new graduates in these specialty areas.

Conclusions: The establishment of DEUs in the alternate settings has had a great impact on transforming nursing practice in community-based care settings. Nurses trained as clinical instructors are better-prepared with education principles and have developed new-graduate residencies to continue supporting the pipeline of new graduates. Nursing students have identified these community-based areas as viable and exciting professional endeavors. While long-term implications have yet to be evaluated, the transformation of DEUs into community-based settings holds tremendous promise for advancing nursing education. The expanded use of evidence-based clinical education models into new settings will expose students to more broad and diverse expectations for professional nursing practice and prepare the nursing workforce for where nurses are most needed.

Abstracts of Poster Presentations

INNOVATIONS IN OBTAINING AND USING
PERSON-GENERATED DATA ACROSS THE LIFESPAN

OVERVIEW: INNOVATIONS IN OBTAINING AND USING
PERSON-GENERATED DATA ACROSS THE LIFESPAN
Lauri Linder, Lauren Clark, Rebekah Perkins, Erin Rothwell

ENGAGING CHILDREN IN DESIGNING A RESOURCE
FOR OBTAINING PATIENT-GENERATED HEALTH DATA
*Lauri Linder, Heather Bratton, Kori Parker,
Anna Nguyen, Roger Altizer*

PERSON-GENERATED QUALITY OF LIFE DATA
FOR ADULTS WITH INTELLECTUAL DISABILITIES
*Lauren Clark, Marjorie A. Pett, Jia-Wen Guo, Beth Cardell,
Erin P. Johnson, Sarah Wawrzynski, Sebastian Romero,
Betty Geer, Nichole Guerra*

TWEET, TWEET, SUGAR-SWEETENED
BEVERAGES AT STARBUCKS
Rebekah Perkins, Michelle Lichtman, Jia-Wen Guo

ETHICAL IMPLICATIONS OF PATIENT-
GENERATED HEALTH DATA
Erin Rothwell

INNOVATIONS IN OBTAINING AND USING PERSON-GENERATED DATA ACROSS THE LIFESPAN

Overview: Innovations in Obtaining and Using Person-Generated Data across the Lifespan

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Person-generated data include not only an individuals' responses to self-report instruments, but also device-recorded data, observations, and social media interactions. Person-generated data are distinct from other sources of data in the healthcare setting in that the individual is the one primarily responsible for collecting these data. Additionally, the individual is often the one who determines how and whether these data are shared – whether with healthcare providers or to the community-at-large via social media.

The purpose of this symposium is to present innovative approaches to obtaining and using person-generated data with attention to working with individuals of different ages and abilities. The symposium will also address different sources of person-generated data and considerations for analyzing these data. The symposium will also address as ethical implications of the use of person-generated data in research.

The first presentation will address strategies used to engage school-age children in creating a mobile technology-based application to be used by children with chronic illnesses to provide a daily report of symptoms and health-related activities. The second presentation will describe the development of a patient reported health-related quality of life measure for use with adults with intellectual and developmental disabilities in community and clinical settings. The third presentation will address health concerns embedded in “tweets” related to sugar-sweetened beverages. Finally, the fourth presentation will address ethical considerations in relation to the use of person-generated data in the clinical setting.

Taken as a whole, the presentations in the symposium challenge nurse researchers to engage potential end-users in the design of resources to capture person-generated data, include individuals of all abilities as capable of providing person-generated data, consider novel uses of social media and technology as sources of person-generated data, and to appraise potential ethical implications when using person-generated data in research and clinical settings.

INNOVATIONS IN OBTAINING AND USING PERSON-GENERATED DATA ACROSS THE LIFESPAN

Engaging Children in Designing a Resource for Obtaining Patient-Generated Health Data

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Purpose: Our purpose is to describe the initial design and development of a mobile technology-based application (app) for obtaining patient-generated health data from children using input from children using a Cooperative Inquiry framework.

Background: Children with chronic illness, including cancer, experience multiple distressing symptoms that can change on a day-to-day basis. Developmentally meaningful resources to support child-centric approaches to report their symptoms are limited. Mobile technology offers solutions to address this gap by incorporating game-based features that support children in reporting their own health data.

Methods: This project has been guided by the cooperative inquiry framework which engages children as co-designers of technology. Participants in this descriptive study were 27 school-age children (14 males; median 9 years; range 6.33 – 12.83 years) receiving treatment for cancer at a tertiary pediatric hospital in the Intermountain West. Children participated in “draw and tell interviews” describing their symptoms. They were then asked what they would include in an app if they were the ones in charge of designing it, and to describe games and apps they liked and why they liked them. Drawings and children’s verbal responses were analyzed using qualitative content analysis procedures. Data were then shared with the game design team to guide initial development of the app with consideration to the technology, aesthetics, audience, and the underlying play/question/theory.

Results: All 27 children provided drawings depicting their symptoms. The most common symptoms included nausea, fatigue, pain, and sadness. Children’s drawings also depicted the consequences of symptoms on their daily lives, including activity limitations. Thirteen children provided responses related to their preferred content and function of the app. “Capacity for Personalization and Creativity” was the priority content subtheme, including a personalized rating system and the capacity for drawing and creativity. “Communication” was the priority function subtheme, including facilitating interactions with the healthcare provider, supporting the child’s preferred method of communication, and avoiding unnecessary talking. Twenty-five children described games they enjoy with attention to the role of the game, the appeal of the game, and activities within the game. Priority subthemes included “Actions within the Game” and “Achievements within the Game.”

These data have guided the creation of “Color Me Healthy,” a personalizable, game-based application that supports children with chronic illness in daily tracking of both illness-related symptoms and wellness activities. As children complete the app each day, they are guided to complete key tasks, and receive rewards for task completion. Patient-generated health data created through app completion support trending of symptoms over time as well as individual expression and creativity. Preliminary usability testing has been completed, and a trial of its feasibility and acceptability is forthcoming.

Implications: Children have the capacity to engage as research partners in the co-design of developmentally meaningful technology to obtain patient-generated health data. Children are able to articulate not only meaningful content to be included but also desired functions of technology to support communication of their distinct perspectives. Including children in the design process facilitates a child-centric perspective that can guide clinical interventions to support children’s well-being.

Funding: National Institute of Nursing Research: Mentored Patient-Oriented Research Career Development Award K23NR014874.

INNOVATIONS IN OBTAINING AND USING PERSON-GENERATED DATA ACROSS THE LIFESPAN

Person-Generated Quality of Life Data for Adults with Intellectual Disabilities

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Purpose/Aims: The goal of our project is to develop a cognitively accessible health-related quality of life (HRQoL) measure for adults with intellectual and developmental disabilities designed to be administered in community and clinical settings. This project paper reports the on the innovations undertaken by our research partnership to achieve person-generated data and: (1) compare two measures of quality of life: *Money Follows the Person* (MFP) and the team-developed *HRQoL-IDD* measure; (2) design a parallel digital version of the previously developed paper-pencil *HRQoL-IDD* measure, and (3) field test the *HRQoL-IDD* in both digital and paper-pencil versions to assess feasibility in clinical and community settings.

Rationale/Background: Because of impaired literacy, numeracy, and critical thinking associated with their disability, people with IDD have few validated self-report measures they can complete independently. Researchers resort to obtaining proxy information or administering measures borrowed from other populations, compromising both validity of the measure and self-determination of the participant. Community engagement is needed to redress this problem and develop person-generated HRQoL data accessible to adults with IDD.

Undertaking/Methods: To initiate this project we first established a multi-site research collaboration with a memorandum of understanding, initial funding, and IRB approval. We were fortunate that the clinical partner was concurrently measuring quality of life with a different instrument (MFP) that allowed us to compare measures. We adapted the *HRQoL-IDD* to fit a digital platform to increase accessibility. Field testing resulted in modifications to the item phrasing, response format, summary clinical assessment items, and feedback about technology opportunities and challenges with the population and the clinical/community sites.

Outcomes Achieved: A research partnership between academic and clinical partners proved crucial in advancing person-generated data about HRQoL by increasing the participant pool, adding a comparison measure, and contributing expertise. Both partners espoused quality of life as a key indicator of well-being. Field testing stimulated innovations to increase cognitively accessible measurement. A digital version responded to the visual and tactile preferences of the population; we added clinical action items to a summary assessment for each of eight theoretical domains; and we adapted the digital response format to synthesize words and images.

Conclusions: Development and psychometric testing of a measurement scale for people with IDD to assess health-related quality of life with person-generated data can be enhanced through close collaboration between researchers and community partners. This project benefited from concurrent measurement, dual platforms (digital and paper-pencil), and constant feedback from community partners and people with IDD themselves.

Funding: Provided by the University of Utah College of Nursing Research Committee.

INNOVATIONS IN OBTAINING AND USING PERSON-GENERATED DATA ACROSS THE LIFESPAN

Tweet, Tweet, Sugar-Sweetened Beverages at Starbucks

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Rationale/Conceptual Basis/Background: A significant societal factor affecting the incidence of diabetes type II and obesity is the pervasive marketing of sugar-sweetened beverages (SSB) in social media. Several studies suggest there is a disconnect between scientific evidence and consumers' perceptions and attitudes related to health concerns associated with the consumption of SSB.

Purpose/Aim: The aim of this study was to explore health concerns embedded in tweets related to SSB marketed at a trendy coffee shop, and to identify consumers' attitudes about SSB as it relates to diabetes, sugar consumption, and other health issues.

Methods: The keywords Starbucks, health, diabetes, and sugar were used to retrieve tweets using R-studio. Tweets posted between September 21 and October 5, 2017 were collected; up to 2,000 tweets related to the keywords were retrieved. Sentiment analysis, a method of classifying texts by sentiments (positive/negative) and emotions (anticipate, joy, surprise, trust, anger, disgust, fear, and sadness) was conducted using NRC Emotion Lexicon provided by R-Package (tidytext). Tweets were then analyzed, line-by-line for each keyword, using NVivo (version 11) to qualitatively understand attitudes about SSB.

Results: A total of 1135 tweets were identified after data cleaning by manually deleting irrelevant tweets (diabetes+starbucks=63 tweets, sugar+starbucks=803, health+starbucks=269 tweets). After a manual review of the NRC Emotion Lexicon results, both sentiment (positive/negative) and emotion (anticipate, joy, surprise, trust, anger, disgust, fear, and sadness) resulted in a majority of positive sentiment and emotions. However, content classified as positive sentiment and positive emotion contained sarcasm rather than true positive meaning. Conversely, review of negative sentiment and negative emotion content revealed true negative meaning. Negative emotion categories revealed that (1) fear (30%) and disgust (28%) were more commonly present in tweets about diabetes; (2) anger (33%) and sadness (30%) were more commonly present in tweets about sugar; and (3) disgust (27%) and sadness (26%) were most commonly present in tweets about health. Tweet data were also coded using NVivo, and revealed the following themes: (1) perception that SSB at Starbucks cause diabetes, (2) perception that Starbucks SSB are associated with too much sugar, (3) polarized concerns about whether or not the public is aware of the sugar content in SSB at Starbucks, and (4) information about how Starbucks SSB can be modified to be healthier.

Implications: Our study showed that negative sentiment had better reliable content due to tweets denoting sarcasm embedded into positive sentiment. Consequently, our data imply that an additional step of data analysis is required to identify sarcasm in tweets when health-related topics are analyzed. Qualitative analysis revealed that tweets from our sample indicated concerns about negative health consequences related to consuming Starbucks SSB. Specifically, there was concern about SSB at Starbucks causing diabetes. Since diabetes can result from a multitude of etiologies, sarcasm identified in tweets may indicate stigma. Stigma may be associated with individuals not seeking healthcare. Future studies are suggested to identify how public perception of SSB relate to stigma and health outcomes.

INNOVATIONS IN OBTAINING AND USING PERSON-GENERATED DATA ACROSS THE LIFESPAN

Ethical Implications of Patient-Generated Health Data

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Purpose: The goal of this research is to identify and examine ethical, legal, and social implications of patient generated health data.

Background: Patient generated health data (PGHD) is created or recorded by patients to inform their self care or understanding. Unlike data collected in the clinic setting, PGHD is often collected through mobile devices and focus on self-management activities that can be collected daily, weekly or monthly in their natural setting. Further, PGHD are not typically collected through standardized questions and surveys to understand patients' experience of health. Often PGHD is patient-direct and patient-informed. These unique attributes of PGHD raise a number of questions about the quality, use and applicability of these data for assessment and understanding of patient health-related behaviors.

Methods: Based on ethical and normative analyses of the published literature with PGHD, differences and similarities of patient generated health data and standard clinical data will be identified. Articles published in the last 10 years will be identified and synthesized thorough a qualitative descriptive approach to identify key outcomes, challenges, advantages, and impact on clinical care.

Outcomes Achieved: This presentation will identify how the type of data from patients compared to other clinical data sources, the changing relationship of patient-clinician relationship, its potential impact on health care delivery, privacy, confidentiality and data ownership issues, impact on clinic workflow, and how PGHD may be used to assess adherence and effectiveness of interventions.

Conclusions for Research & Clinical Practice: Standardization of PGHD will be suggested as well as the benefits and challenges of these emerging data influencing not only research but primary care.

Abstracts of Poster Presentations

INTERPROFESSIONAL EDUCATION / COLLABORATION

WHAT ARE THE MOST IMPORTANT CHARACTERISTICS
OF A FAMILY HEALTH HISTORY TOOL?

Gaye L. Ray, Karen Whitt

STUDENT NURSES DEVELOP CULTURAL HUMILITY
THROUGH TRANS-CULTURAL EXPERIENCES IN CZECHIA

Gaye L. Ray, Petr Ruda

THE EFFECT OF INCIVILITY ON EMOTIONAL STATUS,
TEAM BEHAVIOR, AND PERFORMANCE

Susan Johnson, Katie Haerling

COST-UTILITY ANALYSES FOR
SIMULATION-BASED ACTIVITIES

Katie Haerling

IMPROVING TIME TO PAIN MEDICATION FOR
EMERGENCY DEPARTMENT PATIENTS WITH FRACTURES

Sheri McIlvain, Caleb Larson

ATTITUDES AND PERCEPTIONS OF TEAM-BASED CARE:
BASELINE DATA FROM THE SPLICE PROJECT

Debra Bakerjian, Ana Marin Cachu

IPE: ASSESSING ATTITUDES AND TEAMWORK OF
STUDENTS AND FACULTY THROUGH SIMULATION

Brenda A. Senger, Nadira Dhanaswar

NP CONTRIBUTION TO VALUE-BASED CARE

Shira G. Winter, Erin Matsuda

EXPLORING THE UNIVERSITY EXTENSION SERVICE
MODEL TO DISSEMINATE RESEARCH IN HOSPITALS

Karen Colorafi, Michelle Gardner

INTERPROFESSIONAL EDUCATION / COLLABORATION

Student Nurses Develop Cultural Humility thru Trans-Cultural Experience in Czechia

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Purpose: Our purpose was to examine student nurses' reflection papers to determine the impact of trans-cultural clinical experiences in Czechia on student nurses' cultural humility and family health history (FHH) gathering.

Background: Few publications discuss collection and utilization of FHH in Czechia. Accordingly, our desire was to gain greater insight in regard to how Czech medical professionals gather FHH and the implications it has in providing healthcare to their patients. In addition, how will BYU student nurses' experiences with Czech nurses influence their perceptions of cultural differences, and how it will it impact their nursing practice?

Brief Description of Project: As part of a Public and Global Health Nursing Clinical Practicum, eleven BYU student nurses traveled to Czechia to work alongside Czech nurses and nursing students in three medical facilities in Czechia. Locations varied from metropolitan to village settings. Because there is little published information on how FHH is collected or utilized in Czechia, one aim of the Czech experience was to determine who collects FHH, how it is collected, and how this information is used. After consulting with Czech citizens, a questionnaire related to FHH gathering and use was developed to guide students in their inquiry. Using the guide, student nurses observed FHH gathering methods and engaged in conversation about methods, utilization, barriers, and skills for FHH gathering in Czechia. Students wrote reflections on their overall experiences and lessons learned regarding FHH gathering and cultural humility. Content analysis was performed on students' reflections to identify major themes.

Outcomes Achieved: In the three facilities visited, students realized FHH was collected predominantly by physicians. Many nurses were familiar with the importance of FHH, but deferred to the physician for collection, with the exception of questions regarding FHH of colon cancer in the endoscopy unit. Overall, student nurses found it more challenging to overcome the language barrier than was anticipated when speaking with healthcare workers. Consequently, reflection paper themes were less focused on the specifics of FHH gathering and more focused on students' personal insights gained from learning how to communicate with those of a different culture in Czechia. Nursing students reported having an outline of topics to discuss provided a starting point for many trans-cultural experiences and helped initiate conversations. Discussing FHH gathering provided an initial structure for conversation that included commonalities and differences in medicine and culture between Czech and American student nurses. Students reported their experience interacting with Czech nurses 1) deepened their sense of cultural humility, 2) enhanced their ability to facilitate an open discussion and communicate with others according to individual understanding, and 3) served to promote greater cultural sensitivity and individualized care in their future practice.

Conclusions: As a result of their trans-cultural experience in Czechia, student nurses developed new insights concerning the importance of FHH and cultural influences on communication. Moving forward, they are motivated to continually develop greater cultural humility toward diverse populations and provide culturally sensitive care.

Funding: Brigham Young University's Mentoring Environment Grant.

INTERPROFESSIONAL EDUCATION / COLLABORATION

The Effect of Incivility on Emotional Status, Team Behavior, and Performance

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Aims: This study aims to measure the effects of exposure to a brief incident of incivility on registered nurses' emotional state, team behavior, and performance in a simulated clinical scenario.

Rationale/Conceptual Basis/Background: Current research on the effects of incivility on performance is limited and primarily examines incivility at the individual level (Schilpzand, De Pater, & Erez, 2016). This project applies the Affect Infusion Model (AIM) (Forgas & George, 2001), an informational processing theory, to help explain the effect of incivility on not only individuals' emotional state, but also team behavior and performance.

Methods: Following IRB approval, registered nurses in a Bachelor of Science in Nursing program were recruited to participate in a simulated scenario involving BLS performance. Prior to the day of the simulation, all participants completed a demographic questionnaire and the Positive and Negative Affect Schedule-Expanded Form (PANAS-X) (Watson & Clark, 1999). Immediately before starting the simulation, participants in the experimental group interacted with an actor portraying a simulation lab manager who exhibited rude behavior. In contrast, immediately before starting the simulation activity, participants in the control groups interacted with the same actor portraying a simulation lab manager who exhibited friendly and welcoming behavior. These divergent interactions (rude vs. polite) served as the independent variable for comparisons between groups. Upon completion of the simulation activity, all students completed the PANAS-X followed by a debriefing session.

Results: Data are forthcoming. In order to measure the effects of exposure to the brief incident of incivility (rude lab manger) on registered nurses' emotional state, we will compare the change in pre- and post- exposure PANAX-X scores between the intervention and control groups. In order to measure the effects of exposure to the brief incident of incivility (rude lab manger) on registered nurses' team behavior and performance, we will analyze the video-recorded simulations using validated observation-based performance measures and haptic sensor data from the computerized CPR mannequin. CPR performance and data from videos will be compared between the groups.

Implications: In order to design and implement interventions to mitigate the effect of incivility on patient care, it is essential to understand how incivility affects not only the individual's emotional state, but also team behavior and patient care.

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INTERPROFESSIONAL EDUCATION / COLLABORATION

Cost-Utility Analyses for Simulation-Based Activities

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Purposes/Aims: The purpose of this presentation is to introduce cost-utility analysis as a best practice for researchers and program evaluators who wish to compare different types of simulation-based educational interventions. After viewing this presentation, learners will be able to describe the importance of calculating and comparing costs associated with simulation-based activities and apply an evidence-based process for conducting a cost-utility analysis comparing two types of simulation-based activities.

Rationale/Background: The evidence supporting the effectiveness of simulation-based educational interventions is growing and many schools of nursing are increasing their use of these innovative teaching and learning strategies. However, there is a gap in the literature about the costs associated with simulation-based activities (Zendejas, Wang, Brydges, Hamstra, & Cook, 2013). Without considering the resources necessary to achieve specific learning objectives, nurse educators cannot make evidence-based pedagogical decisions.

Brief Description of the Undertaking/Best Practice: In order to address this gap, the presenter undertook a funded research project comparing the costs and effectiveness (utility) of two types of simulation: virtual and manikin-based. Using the “ingredient approach” for cost-utility analyses described by Levin and McEwan (2001), she developed a simulation-specific model for estimating the per-student costs associated with each type of simulation. The “ingredients” considered for these calculations include personnel, facilities, durable equipment, consumable supplies, scenario purchase and student inputs.

Outcomes Achieved/Documented: Based on iterative feedback, the resulting model includes a matrix for cost estimation and an example to guide calculation of a weighted measure of overall effectiveness or “utility.” This presentation will provide learners with an opportunity to apply this evidence-based model to their own work.

Conclusions: This simulation-specific model for estimating per-student costs associated with simulation-based educational interventions provides a valid and replicable strategy for simulation researchers and those interested in simulation program planning and evaluation. Applying this best practice will help advance the science of simulation in nursing and healthcare education.

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- Funding: Robert Wood Johnson Foundation Grant ID # 72120.

INTERPROFESSIONAL EDUCATION / COLLABORATION

Improving Time to Pain Medication for Emergency Department Patients with Fractures

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Background: The Centers for Medicare and Medicaid Services (CMS) recognized that early pain treatment for patients experiencing long bone fractures has been linked to reducing negative outcomes and increasing patient satisfaction. CMS requires all hospitals receiving funding from Medicare or Medicaid to report the time in minutes in which emergency department (ED) patients with long bone fractures wait for pain medication. The goal for this project was to be below the national median time of 52 minutes. Long delays within the ED created increased wait times for patients with long-bone fractures (LBF's). A performance improvement project was conducted with an Emergency Department (ED) team using Lean Methodology. Little research existed to help facilities improve their performance in this metric, and current studies lacked statistical rigor.

Methods: Using Lean methodology the stakeholders were identified and included: nurses, clinical coordinators, physicians, and a pharmacist within the ED. The current process used in caring for LBF patients was reviewed, clarified, and variations were identified. The future ideal state was then developed. The gaps were identified and using a Plan, Do, Check, Act (PDCA) model action plans were created along with interventions to be tested. Meetings were held multiple times over the course of three months and were all facilitated by Quality/Lean Specialists. Clinical coordinators used process maps and group huddles to educate staff on interventions and process changes. Retrospective chart reviews were conducted to measure the median time to medication for three months pre and post interventions. Due to the skewed distribution of the data, a Mann Whitney U test was performed to ascertain if there was a statistical significance in time to pain medication in patients with LBF. Additionally an Interrupted Time Series (ITS) analysis was conducted to measure the relation of the change to the intervention.

Results: The monthly median time to pain medication for LBF's decreased from a high of 76 minutes, to a low of 32 minutes ($p = <0.001$). The Mann Whitney U test shows a significant change in time to medication pre and post intervention, demonstrating the clinical relevance and success of the process improvement project. The result of the Interrupted Time Series (ITS) analysis conducted on the intercept, case, intervention flag, and time after intervention resulted in non-significant p values.

Conclusions: The process improvement project demonstrates success with a significant decrease in time to pain medication for patients with LBF's. The goal was met and maintained with monthly medians below the national median of 52 minutes. Although statistically the improvement cannot be attributed to using lean methodology it supported and guided this process improvement project. In keeping with Lean methodology, the ED staff have continued the PDCA cycles, creating ongoing improvement, with median times for the last three months of 26 to 28 minutes.

INTERPROFESSIONAL EDUCATION / COLLABORATION

Attitudes and Perceptions of Team-Based Care: Baseline Data from the SPLICE Project

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Purposes/Aims: The overall goal of this project is to develop, test and disseminate a community-based collaborative primary care (PC) practice model that improves the patient experience, advances population health, reduces costs, and enhances provider well-being. The SPLICE initiative is a collaborative practice curriculum for FNP, PA, and medical students and PC medical residents that has collaborated with a local Federally Qualified Health Center (FQHC). Primary Care and pharmacy residents are leading interprofessional learner teams to provide data-driven, high-quality comprehensive care to medically vulnerable communities. Through this initiative, we aim to provide interprofessional learning experiences to students, while collaborating with the clinic to implement practice transformation.

Rationale/Background: Despite increasing demand, the capacity of the primary care (PC) workforce continues to be insufficient to meet the needs of society. Beyond producing more PC clinicians, experts advocate building PC capacity by “sharing the care” utilizing a team comprised of clinical providers (i.e., NPs/MDs), allied health team members (e.g. medical assistants, pharmacists, and behaviorists), patients and families. Team care models have the potential to achieve the Quadruple Aim (better health outcomes, patient and staff satisfaction at lower cost) and will be particularly important in low-resource settings such as community health centers. Studies of interprofessional education have shown that team-based care improves outcomes, but few studies have included the entire interprofessional team.

Methods: The SON and SOM collaborated to develop a collaborative learning experience within a community-based FQHC. Existing validated tools were used to develop a survey to obtain baseline data about learner’s and clinic staff’s perception and attitudes related to interprofessional teams, values and beliefs, roles and responsibilities, and patient-centered care. Response fields included both free text and Likert scale (range 1=strongly disagree to 5=strongly agree).

Results: The survey was first administered to clinic staff (n=44) including physicians, nurse practitioners, RNs, medical and front office assistants, and behavioral specialists. Key findings included strong agreement (mean= 4.85/5) among staff that diversity and respect are important values in health care and that prejudice and assumptions about those from other disciplines negatively impacted patient care. Results also highlighted that not all staff felt a part of the team (mean=3.7/5) and identified the need for more defined roles and responsibilities among team members. Communication was identified as an area for improvement, with participants somewhat agreeing (mean=3.4/5) that they received incorrect information from other team members more than once, and that team meetings were somewhat disorganized and team expectations were not always clear. Clinical staff scored more highly on team practices and collaboration but lower on their assessment of IP team collaboration. Survey results from our learner groups are expected November 1st, 2017.

Implications: In this FQHC, there were many areas of agreement despite different groups of participants. Clinicians (MDs/NPs) had higher scores in patient centeredness and team-based practice and support staff (MAs, behaviorists) scored lower on team processes, which may indicate they do not feel part of the team. The survey provided an excellent basis for the development of future team-based education in the clinic.

Funding: This project was funded through a Health Resources and Services Administration Primary Care Training Enhancement Grant # T0BHP30023.

INTERPROFESSIONAL EDUCATION / COLLABORATION

IPE: Assessing Attitudes and Teamwork of Students and Faculty through Simulation

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Purpose/Aims: This research project was designed to explore ways to better understand the effects of Interprofessional Education (IPE) on collaborative practice. Specific Aims included: 1) measuring changes in attitudes toward health care teams pre- and post- IPE simulation experience of medical, nursing, and pharmacy students, 2) measuring student perceptions of IPE simulation compared to clinical experience, 3) describing the perception of care as seen through the eyes of the standardized patient, and 4) describe faculty perception of interprofessional collaboration in the administration, participation and evaluation of the IPE Simulation Experience.

Background: Healthcare is catching up with other industries, such as aviation and the military in their growing use of simulation as an integral part of professional training. Simulation allows for the movement of didactic content into the clinical setting through the use of various techniques, tools, and settings. In this way, the use of simulation allows educators to facilitate critical thinking and communication skills by moving the educational experience beyond the walls of the classroom.

Interprofessional education (IPE) is a necessary and important component of any health care program, and is integral to successfully prepare patient care providers with the skills necessary to step into a collaborative practice environment. The Institute of Medicine (IOM) has endorsed this approach formally since 2009, recognizing the need for interprofessional communication and collaboration in the promotion of safe patient care. The goal of IPE is to enhance the educational experience in ways that prepare graduates to successfully enter a collaborative healthcare work environment. The development of health care practitioners who cultivate stronger interprofessional collaborative practice promises to improve the quality of patient care provided, leading to better patient outcomes.

Methods: Pre- and post- simulation experience surveys assessing Attitudes Towards Health Care Teams (ATHCTS) were collected from nursing, pharmacy, and medical students. In addition, post-simulation surveys were completed and submitted by participating nursing, pharmacy, and medical students, standardized patients, and faculty. Changes in attitudes toward health care teams were measured pre- and post- IPE simulation experience using the *Attitudes Towards HealthCare Teams (ATHCT) Scale*. Student perceptions of IPE simulation compared to clinical experience were measured using Post simulation surveys. Perception of care as seen through the eyes of the standardized patient were described using the *Standardized Patient Survey*. Faculty perception of interprofessional collaboration were described using the *Faculty Post Simulation Survey*.

Results: Pending.

Implications/Translation: Interprofessional education experiences are required by nursing, pharmacy, and medical education programs to meet accreditation standards with the goal to improve patient outcomes. Little is known about patient care in simulation settings compared to patient care in traditional settings, changes in attitudes, patient satisfaction, and faculty collaboration as a result of IPE. This study hopes to answer many of these questions for ongoing program evaluation and improvement.

INTERPROFESSIONAL EDUCATION / COLLABORATION

Nurse Practitioner Contribution to Value-Based Care

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Purposes/Aims: The purpose of this study is to determine what value nurse practitioners contribute to the healthcare system; b) what activities they perform that promote measures of value; c) how these activities are measured and documented and d) how these contributions operate in the context of value-based care payment systems.

Background: As healthcare institutions transition away from relative value units (RVUs) to value-based reimbursement, with the implementation of MACRA legislation as part of national healthcare reform efforts, it is timely to measure how nurse practitioners contribute to health care value, and how closely this value is documented and measured by institutional metrics. A deeper understanding of how the nurse practitioner role uniquely contributes to new models of value-based care has the potential to improve the quality of patient care across healthcare systems.

A review of the literature on value related to nurse practitioner role examined value mostly through the lens of cost and cost-savings, in the context of practice and reimbursement policies (Naylor & Kurtzman, 2010). But beyond cost, there are contributions nurse practitioners make to value-based care that may not be measured by the traditional method of assessing value through revenue generation by RVUs. While there are many ways to measure value in healthcare, the MACRA model is designed to focus on quality, cost, and effective use of electronic health record systems (Centers for Medicare and Medicaid, 2016). Nurse practitioners influence these metrics in unique ways through their roles on healthcare teams, but their contributions may not be visible on an institutional level.

Methods: This mixed-methods cross-sectional study was conducted at a large academic medical center. The sample population was pediatric nurse practitioners. Data were collected in three phases; Phase 1: participant observation to obtain contextual data on the nurse practitioner role. Phase 2: 1 hour face-to-face interview with each subject, concerning the domains of role perception, documentation, care coordination, interpretation of "health-care value," and team-based care. Phase 3: collection and analysis of de-identified administrative data. Final analysis included thematic coding of interviews and triangulation of data from all three phases, analyzed quantitatively and qualitatively.

Preliminary Results: Nurse practitioners perform activities that add value to patient health that may impact institutional revenue under value-based care payment models. Findings from Phase 1 include: nurse practitioners work in pediatric specialty practices and perform roles that vary widely by specialty; nurse practitioners' activities extend beyond individual patient care and may not directly generate revenue, but add still institutional value, such as organizing forums; nurse practitioners face a high documentation burden, partially attributable to facilitating coordination among providers; significant time is spent on care coordination; and interprofessional collaboration and patient empanelment vary widely by specialty. Data collection from Phases 2 and 3 is ongoing.

Implications: With the national shift from fee-for-service to value-based payment models, further understanding the activities and value of nurse practitioners in specialty care, and how that value is recorded, is essential to navigating their role in patient care, care teams, and healthcare institutions, and their contribution to health outcomes.

INTERPROFESSIONAL EDUCATION / COLLABORATION

Exploring the University Extension Service Model to Disseminate Research into Siloed Professions in Hospitals

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Purpose: To explore the use of the Land Grant University Agricultural Extension Service model as a system of disseminating and implementing medical research in the hospital setting.

Background: Land Grant Universities like WSU have been using the Agricultural Extension Service model to disseminate research to local farmers and ranchers for decades. This model allows for a decreased timeline between research discoveries and implementation. Healthcare struggles to disseminate research information across siloed professions; now infamous reports estimate that it takes 17 years for research evidence to reach practice. Healthcare has attempted to use the extension service model to increase primary care access in rural areas but this model has not been explored to disseminate research in the hospital setting. A key component of the extension service model to be explored when using it in healthcare is the opinion leader theory. The university extender working closely with agricultural entities is the opinion leader once trust is built between the parties. In the healthcare setting the university extender would work with physicians and administrators as the opinion leader.

Methods: A case study approach was utilized to examine this phenomena, starting with a literature review to assess the presence of the extension service model in healthcare. Structured interviews are planned with key stakeholders, including agricultural extension service professionals, an orthopedic surgeon and emergency medicine provider who are implementing innovative research into their practices, two farmers/ranchers and two nurses, to ascertain barriers and opportunities to research dissemination. Interview answers will be analyzed for themes using content analysis, specifically focusing on the utility of the model to hospital practice and opportunities and barriers to implementing an extension service model in hospitals.

Results: Results of the literature review are complete and show limited use of the extension service model in healthcare. The extension service model has been used as a strategy to improve primary care access in rural areas with a small component focused on research dissemination with varying levels of success. The Extension for Community Healthcare Outcomes has successfully used the extension model to disseminate research from medical colleges to rural physicians in one state. In agriculture, this model has been highly successful in disseminating and implementing research. One reason for success is attributed to the extender being seen as the opinion leader. Research has shown opinion leaders play a key role in disseminating and implementing research. Literature has not explored the use of the extension model to disseminate and implement research in hospitals to shorten the time it takes for research to become practice. Interviews are ongoing and preliminary results will be available in the spring of 2018.

Implications: Seventeen years is simply too long for high quality research evidence to reach the bedside in the information age, when scientific breakthroughs and innovations happen rapidly and have the potential to save lives and improve quality of life. The extension service model represents an innovative way to close this gap in the hospital setting.

Abstracts of Poster Presentations

ISSUES IN EDUCATION

EVALUATING EFFECTS OF SIMULATION ON ATI
PREDICTOR SCORES AS NCLEX-RN PREPARATION

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WEAVING TEAMSTEPPS

Stacie K. Hunsaker, Michael Thomas

ASSOCIATION BETWEEN SPIRITUAL CARE
EDUCATION AND PROVISION AMONG NURSES

Elizabeth Johnston Taylor, Kathy Schoonover-Shoffner

EVOLVING CASE STUDY APPLIED IN A LARGE
LECTURE CLASSROOM: A PILOT STUDY

Barbara Ann Plovie, Rizza Cea

EVALUATING TEACHING STRATEGIES TO
IMPROVE NURSING STUDENTS' DOCUMENTATION

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DO DEU CRITICAL THINKING IMPROVEMENTS
PERSIST OVER TIME

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2017 YEAR OF THE HEALTHY NURSE: HOW A
SAMPLE OF RN-BSN STUDENTS MEASURE UP!

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Maria L. Pappas

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Karen LeDuc

GAMIFYING A PROGRAM TO PROMOTE RESILIENCY
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Patty Wilger, Lindsay Bouchard

STUDENT PERSPECTIVES OF PEER FEEDBACK
IN ONLINE / HYBRID SETTINGS

Tara J. Sharpp, Denise Wall Parilo

INTEGRATIVE NURSING PRINCIPLES:
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Lisa A. Jaurigue, Leigh Ann Tovar

ROAD LESS TRAVELED: STRESSORS & COPING
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Halina Barber, Amber Lea Vermeesch

A NEEDS ASSESSMENT FOR INTEGRATING
SIMULATION INTO CLINICAL NURSING CURRICULA

Diana Taibi Buchanan

BARRIERS AND FACILITATORS TO MEDICATION
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AN EDUCATIONAL NEEDS ASSESSMENT: NURSING
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Erin E. Kozlowski, Kupiri Ackerman-Barger

“SOCIAL JUSTICE IS A DREAM” - HOW NURSE
EDUCATORS CONCEPTUALIZE SOCIAL JUSTICE

Claire Valderama Wallace

TOWARD QUALITY PRECEPTORSHIP: A DYAD STUDY

Laurie A. Kunkel-Jordan

UNDERSTANDING RN-BSN STUDENT ATTRITION
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Kyle Ross

PROFESSIONAL IDENTITY IN THE LIVED
EXPERIENCE OF HOSPITAL NURSES

Tullamora T. Diede, Billie Marie Severtsen

THE EFFECTS OF SCREEN-TIME ON SCHOOL-AGED
CHILDREN’S PHYSICAL HEALTH

Fayette K. Nguyen Truax, Kimberly Buck

Evaluating Effects of Simulation on ATI Predictor © Scores as NCLEX-RN Preparation

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Purpose: To determine course effectiveness of using simulation, developed specifically from ATI Predictor weakness areas, as a teaching strategy to improve predicted NCLEX pass rates.

Background: Preparing for the NCLEX-RN exam should be more comprehensive than applying test taking strategies and repetitive testing or review practices. Our professional obligation goes beyond test taking and should emphasize content and practice mastery. However, there is very little objective research available that directs nursing faculty on specifically how to use simulation to prepare students for the NCLEX-RN exam.

Methodology: This is a descriptive study using both qualitative and quantitative data. Descriptive statistics compared the mean scores for student performance on the ATI Predictor © exam before and after simulation. Students in their final semester of a 6 semester BSN program participated in a seminar course that included multiple targeted simulations, based on weakness areas identified through individual and group ATI Predictor © analysis. The predictor exam (version A) was taken at the onset of the semester before any simulations occurred. The results of that exam were evaluated both by the faculty and students. Faculty then developed specific targeted simulation experiences over the course of their final semester. Students repeated the exam (version B) at the end of the semester, with the expectation that they score at least a 90% prediction of passing their first attempt at NCLEX-RN. Each simulation was evaluated by the students as well as a course evaluation. Qualitative data was examined using content analysis from these evaluations, which included interpretation of textual data through the process of coding and the identification of themes and core categories.

Results: In the areas of Nursing Process, NCLEX-RN Preparation, and Content Mastery, students improved their overall percentage of predictive probability of passing NCLEX-RN on the first attempt from 87% to 95%. Health Promotion and Maintenance improved from 60%-71%. To improve this score, an OB/Neonatal simulation was created that covered all stages of labor including assessment and care of the newborn. Physiological Adaptation scores increased from 66%-78%. This simulation included a fluid and electrolytes simulation that covered hemodynamics as well as pathophysiology concepts. Management of Care scores improved from 81%-85%. This simulation included referrals, delegation, and leadership. Students evaluated each simulation. The general themes expressed by the students were: 1) all comments were positive; 2) simulations helped the students retain knowledge taught in the classroom; and 3) students felt much more comfortable in their current practice.

Implications: With the rise of high fidelity simulation in nursing education as a method of helping students achieve transference of knowledge, there is clear evidence that its use is beneficial. Using simulation to specifically target student areas of weakness is an effective strategy for both content mastery and NCLEX-RN preparation.

ISSUES IN EDUCATION

Weaving TeamSTEPPS® Concepts throughout a Nursing Curriculum

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Purpose: The presenters will detail strategies they have used while implementing TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety) concepts into a baccalaureate nursing program. We will discuss faculty training, administrative buy-in, and the implementation plan we have used to begin this journey.

Background: TeamSTEPPS is an evidence-based set of tools used to enhance patient outcomes by improving communication and teamwork among healthcare professionals. Many hospitals across the United States use this method to help create vital teams and promote a culture of open communication and safe care. TeamSTEPPS was originally released by the Department of Defense Patient Safety Program in 2006 as an approach to develop teamwork into its medical facilities. It was created as a result of the 1999 Institute of Medicine (IOM) report titled “To Err is Human”, which stated that almost 100,000 deaths annually are caused by medical errors. This program has become a national standard for teamwork and communication training.

Because communication is a critical component in healthcare and nursing students are often intimidated when learning to work on a healthcare team, the TeamSTEPPS concepts provide a framework in which students are able to build a foundation. They discover methods to handle difficult conversations appropriately and learn how to speak up for patient safety.

Methods/Process: The presenters will discuss their use of a peer teaching model, in addition to simulation as a format for teaching these important communication concepts. Participants will learn a method of creating and utilizing online learning modules to help teach students. In addition to peer teaching, the principles of team structure, communication, leadership, situation monitoring, and mutual support were incorporated into college’s simulation scenarios and students are consistently reviewing and using these important TeamSTEPPS elements. Ideas for enhancing communication in the simulation lab will be emphasized.

Outcomes: Practical ideas for successfully implementing TeamSTEPPS into a nursing curriculum will be clearly identified. Strategies that have been utilized to evaluate student learning will be shared. The TeamSTEPPS Teamwork Attitudes Questionnaire was used to evaluate student attitudes towards teamwork. Data analysis in our courses has shown a positive change in students’ attitudes toward teamwork after being taught these concepts in a communication course.

Conclusion: The blended, peer teaching model has enabled us to reduce class size and implement this program with minimal cost. Additionally, the TeamSTEPPS concepts are easily woven into simulation training. Consequently, the gradual implementation of TeamSTEPPS concepts into the nursing curriculum has been successful and is continually evolving and improving.

Association between Spiritual Care Education and Provision among Nurses

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Purpose: To measure how spiritual care education is obtained and how ways of obtaining it is associated with frequency of spiritual care, opinions about initiating spiritual or religious discourse or prayer with patients, and demographic variables.

Background: Nurses accept a holistic philosophy of care that encourages them to nurture spiritual well-being as well as other dimensions of personhood. Yet evidence indicates that nurses infrequently provide care they consider to be spiritual care. Although the American Association of Colleges of Nursing *Essentials of Baccalaureate Education for Nursing Practice* (2008) advised schools to teach nursing students to assess and provide care that is sensitive to patient spirituality, many studies document that a barrier to the provision of spiritual care is lack of education about it. Thus, understanding if and how practicing nurses are educated to provide spiritual care, and whether it is associated with the care they provide, can inform educators as they continue to hone this curricular area.

Methods: Online survey methods were used to collect data from 445 nurses. The survey, accessed from the home webpage of the *Journal of Christian Nursing*, included: six items inquiring about ways respondents had received education about spiritual care; the Nurse Spiritual Care Therapeutics Scale (Mamier & Taylor, 2015); items assessing nurse opinions about introducing spirituality or religion during patient care; and demographic variables. Frequencies and bivariate statistical analyses to measure associations (e.g., Chi square, independent samples t-tests) between types of spiritual care education and other study variables were used during analyses.

Results: This sample of predominantly religious, Christian nurses reported receiving education about spiritual care most frequently from their personal religious development (85%), reading (58%), and inservices/workshops/conferences (43%). Only 36% reported obtaining spiritual care training during their formal nursing education; however, those <35 or >64 years of age did receive more spiritual care education during their formal training. Having learned about spiritual care because of personal religious development and reading was associated with more frequent provision of spiritual care, whereas more formalized methods of learning about spiritual care were not. Similarly, learning by observing colleagues and by personal religious development were associated with introducing spiritual/religious discourse and prayer into patient care.

Implications: Results not only document how nurse-provided spiritual care may be informed by personal religiosity and reading, but also how formalized means for educating nurses about spiritual care may either be absent or not impact spiritual care. Although it is unknown how generalizable these findings are to a less religious nurse population, findings raise questions about how to educate nurses to negotiate the personal and professional boundary required for appropriate, even ethical, spiritual care.

Funding: Loma Linda University School of Religion, LLU Center for Spiritual Life & Wholeness.

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ISSUES IN EDUCATION

Evolving Case Study Applied in a Large Lecture Classroom: A Pilot Study

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Transferring clinical expertise from the patient bedside to the classroom requires up-to-date clinically competent and experienced faculty. In spring 2015 the authors were charged with the task of bringing their clinical expertise to a large didactic course by ‘flipping the classroom’ from a lecture format to a small group interactive education model. The authors developed 17 case studies that would evolve throughout the quarter. Each group of four students drew ‘wild cards’ throughout the quarter as their patient’s pregnancy progressed through the antepartum, peripartum and postpartum periods. The case studies and wild cards were developed by the authors and were a compilation of their antepartum and midwifery clinical experience. The evolving case studies therefore reflected the student clinical patient population.

The purpose of this pilot project was to evaluate student response to the implementation of the small group interactive education model by means of the evolving case studies. At the end of the course, all students were asked to complete a quantitative and qualitative evaluation of the course. The course was taught both autumn, 2015 and winter 2016 quarters. The 72 autumn quarter 2015 students were enrolled in the BSN program. The 72 winter quarter students were a combination of traditional BSN students and students enrolled in the ABSN or accelerated program. A summary of the results (n=56, autumn; n=64, winter) indicated that in both quarters the students found the course academically challenging and engaging. (CEI 4.4, autumn; CEI 4.3 winter). The winter quarter students evaluated the overall quality of the course higher. (OSR 4.5 vs 4.9). Autumn quarter students spent more time studying than winter quarter students (class median 6.6 vs 5.4 median hours per week). Use of class time was the lowest rated course parameter both autumn and winter quarters. (3.3 median autumn vs 4.3 winter). The winter quarter students rated the evolving case study as a means of developing critical thinking skills (4.0 on an ascending likert 5 point scale). Qualitative results autumn quarter described the evolving case study as “busy work” and “not a good use of class time”. The assigned pan of care concept maps were “redundant” and “time consuming”. Key word/phrases winter quarter centered on “group work” as being “difficult to schedule” and “not needed”. The concept maps were more favorably received than autumn quarter being described in relation to “critical thinking” and also “time consuming”. Students both quarters described the faculty lectures as “engaging” favorably commented on individual case studies imbedded in faculty lectures.

The following conclusions were made as a result of the pilot program: Students preferred stimulating lecture with specific case studies to the evolving case study. The lack of an easy to use program for concept mapping was a barrier to effective use of student time. The evolving case study enhanced student critical thinking. Random assignment of student groups in winter quarter was a barrier due to conflicting class schedules. The authors further concluded that the evolving case study would be better utilized in a clinical or simulation lab setting.

ISSUES IN EDUCATION

Evaluating Teaching Strategies to Improve Nursing Students' Documentation

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Purpose: The purpose of this study was to evaluate the assessment and documentation skills of student nurses in a simulated environment at the start of their first clinical rotation semester, after having received targeted teaching strategies to improve student nurse documentation.

Background: The School of Nursing pre-licensure program at California State University at Stanislaus offers Health Assessment to first semester students enrolled in the Bachelor of Science in Nursing Program. The course is designed to assist students in assuming responsibility for assessing the health status of individuals, with a focus on acquiring the skills and abilities to obtain relevant health history and perform a health assessment. This foundational course is further meant to prepare students for clinical experiences that begin in the second semester of the six-semester program. First semester faculty sought best practices in teaching students strong documentation skills, and found relatively little in the literature. Consequently, faculty from both first semester courses, Health Assessment and Fundamentals of Nursing Practice, joined efforts to design teaching strategies aimed at improving students' documentation skills to promote critical thinking.

Methodology: This descriptive study utilized both quantitative and qualitative data. Students were placed in a simulation environment and challenged to complete a physical and environmental assessment and document findings. Quantitative data was gathered by evaluating the presence or absence of expected elements of the student documentation notes across the three cohorts of students. A total of 51 students were assessed. A tool was developed to capture documentation data under three main categories: general format, assessment, and action. The first cohort (n=25) received no intervention, the second (n=16) received situational awareness training, and the third cohort (n=10) received both situational awareness training as well as training targeted on professional documentation. The situational awareness training involved increasing the students' assessment of the overall environment. The documentation teaching strategies included the introduction of a physical assessment reference diagram, the introduction of Data, Action, and Response (DAR) focused charting, the consistent use of DAR charting in both classes, and the introduction of acute assessment guidelines. Qualitative data included a visual examination of student documentation notes for themes.

Results: Quantitative data revealed an overall improvement in the use of a structured documentation format (36%/19%/60%), use of professional terminology (84%/75%/100%), date/time (4%/13%/40%) and signatures (0%/25%/50%). However, there was no improvement in the use of correct medical abbreviations (88%/94%/80%). Qualitative findings revealed a general lack of professional writing as evidenced by use of pencils or colored ink pens, incorrect method to make corrections, use of slang terminology, and generally disordered across all cohorts.

Implications: Targeted teaching strategies that combine training on situational awareness with training specific to documentation improves the overall ability of student nurses to document professionally. However, not all areas showed improvement, indicating a need to further develop effective teaching strategies aimed at improving specific student documentation skills.

Do DEU Critical Thinking Improvements Persist Over Time

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Purposes/Aims: The purpose of this study is to examine the long-term impact of a dedicated-education unit (DEU) clinical experience on students' critical thinking scores. Our previous research project supports the idea that the DEU significantly increased students' ability to critically think during the semester in which the DEU occurred. This current study examines whether the improvement in critical thinking persists for the two succeeding semesters following the DEU experience or does it "wear off" over time.

Rationale/Conceptual Basis/Background: The DEU model of clinical instruction partners a student with a working nurse for the majority of the semester. The students choose to be in the DEU rotation and the working staff nurses volunteer to be DEU clinical instructors. This relatively new model of clinical instruction is consistent with increased quantitative measures of satisfaction of both nurses and students (Rhodes, Meyers & Underhill, 2012); and several studies used qualitative methods to describe positive student experiences (Hannon et al, 2012) and positive faculty experiences (DeMeester, 2012).

Methods: A subset of students experience the DEU clinical model in the third trimester and, at the conclusion of that DEU trimester, two trimesters remain before graduation. All students are enrolled in the Kaplan program of nursing instructional support and part of this support includes comprehensive testing every semester and each test contains a critical thinking sub-score. Our previous research showed a 16.4% significant ($p < 0.05$) improvement in critical thinking post DEU, but that study only examined the trimester in which the DEU experience occurred. In other words, although the DEU experience significantly improved critical thinking, it was a fresh experience. In order to begin to examine the longer-term effects of the DEU, we are comparing the DEU students to the other traditional clinical students over the remaining two semesters. Students in the fourth and fifth trimester will be grouped according to whether they were previously in the DEU. The individualized scores will be aggregated and compared to the improvement scores we already have for the first three trimesters. Both a pre-test/post-test design and a group comparison design are utilized.

Results: We have completed the initial analysis on all cohort scores achieved during the first three trimesters. We will be comparing these aggregated scores to the scores these same students will achieve over the final two trimesters. By the time of the 2018 presentation, we will have added the final two cohorts to this analysis. Thus far, each DEU cohort has had the greatest improvement in critical thinking scores in every analysis in every trimester to date. However, these improvements have not looked at the long-term effects of the DEU. Before the April 2018 WIN conference, we will have completed the analysis on 8 cohorts of students covering all 5 trimesters.

Implications: The DEU model of clinical instruction has the potential to improve student critical thinking and ultimately clinical reasoning. This is an important advance in pre-licensure nursing education that is historically difficult to teach.

2017 Year of the Healthy Nurse: How a Sample of RN-BSN Students Measure Up!

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Purpose: Investigate the nutrition and physical activity of RN-BSN students.

Background: The 2015 *ANA Code of Ethics for Nurses* highlights that nurses have a duty to care for their own health and safety and to model health promotion for patients by eating healthy and remaining physically active. ANA has declared 2017 the “Year of the Healthy Nurse,” having completed a health risk appraisal on over 10,000 nurses. Findings included an average BMI of 27.6, less than 50% adequately utilizing muscle-strengthening exercises, and only 16% reporting sufficient fruits and vegetable intake, while 6% smoked (ANA, 2016). There is a need for nurses to exercise better self-care.

Sample & Methodology: Exploratory, quantitative, cross-sectional design using the Health-Promoting Lifestyle Profile II (HPLP II), a 52-item tool including questions on physical activity and nutrition. A convenience sample of RN-BSN students were e-mailed from a current list of students. A web-link to SurveyMonkey© was provided. Research focused on students’ responses to nutrition/physical activity questions.

Results: Response rate was 26.5%, with 22/83 completing the HPLP II. All were female. Mean age was 31.5 years (r= 22-51). Mean years worked as an RN was 1.68 (r= 0-6). Ethnicity included: 40.91% White, 31.82% Hispanic, 14.1% Asian, and 9.09% Black. Half of respondents were single with no children, and 27.27% were married with dependents. Over 47% identified as being overweight, and 14.29% as being obese. Mean weight was 153.86 lbs. (r= 103-268). Mean height was 63.82 inches (r= 56-69), with an average BMI of 26.8 (overweight). Over 45% never left the unit for meals. Over 59% drank between 1-5 servings of caffeinated beverages daily, and 10% smoked cigarettes. Twenty percent never limited sugar, and 40% never ate bread or cereal. Only 10% ate 2-4 daily servings of fruit, and only 5% routinely ate 3-5 servings of vegetables daily. Sixty percent stated that they sometimes followed a planned exercise routine, and 35% never vigorously exercised. Light to moderate activity was sometimes or often done by 60%. Leisure recreational activities were sometimes done by 60%, and 45% reported never doing stretching exercises. Seventy percent stated that they sometimes or often got exercise through daily activities.

Discussion & Implications: In this study, results were similar with ANA risk appraisal: BMI overweight, low levels of fruit/vegetable intake, and smoking percentage, as well as need for more consistent exercise. A longitudinal study of 130,00 people in 17 countries found that even light exercise (30 min./5 times per week) can prevent premature deaths and cardiovascular disease (Lear et al., 2017). A study of hospital nurses revealed that a higher level of those with generally healthy nutrition and physical exercise levels exhibited greater perceived benefits from diet and increased motivation to be physically active, along with greater self-efficacy for those behaviors and decreased perception of barriers (Albert, Butler & Sorrell, 2014). Interventions need to be targeted to increase motivation for healthy diet and exercise, and methods to increase self-efficacy for better overall health and greater levels of participation in health promotion programs.

Enabling Success in Nursing School: Description of an Innovative Student-Led Program

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Purpose: The purpose of the Nursing Student Peer Support Program (NSPS), a student-led program, was to increase students' self-reported academic confidence, preparedness for nursing courses, and sense of community, while decreasing self-reported anxieties related to nursing school.

Background: Integrating into a pre-professional community and adapting to demanding courses that require new study habits and time management skills is challenging for nursing students. There is a paucity of research on nursing student-led programs focusing on academic confidence, professional development, and emotional support for incoming students. As a result of a curriculum change that increased rigor in nursing pre-requisite courses, more students changed their major or dropped out of the nursing program from a lack of preparedness, academic confidence, and emotional support from peers. During pre-tutoring assessments, nursing students reported that remaining in nursing school during freshman year proved challenging. First year students attributed this difficulty to confusion around expectations associated with nursing school, a lack of awareness of resources, and perceived social isolation from the nursing community. Furthermore, students reported that a lack of information about study strategies and difficulty developing time management skills contributed to their anxiety.

Program Description: During the 2016-2017 academic year, a pilot nursing student-led program (NSPS) was developed and implemented by third and fourth year nursing students. Nursing student facilitators discussed study strategies for specific nursing courses, provided advice regarding clinical rotations, discussed professional opportunities available for nursing students, and presented general tips about the nursing program gathered from peers. The NSPS program's aim was to provide advice and guidance to new nursing students, addressing common challenges that incoming nursing students encounter in the first two years of the program. Anonymous qualitative surveys were administered to first and second year students at the completion of the workshop.

Outcomes: Survey results included a self-reported increase in confidence, enhanced preparedness for nursing courses, an improved sense of community, and a decrease of self-reported anxiety. Six themes emerged from the surveys: 1) students reported feeling more confident 2) less stressed 3) more excited about the program 4) better prepared to manage workload 5) more comfortable approaching and speaking with older nursing students and 6) more open to receiving study tips for specific nursing courses. Of the fifty-eight responses, 70% (n=41) strongly agreed the topics presented were helpful to learning and studying while 96% (n=55) agreed they would use the suggestions and strategies as they continue in the nursing program.

Conclusion: The NSPS program will be replicated during the 2017-2018 academic year. A pre- and post-test Likert scale and qualitative survey will be administered to better understand the impact the program has on change scores. This program has potential to be useful to other 4-year BSN programs interested in creating a community-oriented environment that fosters confident, supported, and prepared new nursing students. Building community through student-led programs empowers nursing students to be resourceful and team oriented as they transition into practice. This professional development program meets the expected outcomes of BSN programs; preparing confident clinicians and leaders in nursing practice.

ABSTRACT
WITHDRAWN

ISSUES IN EDUCATION

Community-Engaged, Multidisciplinary, Funded Baccalaureate Elective Courses

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Purposes/Aims: There are several aims of this ongoing project: a) to develop funded, elective, multidisciplinary clinical courses for undergraduate nursing students, and b) to describe student progress toward meeting learning outcomes that are consistent with funding agency aims.

Rationale/Conceptual Basis/Background: We have offered elective courses for many years. We have been experiencing pressure from the community to offer courses that address the needs perceived in the community. For example, the Alaska Kidney Foundation (AKF) has goals for health care professionals to be trained to optimally promote renal health and to manage renal disease.

Methods: We partnered with the AKF to offer an elective course focusing on renal health and disease. Renal specialists have taught the course, a nurse practitioner, a dietitian and a social worker, all specialists in renal health and illness. We considered best practices (Kreie, Johnson & Lebsack, 2017) and used an instructional designer to develop a course that is online and includes a visit to a local dialysis/renal care center, a seminar with several renal patients, a group teaching project, and evolving case studies. We used a pretest-posttest design to assess learning of each cohort, as well as to assess the change in knowledge of renal health and illness.

Results: To date 88 students have completed the course, 82 prelicensure students and 6 RNs in the RN-BS program option. Student's (n=88) reported improvement in knowledge of renal health and illness. Most recently using a 10-point scale to represent mean responses, students reported increases in knowledge of pathophysiology (from 6 to 9.25), health promotion (from 3.5 to 9) and disease management (from 4.5 to 9.25). We have received financial support from the AKF for instructor salaries, instructional designer time, and for RN scholarships.

Implications: This course provides a direct means for clinical agencies to improve awareness and skills of nurses in specific areas, in this case renal health and illness. It also provides opportunities for community partnerships and supplemental funding.

Medication Calculation for Undergraduate Nursing Students:
Revised Curriculum with Deliberate Practice

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Background: Redesigning curriculum of medication calculation was warranted when student grades and satisfaction with content delivery diminished at this campus. Medication administration errors remain one of the most common causes of unintended harm to patients. Nursing students need to perform this skill at 100% accuracy including the calculation of the dose as well as knowing safety-related aspects such as the six rights of medication administration.

Approach: The revised curriculum for medication calculation with a deliberate practice approach gave students a well-rounded experience with medication calculation and administration. This included the following activities: An intensive workshop with practice stations for actual dosage calculation, handling of medications, and embedded critical thinking challenges; designated medication labs for skills practice throughout the term; carefully designed application within simulations created a realistic experience before entering a clinical facility; and regularly assigned homework with the expectation of full remediation of errors. Working in pairs, students relied on dual-check and collaboration while building their foundational skills. Simplifying pedagogy with use of the formula method only kept student use congruent and beneficial for group study sessions.

Outcome: The test group compared to the previous cohort without a deliberate practice approach, revealed not only better test scores, but improved student satisfaction. Less remediation was required and students in general felt more confident as measured by a Likert scale survey administered both pre and post intervention. Qualitative feedback indicated improved student satisfaction. Aligning content for medication calculation with curricular content in pharmacology and theory gave students better perspective on concepts related to medication administration. By pairing students, teamwork and accountability for safe practice was emphasized.

Implications: Curriculum and policy for medication calculation for the undergraduate nursing program has changed. The revised curriculum implemented last year has been retained, with an extension of the workshop time from three hours to four hours to allow for additional practice. Based on the feedback from the intervention, the previous policy of pass rate for medication has been altered. Medication calculation testing was 80% correct for first pass rate, then 90% correct for retest in order to progress to a clinical practice setting. The policy changed to 90% correct for first time pass rate, then 95% correct for retest in order to progress to a clinical practice setting.

ISSUES IN EDUCATION

Experiences of Undergraduate Nursing Students during a Clinical Education Redesign

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Background: In nursing education, the clinical context is recognized as an essential arena for students to prepare for the current practice milieu. As nursing programs are significantly increasing undergraduate enrollment in order to ease the ongoing nursing shortage; educators face the challenge of providing quality clinical learning experiences. The challenge is intensified by the limited number of health care agencies available and the competition for clinical sites. This environment forces nursing programs to consider a wider variety of agency sites and to re-examine clinical teaching models to maximize student learning.

Purpose/Aims: The purpose of the study was to explore multiple factors that contribute to students' perception of the clinical learning environment. The specific questions were:

1) What are students' perceptions of the clinical learning environment in specific pediatric settings?

2) Are there differences in students' perceptions of the clinical learning environment when assigned to traditional, acute care settings versus community-based ambulatory settings?

Methods: The study utilized a mixed method descriptive survey design. Data was collected via the Student Evaluation of Clinical Learning Environment (SECEE) tool for students enrolled in an undergraduate pediatric nursing course. $n = 315$. Complementary data was collected utilizing two open-ended questions contained in the survey. Comparison analyses included linking survey responses to final course grades and KaplanTM Integrated test scores for both groups.

Results: No significant difference was detected between the two groups on KaplanTM scores $t(315) = .45, p=.65$, or course grades, $t(315) = .81, p=.42$. The Mann-Whitney tests indicated that the students' perception of the Instructor's Facilitation of Learning was greater for the ambulatory than the acute care students ($p=.02$). Ambulatory students' perception of Preceptor/Resource RN Facilitation of Learning was also higher ($p=.04$). There were no group difference on students' perception of Learning Outcomes ($p=.21$). Participants were asked what aspects of this clinical experience promoted learning and what aspects hindered learning through an open ended survey. Respondents indicated that nurse preceptors' knowledge, enthusiasm, and the variety of patient care experiences helped promote learning. Low census, night shift assignments, poor role modeling, and poor communication by clinical instructors hindered learning.

Implications: The rapidly changing health care delivery system is redefining how care is delivered and the role of the nursing workforce. This paradigm has challenged educators to expand clinical experiences to meet the goal of preparing students to become competent graduates. The clinical environment is extremely influential in determining learning outcomes and must be an important focus in attempts to improve nurse education. Additionally, the clinical components of instruction should provide opportunities for students to learn in multiple patient care settings, receive appropriate guidance and foster the development of clinical competence. An alternative pediatric ambulatory experience was developed to increase clinical capacity and to address more targeted and innovative learning activities for students enrolled in an undergraduate pediatric course. Study results confirmed the success of this initiative.

Funding: Sigma Theta Tau, Alpha Kappa At Large Chapter.

Gamifying a Program to Promote Resiliency Skills in Nursing Students and New Graduates

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Background: Research indicates that new graduate nurses leave the profession due to burnout and environmental stressors. One way to combat nursing attrition is to offer resiliency education programs, which can improve self-efficacy, enhance stress management, and increase safety and caring behaviors. Resiliency training can also improve academic performance and student retention. To promote both academic and professional success, an evidence-based resiliency curriculum for first responders was adapted and offered for three cohorts of entry-level nursing students. Data was collected from each cohort to evaluate the program's interest and value during participants' studies and transition to practice. Quantitative and qualitative data indicated that students and new graduate nurses utilized multiple resiliency skills during their pre-licensure program and new graduate nursing practice; however, elements of the resiliency curriculum were viewed as burdensome and repetitive.

Purpose: Incorporate gamification in an evidence-based program to promote resiliency in nursing students and new graduates.

Methods: To promote student engagement and skill development, the resiliency curriculum for entry-level nursing students was modified to include elements of gamification, a method that can motivate participants to use skills in a non-game context and modify behavior. The gamification components utilized included storytelling, challenges, opportunities for collaborative problem solving, and social connection. Two games ('That's the Spirit' and 'Expectations') were developed and implemented to help students apply the resiliency skills of belief, persistence, strength, trust, and adaptability. Instructor and student feedback was then collected to evaluate the program.

Findings/Results: Quantitative and qualitative data analysis is in progress, including longitudinal comparisons to previous cohorts. Preliminary student feedback indicated that the games were stimulating, promoted social interaction, and resulted in application of specific resiliency skills to a variety of challenges viewed as relevant to their academic and professional performance. When participating in the gamified resiliency curriculum, instructors perceived that students demonstrated higher engagement and collaborative learning.

Implications: Using gamification in an evidence-based resiliency curriculum for nursing students can be an effective way to engage participants and promote ongoing utilization of resiliency skills in academic and new graduate practice settings. This can have profound benefits for both nurses and patients, as increased resilience in nurses can enhance their mental health, quality and safety of patient care, and career longevity.

Student Perspectives of Peer Feedback in Online/ Hybrid Settings

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Purpose: The purpose of this study was to examine student satisfaction with interacting and providing feedback to peers in an online/ hybrid setting in a writing-intensive course.

Background: Peer review is an important part of the writing process. Nursing faculty use peer review in writing classes to allow students to receive feedback prior to submitting their papers and to help students learn how to provide constructive feedback to others. Additionally, providing activities that promote student-student interaction allows students to build community, interact, and engage in an online environment that may otherwise seem isolating.

Methods: Faculty of a writing-intensive class in a school of nursing assigned an online peer-review assignment for the students' final paper. Traditionally, students exchanged hard copies of their papers with a peer and provided edits and comments. In the online assignment, faculty used Turnitin PeerMark™ to allow students to provide feedback on their peers' papers. Faculty created a set of questions that were similar to the grading rubric for students to answer as they reviewed the papers. For example, students were to comment whether the paper followed assignment directions, if it had errors in APA format, and if it was in a logical format. We received IRB approval to conduct a mixed-methods study to examine the students' satisfaction and perspectives completing the online peer review. We developed a one-page survey with Likert-type scale and open-ended questions that asked if students found the assignment helpful. Using descriptive statistics and qualitative content analysis, we analyzed results of the survey to determine students' perspectives interacting and providing feedback online.

Results: The quantitative and qualitative findings showed that students found the online peer review assignment helpful. Of the 58 students who completed the survey, 96.6% stated that it was helpful, with 29.9% saying it was 'usually helpful' and 36.2% saying it was 'very helpful.' While students reported several reasons they found the assignment helpful, such as feedback on APA format, 50% of the students stated that 'seeing what is important to focus on in an assignment' is the number one way they found the assignment helpful. A major theme of the qualitative findings was 'We all win.' The students described how they were able to catch errors and provide feedback to help their peers improve their papers, but that they also benefited themselves by gaining a new perspective on their own papers by seeing how peers' papers were structured.

Implications: Online peer review assignments can be a useful way for students to improve their writing and to connect with classmates in an online or hybrid class setting. Faculty should consider seeking out opportunities for students to provide peer feedback in a constructive, structured format. These assignments can help students improve their own writing by both receiving feedback and by gaining a new perspective by reviewing other students' papers. Additionally, online peer review assignments can help improve student engagement in what may otherwise seem like an isolated writing assignment.

ISSUES IN EDUCATION

Integrative Nursing Principles: Curriculum Mapping for BSN Programs

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Purposes/Aims: To provide rationales for the importance of including integrative nursing principles within baccalaureate nursing education.

To provide mapping of integrative nursing principles to the National Council Licensure Examination for Registered Nurses (NCLEX) test blueprint and the Essentials of Baccalaureate Education for Professional Nursing (Baccalaureate Essentials) that will assist with threading of integrative nursing content in curriculum and accreditation.

To provide learning outcomes for the mapped integrative nursing content.

Rationale/Background: Integrative nursing principles (Kreitzer, 2016) seeks to continue Florence Nightingale's philosophy of nursing from the 1860s; this makes nurses natural leaders in the trend to provide integrative care among various disciplines. (Koithan, 2017). Integrative nursing principles provide guidance for care in all clinical settings and aligns with the United States "Triple Aim" initiatives (Kreitzer, 2016). There is a national trend towards integrative health. The National Institutes of Health has the National Center for Complementary and Integrative Health (NCCIH) to assist providers in the delivery of health care. Federal legislation titled, the Comprehensive Addiction and Recovery Act (CADRA, 2016), addresses many issues with the opioid crisis in America and specifically mandates complementary and integrative services and education to veterans. Ninety-one people die in American every day due to opioid overdose and over 33,000 died in 2015 (CDC, 2017). Teaching nurses to practice integrative nursing which includes whole person care that is relationship based, using various modalities can assist individuals, families, and communities live healthy lives.

Brief Description of the Undertaking: Mapping of the 6 integrative nursing principles to the NCLEX test blueprint and the Baccalaureate Essentials. Creation of learning outcomes to support the content mapping.

Approach: Mapping to critical documents necessary for nursing education to keep nursing education salient and focused for successful passing of nursing boards and program accreditation.

Methods: Curriculum mapping, SMART outcomes, Bloom's Taxonomy

Process: Analysis of NCLEX blueprint, Baccalaureate Essentials, and integrative nursing principles; culminating in a mapping table. Creation of learning outcomes for the mapped integrative nursing content.

Outcomes Achieved/Documented: Integrative nursing principles mapped to NCLEX: 3 of the 5 Integrated Processes (nursing process, caring, and culture and spirituality); and all 4 content areas (safe and effective care environments, health promotion and maintenance, psychosocial integrity, and physiological integrity). Within each of these content areas further mapping was completed for specifics. Integrative nursing principles mapped to Baccalaureate Essentials: Essential III, IV, VI, VII, VIII. Learning outcomes for integrative nursing content were provided in various levels of Bloom's taxonomy.

Conclusion for Educational Practice: Mapping assists in keeping nursing education content essential, relevant, and meaningful which may support NCLEX pass rates and program accreditation. This mapping and examples of learning outcomes provide a basis for faculty to use for including integrative nursing content in nursing curriculum. This work can also serve as a tool to educate other faculty and gain buy-in on the importance of integrative nursing content in nursing curriculum.

Conclusion for Research/Future Undertakings: Develop a model for integrating/threading integrative nursing principles into nursing curriculum that includes spiraling and scaffolding.

Road Less Traveled: Stressors & Coping Strategies of Undergraduate Nursing Students

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Purpose: To identify stressors, current stress-reducing tactics used, and barriers to utilizing stress reducing resources of Baccalaureate Nursing Students based on identified adult attachment styles in order to provide recommendations to an existing peer mentorship program on ways to enhance student support.

Background: Perceived stress in the nursing profession has been linked to, reduced physical and psychological health, reduced job satisfaction, increased sickness absence, increased staff turnover, and poor job performance. Nursing students are faced with similar perceived stress as well as physical and mental stressors of challenging nursing curriculum. High levels of anxiety can affect nursing students' learning, performance, and retention in nursing programs. Attachment and stress are related in that the human stress response is an evolutionary adaptation triggered by environmental threat, while the attachment system works to increase security during environmental threat. Within this evolutionary framework, attachment insecurity may increase perceived stress, may affect the intensity or duration of the physiological stress response, and may interfere with the success of social support in buffering the stress response.

Methods: This one-time IRB approved qualitative study was conducted using 122 senior undergraduate nursing students. Data was extracted using a Qualtrics survey that included questions regarding top 5 stressors, top 5 coping strategies, top 5 barriers to coping strategies, and self-identified attachment and social styles. Responses were analyzed and categorized to identify themes that were representative of data collected. Recommendations for peer mentorship program were made based on results as well as information gathered from evidence based nursing articles.

Outcomes: Concerning attachment styles, senior nursing student participants self-identified as secure (43%), self-reliant (24%), support-seeking (19%), and cautious (13%) which is similar to the general population reported in the literature. Thus, for the three insecure attachment styles, interventions from existing attachment theory literature could be easily modified to provide tailored interventions for nursing students. Concerning identified stressors, there were eight broad categories identified including 1) school, 2) time management, 3) clinical rotations, 4) overall mental and physical health, 5) social and family life, 6) finances, 7) NCLEX, and 8) finding a job after graduation. Current stress reducing tactics were organized into five major categories including 1) health (physical activity, pharmacologic aids, spiritual practices), 2) social (spending time with family and friends), 3) organizational tools (utilization of planners, calendars), 4) utilization of audiovisual media, and 5) utilization of campus resources (professors, study groups). Finally, identified barriers to utilizing stress reducing resources included time, health, school, other responsibilities, lack of resources, and finances.

Conclusion: Based on attachment traits and identified stressors, stress-reducing tactics used, and barriers of senior nursing students, the following recommendations were made: 1) stagger assignment and exam dates, 2) promote the use of peer mentorship, 3) create a mindfulness workshop, and 4) normalize the utilization of counseling resources.

A Needs Assessment for Integrating Simulation into Clinical Nursing Curricula

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Purpose: The purpose of this curriculum needs assessment was to provide foundational information to guide the next steps in development of a simulation curriculum.

Background: Clinical simulation has been advancing in sophistication and use for more than a half century. Despite recognition of the effectiveness of clinical simulation, there are numerous barriers to curricular integration. Given current opportunities for simulation development at the UW School of Nursing (revision of the undergraduate curriculum and renovation of the Simulation Center), a needs assessment was important for enacting a well-planned simulation curriculum.

Methods: The conceptual framework used was Kern's Six-Step Approach for Curriculum Development. Data collection included curriculum review; anonymous surveys of students (ABSN/BSN, N=36; DNP, N=16) and faculty/teaching staff (N=22); and focus groups with students (ABSN/BSN, N=10; DNP, N=3) and faculty/teaching staff (N=22). Survey and focus group procedures were approved by the UW Human Subjects Board.

Results: Review of simulation in the current clinical curricula showed that simulation-based experiences (SBEs) were integrated into the majority of the undergraduate clinical courses and many of the DNP courses. However, approaches were varied, including the use of different simulation planning templates and inconsistent use of best practices in simulation. An identified strength was consistent use of debriefing using an evidence-based approach. On the surveys, students rated the quality of simulations as moderate (mean ratings from 1=poor to 5 = excellent, ABSN/BSN = 3.61 ± 0.84 , DNP = 3.67 ± 1.44 ,). When asked to rate the quality of instruction, mean ABSN/BSN ratings were 4.6 ± 0.7 and DNP ratings were 3.8 ± 1.3 . Despite moderate to high ratings of instructional quality, lack of instructor skill with simulation was the rated among 22 potential barriers as most important by the DNP students (4.3 ± 1.1 , 1 = not important, 5 = extremely important) and second most important by ABSN/BSN students (3.9 ± 1.3). The lowest rated barrier for both student groups was simulations being too difficult. Potential topics for SBEs were identified from the surveys and focus groups. On the faculty surveys, the most commonly recommended topics for both undergraduates and graduates pertained to communication, patient assessment, and clinical reasoning. Undergraduate students desired simulations earlier in the program and more simulations overall, as well as a balance of unusual/emergency and everyday care topics. DNP students also desired more simulations, and particularly favored standardized patient encounters. Focus groups with students and faculty identified areas for integrating diversity, equity, and inclusion, not only in planned SBEs, but also throughout the simulation program structure.

Implications: Use of a framework-based approach for conducting a needs assessment resulted in successful identification of strengths, areas for growth, and potential areas for innovation in the development of a coordinated simulation curriculum. The next steps, currently in progress, are presentation of recommendations to faculty and planning of the specific curriculum. A proposed simulation curriculum was developed based on the needs assessment and presented to a faculty workgroup, which is refining the plan and will be working on development of the SBEs based a timeline for development and implementation.

Funding: This project was funded by the Innovative Educator Fellowship from the UW School of Nursing.

Barriers and Facilitators to Medication Adherence for Congolese Refugees

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This DNP project explores and identifies the current barriers and facilitators to medication adherence that Congolese refugees face in Boise, Idaho. It is the goal of this project to contribute to the body of knowledge related to the barriers and facilitators for medication adherence among the local Congolese refugee population, and to inform future strategies to improve medication adherence among the local Congolese population.

Vulnerable populations are at greater risk for developing health problems. In fact, vulnerable populations have been defined in the literature as those with diminished access to healthcare and those at greater risk for poor health. The health status of vulnerable populations is a concern for communities across the globe; and is an area where significant disparities still exist. According to current definitions that exist, refugees who have immigrated to this country are considered a vulnerable population. Boise, Idaho has become a hub for refugee resettlement, with its refugee population continuing to grow each year. Boise scores high in facilitating self-sufficiency and community integration among refugees and has been chosen as a preferred community for resettlement. In recent years, refugees originating from the Democratic Republic of the Congo (DRC) have come in increasing numbers to the state of Idaho. From October 2015 to August 2016, 43.9% of refugees coming to Idaho originated from the DRC. Despite the growing refugee population, a substantial paucity of research examining refugee medication use and access still exists. Developing countries such as the DRC have reduced access to healthcare and lower education rates, which contribute to healthcare barriers such as a decrease in medication adherence. Studies in developed countries reveal that the rate of medication adherence among the general population averages just 50%; much lower in developing countries. Due to the increased number of Congolese refugees and lack of research surrounding medication adherence specifically for this population, there is a need for further research.

To understand factors that influence medication adherence and to inform future practice, community stakeholders who work closely with the local Congolese population in Boise will be interviewed to compile qualitative findings. Audio recordings will be transcribed verbatim by the author and then reviewed by each interviewee. From the data collected, thematic analysis will take place by the identification and grouping of themes and patterns.

A summary of the findings from the thematic analysis will facilitate further understanding of the research question, which examines those factors that impact medication adherence among Congolese refugees. The analysis of data collected will provide insight pertaining to the facilitators and barriers to medication adherence. Previous research has demonstrated that disparities exist in the healthcare provided to refugees. Medication adherence has been identified as a barrier to achieving optimal health outcomes both among the general population and refugee groups. By assessing the facilitators and barriers to medication adherence among the local Congolese refugee population, new knowledge can be generated that will contribute to the development of meaningful interventions to improve medication adherence within this population.

An Educational Needs Assessment: Nursing Comfort in Describing Magnet Components

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Purpose/Aims: A survey was created to conduct a cross-sectional, descriptive, quantitative study to evaluate nurses' level of comfort in describing Magnet components prior to Magnet re-designation. The aims were to 1) create a tool to identify gaps in nursing perceived preparedness 2) identify gaps in nursing comfort in describing key Magnet components prior to re-designation 3) create recommendations for the foundation of an educational program prior to Magnet site visit.

Rationale/Background: Magnet designation recognizes healthcare organizations who provide excellent quality patient care and an excellent work environment for nurses. Magnet designated organizations are shown to have improved patient outcomes, higher levels of nursing specialty certification, higher percentage of nurses with BSN degrees, higher HCAPS scores, and lower patient mortality when compared to non-Magnet facilities. Although there are Magnet readiness tools available, minimal research has been conducted regarding preparedness for a site visit.

Methods: A tool was developed in Qualtrics that consisted of 18 topics with a Likert scale ranging from 1=extremely uncomfortable to 5=extremely comfortable for nursing comfort to describe Magnet topics followed by three multiple-choice questions, demographics, and a free-text section. The survey went through multiple rounds of testing for online and paper format. After tool development and IRB approval, the survey was distributed via e-mail to approved listservs. To account for non-response bias, stratified randomization was performed for units and clinics for in-person recruitment. The survey was also distributed at Magnet Champion meetings. The data was analyzed with descriptive statistics. SPSSv24 was used to calculate a Cronbach's Alpha.

Results: Results are still preliminary but will include: 1) Cronbach's Alpha score of the survey tool 2) descriptive statistics of the survey results 3) demographics. A total of 137 respondents completed the survey. Most respondents had been nurses > 10 years, had been employed at UC Davis Health (UCDH) > 10 years, worked at UCDH during the last Magnet designation period, were BS or BSN prepared, and worked in acute or critical care. Final results are still pending but preliminary results show a Cronbach's Alpha score of 0.92 for the entire Likert scale survey. The two sections with the lowest average comfort reported were "Your relationship with the CNO" (3.46) and "Professional Practice Model" (3.55). The two highest comfort reported were "Policies and Procedures" (4.40) and "Patient Assignments" (4.36). For the multiple-choice questions, most respondents answered correctly.

Implications: Magnet designation may be prestigious, but can be expensive and labor intensive. Educational programs have been used to help prepare nurses for Magnet surveyor site visits. Nurses are adult learners, and theoretically need to be involved in planning and evaluation of the learning activity; incorporate their experiences; have learning activities that will have immediate application to personal or work life; and have activities are problem centered. By performing a self-reported needs assessment, these areas can be addressed and a specifically catered education program can be created to help optimize nursing preparation for a successful Magnet site visit.

“Social Justice Is a Dream” – Nurse Educators’ Conceptualizations of Social Justice

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Purpose: Social justice is put forth as a professional nursing value in a number of foundational documents. The purpose of this study is to explore nurse educators’ conceptualizations of social justice and their pedagogical approaches to social justice principles in their theory courses in baccalaureate nursing programs in California.

Background: Attention to social determinants of health within the health professions parallels efforts in higher education to understand and dismantle oppressive social structures through critical social theory-informed pedagogies. The majority of research about various forms of social justice education in nursing education have evaluated individual learning activities but deeper explorations of how faculty integrate and teach about social justice in their baccalaureate theory courses have not yet been done.

Methods: This descriptive qualitative study is guided by a constructivist grounded theory approach to define the collective analytic story of the twenty-eight nurse educators teaching in seventeen different BSN programs in California. These in-depth semi-structured interviews were conducted in person and via telephone.

Results: Initial and focused coding have revealed a number of notable findings and is ongoing. Preliminary findings indicate a wide range of conceptualizations and approaches to social justice and related concepts such as equality, equity, privilege, power, and various social differences such as race, class, and gender.

Implications: A deeper understanding of nurse educators’ perspectives and pedagogical approaches informs our collective capacity to embody the ANA’s *Code of Ethics*, calling for nurses to engage in social change. Findings can contribute to the ability of nurses in practice, education, research and policy to serve as change agents promoting health equity in a variety of settings.

Toward Quality Preceptorship: A Dyad Study

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Purpose/Aims: This study builds upon the investigator's prior qualitative studies, which illuminated relationships between the preceptorship experience and preceptor (PR) and newly graduated nurse (NGN) outcomes. The purpose of this current study was two-fold: first, to examine preceptorship in the context of NGN transition-to-practice as a quantifiable dyadic phenomenon and predictor of desired preceptorship outcomes and second, to lay the groundwork for future development of a model of preceptorship quality. Specific aims were to examine the *actor, partner, within, and between-dyads* effects of the preceptorship experience on NGN competence, and PR and NGN work engagement.

Rationale/Conceptual Basis/Background: Nurse demand is outpacing supply. The growing population of older adults, burden of chronic disease, and rate of nurse retirement underscore the importance of NGN retention in the nursing workforce. The complexity of contemporary healthcare systems poses formidable challenges to NGNs, leaving many at risk for failure-to-thrive in clinical practice. Dissatisfaction with employer-provided job orientation and unwelcoming nurse work environments are contributing to NGN job dissatisfaction and turnover; moreover, NGNs are leaving the profession. Instability in the nursing workforce is costly for healthcare organizations and leads to insufficient nurse staffing reflected by high patient-to-nurse ratios and inadequate nursing skills mix, which jeopardize patient care quality.

It is well-known that NGNs suffer reality shock and need support as they transition to the professional nurse role. For more than four decades, preceptorship has been a constant in the NGN transition-to-practice experience in hospital settings. Yet, the justification for preceptorship as the primary mechanism for onboarding NGNs has largely been based on tradition, and qualitative and anecdotal evidence. No model of preceptorship quality has been published, and the critical elements of preceptorship in the context of NGN transition-to-practice have not been adequately explicated in the literature. Numerous researchers proffer the PR-NGN relationship as pivotal to successful NGN transition to the professional nurse role. Nevertheless, a paucity of empirical research has been aimed at the PR-NGN dyad. The Actor-Partner Interdependence Model provides a conceptual and statistical basis for the examination of dyadic relationships and accordingly, served as the foundation for this study. The following research question was addressed: In the context of NGN transition to the professional nurse role, are the effects of preceptorship a function of the PR-NGN interpersonal relationship?

Methods: A reciprocal, standard dyadic design was used. Participant PR-NGN dyads were recruited from nine urban and community Midwestern U.S. hospitals using a convenience sampling strategy. A power analysis indicated that 101 PR-NGN dyads were necessary to achieve a power of 80% at the .05 level of significance with an effect size of .40 for both actor and partner effects. The study instruments included the Preceptor Evaluation and Specific Competency Tools, the Utrecht Work Engagement Scale-9, and a survey of participant characteristics developed by the investigator. Confidential surveys were independently completed by PR and NGN dyad-partner participants and returned to the researcher via the U.S. Postal Service. Data analysis included the use of an online statistical application developed specifically for the Actor-Partner Interdependence Model.

Results: Pending.

Implications: Pending.

Understanding RN-BSN Student Attrition through Program-Wide Action Research

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Purposes/Aims: The purpose of this study is to engage in a collaborative, program-wide action research study that will support development of a survey instrument that might improve insight on RN-BSN student attrition within the program. The two guiding questions of this study are as follows: (1) How can the faculty and staff engage in a meaningful learning process to improve their understanding of contributing factors related to RN-BSN student attrition? And (2) How can the program strengthen retention supports for its students?

Rationale/Conceptual Basis/Background: Attrition rates for RNs returning to school for their BSN has been a problem as students strive to balance work, school, and their personal lives. Despite making the RN-BSN program a hybrid program requiring a one-day per semester live campus attendance, one program has only achieved an 85% retention rate for those who started the program between 2014 and 2016. Of the students who discontinued, only five could be accounted for by academic failure.

Initial archival data analysis included student demographics, prerequisite and cumulative GPA at the time of admission, length of time enrolled in the program, and the RN-BSN coursework GPA. Nearly one-third of the students that discontinued were male, and another one-third were students of marginalized populations, which are noteworthy overrepresentations of the workforce and program enrollment. Students' admission data also showed that those who discontinued were high-achieving students, with an average 3.56 prerequisite GPA and average 3.34 cumulative GPA.

Methods: This study follows Stringer's Look-Think-Act model of action research inquiry to identify factors contributing to attrition and retention, and to identify potential solutions to improve retention. Both quantitative and qualitative data will be acquired using data from student archival records, data from a pilot questionnaire, and data from focus group discussions with faculty and staff.

Results: From the data, a survey instrument will be developed designed to identify the barriers contributing to the attrition of students, especially those from underrepresented populations. This study is in progress and will be completed in time for the poster session.

Implications: This study has the potential to give more insight into the workplace and academic barriers RN-BSN students encounter. The results of this study intend to help improve the retention of RN-BSN students in one academic setting; however, the findings may be able to be generalized to other similar institutions serving the RN-BSN student.

ISSUES IN EDUCATION

Professional Identity in the Lived Experience of Hospital Nurses

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Purpose/Aims: The purpose of this study is to explore the phenomenon of the lived experience of nurses working with patients in hospitals and, with that information, identify meaningful themes and patterns of how their workplace environment impacts their sense of professional identity. The specific aim of this study is to describe, interpret and, therefore better understand the lived experience of nurses working with patients in a hospital environment and the meaning of this phenomenon as it relates to their professional identity.

Rationale/Background: Over three million nurses currently holding active licenses to practice in the U.S.; an estimated 30% of nurses leave their job within the first year and 27% report bullying in the last six months. Nurses experience oppression in their relationships with physicians and other health professionals as well as through lateral violence or bullying from other nurses. Nurses play an essential role in a hospitalized patient's healthcare team providing skilled care and assessment. However, nurses have commonly been viewed as a less important and less intelligent than other healthcare team members. Paradoxically, nursing is consistently identified as the most trustworthy profession by the general public. This dichotomy of simultaneously being considered incompetent yet holding a high level of trust may leave nurses to question their own professionalism. Historical, political, and sociological factors contribute substantially to this view of nursing within the present health care culture. There is a critical need to understand the work of a professional registered nurse. No other studies have focused on the lived experience of nurses working in a hospital environment and how that environment impacts their sense of professional identity.

Methods: Philosophical hermeneutics will be used as the methodology. The purpose of philosophical hermeneutics is to better understand the meaning of an experience. This qualitative methodology utilizes the primary investigator in one-on-one interviews with participants. Therefore, this methodology seeks to reveal a deeper understanding of how nurses create a professional identity for themselves in the work that they do with their patients through the narratives or voices of interviewing the nurses themselves.

Results: With a sample size of 12 nurse in Washington state. All interviews were transcribed and interpreted by a group of methodological and content experts. Nurses are proud of their work and feel like professionals in their workplace. Meaningful themes include expertise in assessment and patient education, working effectively in team situations, forming relationships with patients and families and finally, "working around" the health care system in order to advocate on behalf of the patient.

Implications: The results of this study, when shared with nurses and other health care professionals, will yield a better understanding of the profession of nursing as explicated in the real work of nurses. The results of this study will challenge the public perception of what it means to be a professional registered nurse and highlight health care workplace safety issues. These themes will ultimately provide examples of tangible ways nurse educators, nurse administrators and nurse themselves can impact the nursing workforce and workplace.

The Effects of Screen-Time on School-Aged Children's Physical Health

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Purpose: The purpose of this study is to identify the relationship between the amount of screen time use and its effect on the physical health (weight and vision) of school-aged children 6-12 years of age, from two primary care pediatric clinics servicing primarily lower socioeconomic families in Riverside County, California.

Background: The advancement of technology has transformed the lives of today's children and their families, leading to less time spent outdoors and more time using electronic devices for entertainment purposes. Increased use of screen time has been associated with various physical health problems in teenagers, such as obesity and poor vision. Few studies have examined if younger children are effected in the same way. Failure to address this problem early in childhood can lead to an increase in the incidence of obesity and vision problems during the teenage years.

Methods: This research study utilized a convenience sample of 230 parent-child dyads to examine the effects of screen-time use and its relationship to the physical health of children. A Priori power analysis was used to calculate the G*Power for this study and the estimated number of participants expected was a minimum of 225. Parent-child dyads were recruited by flyers posted at both pediatric clinics. English-speaking parents/guardians of qualified children in the study were asked to answer survey questions pertaining to their child's media use (Media History Questionnaire). Permission to obtain the child participants' weight and height including a vision screen with the Snellen chart was requested during the initial consent process. Body mass index was calculated to determine designated weight category. Descriptive statistics was used to describe socio-demographic data and media survey results. For analysis, independent T-test was used for quantitative variables and chi-square test was used for qualitative variables. Correlation was considered significant at the 0.05 level (2-tailed).

Results: Our study results identified a significant association between an increase in number of hours per day of electronic device usage to children who are overweight ($p=0.012$). There is also a significant weak positive relationship between the number of electronic devices in the home to the number of hours per day of electronic device usage in children that participated ($r=0.25$ and $p\text{-value} < 0.001$). There was no association between the number of hours per day a child uses their electronic device to vision status ($p=0.100$). Lastly, although there was no significant association between vision status and having a television (TV) in the room ($p=0.190$), 59% of those who failed their vision screening reported having a TV in his or her bedroom.

Implications: Results from this study will add to the growing body of literature related to the potential negative effects of electronic device usage on weight and vision in young children. Healthcare professionals working with the pediatric population should routinely screen and educate families with young children on the potential health problems related to the excessive use of electronic devices.

Funding: This work was supported by the Loma Linda University, School of Nursing Research Seed Fund.

Abstracts of Poster Presentations

LATINO HEALTH ACROSS THE LIFESPAN:
APPLICATIONS TO PRACTICE FROM RESEARCH AND THEORY

OVERVIEW: LATINO HEALTH ACROSS THE LIFESPAN:
APPLICATIONS TO PRACTICE FROM RESEARCH AND THEORY
Heather Coats

REDUCING LATINO CHILD OBESITY, ESPECIALLY
AMONG LOW INCOME AND IMMIGRANT POPULATIONS
Elizabeth A. Reifsnider, David McCormick

INTERGENERATIONAL CERVICAL CANCER
EDUCATION AMONG HISPANICS
Bertha E. "Penny" Flores, Lyda Arévalo-Flechas

THE LIFE, LOVE, AND HEALTH STUDY:
A LATINO SEXUAL HEALTH ASSESSMENT
Joanne Noone, Ireli Hernandez

THEORY OF REASONED ACTION, HEALTH BELIEF MODEL:
MEXICAN AMERICAN ELDER FORMAL CARE USE
Janice D. Crist

LATINO HEALTH ACROSS THE LIFESPAN:
APPLICATIONS TO PRACTICE FROM RESEARCH AND THEORY

Overview: Latino Health across the Lifespan:
Applications to Practice from Research and Theory

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Purpose: The aim of this symposium is to describe various aspects of Latino health and inequalities that exist and illustrate through both theory and research potential ways to improve health for Latinos across the lifespan.

Background: The Latino population in the United States continues to expand. According to the U.S. Census Bureau, this population increased by 43% between 2000 and 2010. This growth accounted for over half of the 27.3 million increase in the total population of the United States. Despite this growth, healthcare for Latinos is lacking in many areas and inequities continue to exist. In this symposium, we will examine some of the health disparities affecting the US Latino population.

Methods: This symposium presents a variety of methods to address Latino healthcare inequalities. A range of Latino populations across the lifespan will be represented.

Results: First, the results of a randomized clinical trial on prevention of infant obesity in Mexican-American Women, Infant, and Children will be presented. This study's findings found obese/overweight status was observed in 17/63 (27%) of breastfed infants and 29/56 (52%) of formula-fed infants. Breastfeeding for \geq two months was associated with 2.7 times lower odds of overweight/obesity at age 12 months (OR = 0.37, 95% CI = 0.17-0.79, P = .01) and breastfeeding was the most important predictor of healthy infant weight at one year of age. Second, preliminary results of a mixed method study will be presented. This study's findings examined the relationship between health literacy, socio-demographic variables and cervical cancer screening and prevention practices among Hispanic women in South Texas. Third, a qualitative descriptive study assessing knowledge, needs, and barriers to accessing reproductive and sexual health services among Latino adults in Jackson County, Oregon will be presented. This study's thematic findings included barriers and facilitators to accessing services, contextual influences, sources of information, and recommendations to improve services. The major barriers included privacy and confidentiality concerns, the stigma associated with use of services, and embarrassment. Cultural and religious beliefs were major contextual influences. Last, a theoretical synthesis will be presented. This synthesis compared two theories, the Theory of Reasoned Action and the Health Belief Model. Using both of these theories, the authors incorporate prior research of Mexican American families' barriers and facilitators of use of formal care and propose ways to shape future population-based precision interventions to address disparities for Mexican American families.

Implications: Consistent with this year's WIN focus on transforming health through advances in nursing research, education and practice, the scope of the results presented within this symposium provide a wide breadth of representation of nurse scholars working to improve Latino healthcare. The goal for this symposium would be for the audience to take away knowledge about a range of methods, from randomized clinical trials to a theoretical synthesis, and how these nurse scholars are working with a variety of populations, from infancy to elder, positively impacting the health of Latino populations.

LATINO HEALTH ACROSS THE LIFESPAN:
APPLICATIONS TO PRACTICE FROM RESEARCH AND THEORY

Reducing Latino Child Obesity, Especially among Low Income and Immigrant Populations

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Purposes/Aims: The aim of this study was to determine if community health workers (CHW, promotoras in Spanish) could successfully deliver a culturally tailored intervention that would achieve a reduction in the incidence of child obesity among children at high risk for obesity.

Rationale/Conceptual Basis/Background: Hispanics of Mexican-American origin are at increased risk for obesity, especially when living in poverty. Growth of infants participating in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) has been little studied. Children whose mothers are overweight or obese are at higher risk of becoming obese. The study employed the Ecological Model of Growth by the PI as the conceptual framework.

Methods: Pregnant overweight and obese women of Mexican descent enrolled in WIC were recruited and randomized to intervention versus control during their 3rd trimester of pregnancy. Intervention subjects received home visits by promotoras who provided counseling on infant growth, breastfeeding, nutrition, child development, sleep, physical activity, and safety. Promotoras did not visit the control subjects. A research assistant collected outcome data by telephone and during home visits. Of 150 infants recruited, data were available at age 12 months on 119.

Results: Obese/overweight status was observed in 17/63 (27%) of breastfed infants and 29/56 (52%) of formula-fed infants. Breastfeeding for \geq two months was associated with 2.7 times lower odds of overweight/obesity at age 12 months (OR = 0.37, 95% CI = 0.17-0.79, P = .01). In a multivariable analysis, variables not associated with infant obesity were birth weight, gender, intervention group, father's unemployment status, mother's nation of birth, annual household income, and age at which solid foods were introduced. Family life was characterized by food insecurity, lack of consistent meal planning, financial stress, and bouts of unemployment. Breastfeeding was the most important predictor of healthy infant weight at one year of age. Though children not breastfed at 2 months and breastfed children did not differ in their weight-for-height Z-scores at age 2 years, on average, Z-scores for non-breastfed children increased faster than those of breastfed children.

Discussion/Conclusion: The study supports efforts by WIC to vigorously promote breastfeeding to reduce child obesity and improve the health of children. The reasons the intervention was not successful in reducing the incidence of child obesity could be due to several potential factors: the limitations of interventions provided by non-professional health workers, cultural views of healthy children, or genetic and home environmental factors. New approaches are needed to understand deliverance of interventions in a community context with CHWs.

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LATINO HEALTH ACROSS THE LIFESPAN:
APPLICATIONS TO PRACTICE FROM RESEARCH AND THEORY

Intergenerational Cervical Cancer Education among Hispanics

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Purpose: The aim of this presentation will be to discuss the preliminary results of a community-based, mixed-method study that explored the relationship between health literacy, socio-demographic variables and cervical cancer screening/prevention practices among Hispanic women in South Texas.

Background: Hispanic women in Texas experience higher cervical cancer incidence and mortality rates compared to non-Hispanic whites (13.9 vs. 8.2 per 100,000). Cervical cancer screening is recommended every 3 years for women 21 to 65 years old. Despite evidenced-based preventive recommendations, Hispanic women in Texas are under screened.

Methods: Hispanic males and females participated in focus group interviews. Using Paasche-Orlow & Wolf (2007) model linking health literacy to health outcomes, this descriptive study identified individual level factors that influence cervical cancer screening and prevention behaviors. Focus group discussions were conducted by bilingual/ bicultural researchers, audio-recorded and transcribed verbatim. At the end of the focus group interview, participants completed cervical cancer knowledge, attitudes, beliefs, self-efficacy, health literacy and acculturation surveys. Data were analyzed in the source language.

Results: Eleven focus groups (n=7 female, n= 4 male) and 100 surveys (n=74 females and n=26 males) were conducted thus far in South Texas. The majority of participants self-identified as were Mexican-American (50%) and Mexican (35%), the mean age was 51 (SD 13). A preliminary theme from female focus group interviews is: “*include males*” in cervical cancer prevention education. The preliminary theme from male focus group is a “*clash of cultures*” or navigating between scientific knowledge and expected Hispanic cultural norms. Both men and women reported the importance of multi-generation cervical cancer prevention education: one participant said: “*include grandmothers.*” They also reported that education had to start early in community settings such as schools and churches. Cleofas, a participant stated “*speak to our youth, our young kids about this virus, because it’s a private matter. Once sexually active is no longer a private matter.*” In addition, participants said that providing incentives was important. One participant, suggested “*offer Barbeque plates.*”

Conclusion: These preliminary results suggest the need for community-based, culturally competent, family oriented, intergenerational cervical cancer screening education strategies. It is important for nurses to be aware of Hispanic cultural norms including *familismo* (family first) to provide effective cervical cancer education aimed at decreasing Hispanic cervical cancer health disparities.

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LATINO HEALTH ACROSS THE LIFESPAN:
APPLICATIONS TO PRACTICE FROM RESEARCH AND THEORY

The Life, Love, and Health Study: A Latino Sexual Health Assessment

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Purposes/Aims: The purpose of this study was to assess knowledge, needs, and barriers to accessing reproductive and sexual health services among Latino adults in Jackson County, Oregon.

Rationale/Background: There are reproductive and sexual health disparities for Latinos in Oregon and within Jackson County, Oregon. In Oregon the rates of new HIV infection in 2011-2015 per 100,000 persons was 9.2 for Latinos compared to 5.6 for non-Latino Whites (Oregon Health Authority, 2016). Teen pregnancy rates are declining nationally for all racial and ethnic groups. While gaps in rates for Latina teens are narrowing in Jackson County, there are still areas of disparities to monitor in teen pregnancy rates and in utilization of effective contraception in this age group. According to the Oregon Health Authority (2016), reproductive health clinics may be underutilized by Latinos.

Methods: This was a qualitative descriptive study. A series of focus groups occurred throughout Jackson County. Inclusion criteria included residents of Jackson County, ages 18 and over, who are of Latino background. Recruitment occurred in Spanish and English through connections from a local health equity coalition, from community service agencies, and by snow-ball sampling. Focus groups occurred in community settings in Jackson County that were convenient to access by community residents and at times of the day convenient for Latino adults to attend. Sessions were held in English or Spanish. A certified interpreter was available for the Spanish sessions and interpreted the session into English for recording. Participants received a \$25 gift card for attending all or part of a focus group session. Food and child care was available. Focus group questions reviewed and refined by local community members and translated into Spanish by certified translator. The focus group was led by respected Latino community members to facilitate the discussion. Focus group sessions were audio recorded and transcribed. Thematic analysis procedures developed by Braun and Clarke (2006) were used to analyze the data into codes and codes were grouped into themes using constant comparative analysis. Results were confirmed by participants in a community forum.

Findings: Forty-one people participated in one of six focus group; three were in Spanish and three in English. 31 (76%) of participants were women. The group was evenly split between those raised within and outside of the United States. Major themes included barriers and facilitators to accessing services, contextual influences, sources of information, and recommendations to improve services. Major barriers included privacy and confidentiality concerns, the stigma associated with use of services, and embarrassment. Cultural and religious beliefs were major contextual influences.

Conclusions: Recommendations included cultural trainings for healthcare personnel, bringing workshops and trainings on sexual health to the workplace and use of Spanish media sources to provide sexual health information. Providers of sexual and reproductive health services should be proactive in assuring privacy and confidentiality, especially with use of interpreters, to ensure quality access for Latino clients.

Funding: Oregon Health Authority Public Health Division.

LATINO HEALTH ACROSS THE LIFESPAN:
APPLICATIONS TO PRACTICE FROM RESEARCH AND THEORY

Theory of Reasoned Action, Health Belief Model:
Mexican American Elder Formal Care Use

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Purpose: The purpose of this presentation is to describe the results of a theory synthesis. We compared two theories in order to frame investigation of Mexican American (MA) families' barriers and facilitators of use of formal care, to shape future population-based precision interventions to address disparities.

Background: Formal care is defined as long term services and support (LTSS). The US long-term care system is designed to provide elders with disabilities and their family caregivers a variety of needs-based non-acute LTSS. These include: aging in place with community-based support; e.g., home health care services, adult day services (ADS), and hospice; and aging in residential care facilities; e.g., assisted living facilities and nursing homes. However, data show that, with the exception of ADS, MA caregivers (MA caregivers' primary decision makers about elder care) choose one option for care of their elders: aging in place with *no* LTSS.

Methods: We used Fawcett's theory analysis methods to evaluate two theories as they relate to MA families' barriers and facilitators of use of LTSS.

Results: Description of Theories: The Theory of Reasoned Action (TRA) modified by Ghoochani et al. contains constructs such as trust (factors that promote confidence in the integrity and reliability of something), perceived benefits (perceptions of the advantages to be gained by doing something), and ethics (a system of moral principles that direct behavior). We included Phillips et al.'s ethno-cultural group-based life circumstances to represent life course influences on attitudes. The Health Belief Model (HBM) is similar, containing the concepts perceived benefits, barriers, threats, susceptibility, and severity/seriousness; and cues to action and self-efficacy.

Internal Consistency of Theories: Both theories have internal consistency and significance with concepts framing cultural beliefs shaping individuals' and families' health, illness, and use-of-services experiences. The TRA, more testable and empirically adequate, represents the complex cultural and family-related factors that influence decisions about LTSS use by MA caregivers. For future research, we will use the TRA as a framework to test the explanatory power of a causal model predicting the use or intent to use LTSS. In contrast, the HBM, more parsimonious and pragmatically adequate, provides a clear, concrete organizing framework for education that will introduce students to theoretical models that explain types of cultural issues on which to base preventive care (primary, secondary, tertiary). The HBM can also frame practice for clinicians identifying important culturally based health beliefs. Through nursing leadership, LTSS agencies and providers can be assisted with policy improvement to transform care into more inviting, culturally competent programs and services. Culturally appropriate education tools and counseling/case management strategies can be offered, promoting MA caregivers' self-efficacy in developing their own cues to action, to avail themselves of LTSS.

Conclusions: This theoretical analysis provides research, education, and practice implications. The two theories differ in their most appropriate applications. The TRA's constructs are appropriate to frame a detailed descriptive research study predicting use of LTSS; while the HBM's concepts are appropriate to frame entry-level nursing education and practice, including improving LTSS agencies' provision of care.

LEADERSHIP AND HEALTH SYSTEMS

UNDERSTANDING THE RELATIONSHIP BETWEEN THE ENVIRONMENT AND THE JOB ROLE OF RN MANAGERS

Lindsey M. Tarasenko, Jacqueline Jones

IMPROVING THE CULTURE OF SAFETY WITHIN A SCHOOL OF NURSING

Paula Gendreau, Karen Kesten

IMPROVING ENGAGEMENT IN AN EMERGENCY DEPARTMENT: A QUALITY IMPROVEMENT PROJECT

Roxanne R. McGray, Mary J. Waldo

IMPLEMENTATION OF AN EDUCATIONAL PRESSURE INJURY TOOL IN THE PERIOPERATIVE SETTING

Nicole Diane L. Burca, Ruth Taylor-Piliae

MEDICATION SAFETY ZONE TO PROMOTE UNINTERRUPTED MEDICATION ADMINISTRATION

Trisha M. Saul, Sandy I. Martir

EXAMINATION OF OUTCOMES: TEAM-BASED APPROACH TO CARING FOR PATIENTS WITH HEART FAILURE

Karen Colorafi, Kenneth B. Daratha

IMPROVING PNEUMOCOCCAL IMMUNIZATION RATES THROUGH ACADEMIC DETAILING

Karen Colorafi, Kimberley McKeirnan

DOES A STANDARDIZED HAND-OFF TOOL IMPROVE NURSING COMMUNICATION?

Stacie K. Hunsaker, Abigail Wilkerson

REDUCING CLABSI RELATED TO LINE TAMPERING

Salomeja M. Garolis, Michele Campbell

MEDICAL ERRORS ABOUND: WHEN AN INTRAMUSCULAR INJECTION ISN'T INTRAMUSCULAR

Pamela Strohfus, Paula Molina-Shaver

GENERATIONAL DIFFERENCES IN PREFERRED LEARNING STYLES AMONG NURSING STAFF

Kara Mangold, Lorna Taylor

ADMINISTRATION & INTERPROFESSIONAL LEADERSHIP PROGRAM: UCSF GOES ONLINE

Mary Louise Fleming, Lucille T. Fisher

LEADERSHIP AND HEALTH SYSTEMS

Understanding the Relationship between the Environment and the Job Role of RN Managers

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Purposes/Aims: 1) To explore how nurse middle managers perceive organizational factors that place pressure on the nurse manager role; and 2) To explore how forms of workplace mistreatment manifest in the work environment from the perspective nurse middle managers.

Rationale/Conceptual Basis/Background: Workplace mistreatment (WPM) is an overarching construct that encompasses several forms of mistreatment that occur internally and externally in the workplace. Such behaviors can manifest in daily operations and will persist until the phenomenon is understood and addressed at the system-level. System-wide issues within healthcare organizations and high workloads and demands can create obstacles for nurse managers to be effective leaders and have healthy relationships with staff and can impact recruitment and retention. Nurse middle managers experience events around issues with communication, support, and interpersonal interactions. Gaining insight through nurse managers creates a unique opportunity for researchers to tap into the healthcare context, specifically the people, processes, and structures of organizations. Recognizing that WPM may be an unintended consequence of the system and may be linked to significant events identified by nurses in the middle manager role, several gaps remain in understanding what is occurring in the nurse work environment from a systems perspective. How a system functions and the impact of system turbulence on nurses in the middle manager role has not been explored.

Methods: Using a qualitative descriptive approach (Sandelowski, 2000), nurse middle manager participants in the United States were interviewed. Flanagan's (1954) critical incident procedure was employed to explore specific retrospective experiences with health care system disruptions around communication, support, and interpersonal interactions to uncover relationships between people and the work environment. Using directed content analysis (Hsieh & Shannon, 2005), experiences will be analyzed and aggregated to form a collective memory in what is important and meaningful to nurse middle managers in relation to the research aims.

Results: As this research study is currently in progress, data will be analyzed and results will be presented at the conference.

Implications for Translation to Practice/Further Research: Implications of this research study will be presented at the conference.

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LEADERSHIP AND HEALTH SYSTEMS

Improving the Culture of Safety within in a School of Nursing

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Background: New graduates are expected to enter practice able to effectively communicate about patient safety in a way that contributes to a culture of safety. However, recent student outcomes suggest they lack this confidence. Student perceptions suggest inconsistent exposure to culture of safety practices. Since clinical faculty have significant influence on the development of nursing student's attitudes surrounding patient safety it is imperative to ensure nursing faculty are prepared to consistently model culture of safety principles and provide students practice opportunities.

Problem: Lack of communication between faculty and students and inconsistent exposure to a positive culture of safety may limit meaningful learning surrounding patient safety.

Purpose: To improve communication and transparency of patient safety events between students and faculty in clinical learning environments to improve the culture of safety within a school of nursing.

Aims: To a) explore and support faculty culture of safety practices, b) identify, track and trend patient safety events that occur in clinical environments, and c) increase patient safety communication in clinical environment between faculty and students utilizing just culture principles.

Questions: Is there a difference in faculty perceptions of patient safety culture after exposure to just culture principles? How will safety event reporting influence faculty perceptions and practices in clinical?

Methods: A non-experimental mixed method pilot study utilizing a pre-and post-semester survey and semi-structured post semester interviews.

Outcomes: Faculty self-reported culture of safety competency scores measured by an adapted Health Professional Education in Patient Safety Survey, trended safety events and faculty experience themes.

Sample/Setting: Fall 2017 clinical faculty ($n = 60$) at an accelerated baccalaureate nursing program in eastern US.

Interventions: Just culture educational component and use of event reporting during clinical experiences.

Results: (Work in progress-complete findings and conclusions will be available for presentation at conference). Most faculty ($n = 24$) are master prepared (54%) and adjunct (71%), with a mean age of 41 ($SD = 11.22$) and 2 years ($SD = 2.23$) teaching experience. Overall safety competence pre-intervention is reported high ($M = 4.22$, $SD = 0.12$) with the least confident factor being comfort speaking up about safety ($M = 3.4$, $SD = 0.12$). Among safety events reported, most (54%) relate to infection control.

Conclusions: Findings of this study provides insight for education and clinical organizations since a culture of safety is a system involving both individual actions and organizational structures. Greater awareness of patient safety events faculty and students are exposed to, allows further application of system thinking to prevent future patient harm.

Interpretations: (speculation) Incorporating just culture principles has led to more meaningful communication surrounding patient safety at clinical sites and at the school of nursing. Limitations include small sample size, and the use of an adapted survey originally developed for health professional students.

Implications: This study is one of few contributing to knowledge about nursing faculty culture of safety practices and additional research with a larger sample size may be useful to examine if faculty culture of safety correlates with culture of safety confidence among students.

LEADERSHIP AND HEALTH SYSTEMS

Improving Engagement in an Emergency Department: A Quality Improvement Project

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Purpose: This quality improvement, doctorate of nursing practice (DNP) project assesses the need for and evaluates the impact of an engagement intervention focused on improving nurse, physician, and emergency department technician (EDT) engagement within an emergency department.

Background: Engagement is defined as an energetic state of involvement with personally fulfilling activities that enhance one's sense of professional efficacy and is characterized by vigor, dedication, and absorption. While a significant amount of research exists that correlates the relationship between low nurse engagement levels with high turnover rates, there is little known about the effectiveness of interventions aimed at improving nurse engagement. Therefore, a project evaluating the impact of an engagement intervention on increasing engagement levels for all staff was piloted in an emergency department.

Methods: In September 2017 staff (physicians, nurses and EDTs) who work in the emergency department (N=69) completed a pre-intervention survey to assess baseline engagement levels, using the Utrecht Work Engagement Scale (UWES). The pre-intervention survey included open-ended questions developed by the project team to solicit qualitative information regarding engagement, as well as demographic questions. The pre-intervention data revealed overall low engagement levels of participants ($m = 2.10$, $sd = 1.63$, $n=40$). The dedication subscale had the lowest mean ($m = 1.30$, $sd = 1.49$), while the absorption subscale had the highest mean ($m = 2.53$, $sd = 1.78$); the vigor subscale fell between these two means ($m = 2.33$, $sd = 1.59$). The open-ended pre-intervention survey results, along with recommendations from the literature and guided by the six areas of worklife framework, were used to guide the design of the unit-based engagement intervention. Some of the interventions will include enhanced staff recognition, activities to improve the sense of community within the department, increased accountability of staff members, augmented shared governance structures, and improved follow-through by the leadership team when staff suggestions are presented. The post-intervention survey will be administered in March 2018 following the intervention phase of the project. Pre- and post-intervention survey results and the intervention will be presented.

Outcomes: The level of staff engagement is the primary outcome of this quality improvement project. Pre- and post-intervention survey data will be compared to understand the effectiveness of the intervention designed to increase engagement in the emergency department. The outcomes of this project will help to inform future interventions focused on supporting and maintaining high levels of staff engagement.

Conclusion: Staff engagement is integral to the vitality of the healthcare workforce. A one-size-fits-all approach is not enough to keep staff engaged, excited to come to work, and able to provide the best care for their patients. Listening to staff suggestions and creating an individualized approach for each unit is essential to keep the workforce engaged.

LEADERSHIP AND HEALTH SYSTEMS

Implementation of an Educational Pressure Injury Tool in the Perioperative Setting

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Purpose: The purpose of this quality improvement project is to improve knowledge and communication of pressure injury (PrI) risk factors among pre-operative, intra-operative, and post-operative registered nurses (RNs) in a Southwestern Level 1 trauma hospital using the educational pressure injury tool CMUNRO SCALE©. The focus is to determine if the perioperative RNs are aware of PrI risk factors and are communicating them to the next phase of perioperative care. Increased awareness will help initiate interventions to prevent the development and provide early detection of post-operative PrIs. Since all patients are considered at-risk for developing PrIs in the perioperative setting, the standard of care involves performance of a risk assessment tool on all patients.

Rationale/Background: As a leading cause of increased length of stay among surgical patients, hospital-acquired pressure injuries (PrIs) related to operating room (OR) positioning usually occur within 72 hours after surgery and contribute to the annual \$11 billion national expense related to PrIs (Galvin & Curley, 2012). Prevention is more effective and less costly than treatment after PrI development. Education and communication regarding PrI risk factors among RNs in the three phases of perioperative care (pre-operative, intra-operative, and post-operative) are components of best practice nursing care. The nursing units of this Southwestern Level 1 trauma hospital utilize the Braden Scale for PrI risk assessment; however, this tool lacks surgery-related risk factors. Effective tools and resources foster systematic changes for improved adherence to evidence-based practice.

Method/Process: Review of the literature (CINAHL and PubMed) was conducted using keywords pressure ulcers, pressure injuries, surgical procedures (operative), and surgery. Eleven articles met inclusion criteria (published <5 years, human species, English, research study focused on outcomes of PrI development after surgery. In addition, interviews were conducted with the developer of the CMUNRO© scale. This informant has expertise in providing pressure injury risk education to perioperative staff. This quality improvement project uses a quasi-experimental one-group pre-test/post-test design with a 20-minute in-service educational session. The administration of an identical pre-test/post-test will be used to assess knowledge improvement. The Plan-Do-Study-Act (PDSA) method will be implemented in one week sessions for a total of four weeks. A run-chart will be used to evaluate the frequency of PrI risk factor communication among perioperative RNs. Collected data will be analyzed using descriptive statistics.

Outcomes: TBD - Data will be collected by the end of 2017. Outcomes will be available by February 2018.

Conclusions: TBD - Data will be collected by the end of 2017. Outcomes will be available by February 2018.

LEADERSHIP AND HEALTH SYSTEMS

Medication Safety Zone to Promote Uninterrupted Medication Administration

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Purpose/Aims: The purpose of this evidenced-based project was to reduce interruptions during peak medication administration times (PMAT) of 0800-1000 and 2000-2200, decrease nurses' perception of interruptions during PMAT, and reduce late administration of medications during PMAT in a 56 bed Telemetry-Oncology Unit.

Background: According to the report by the Institute of Medicine Medication (IOM), medical errors have been ranked as the eighth leading cause of death in the United States (U.S.). Each year in the U.S., serious preventable medication errors occur in 3.8 million inpatient admissions. Literature shows that inpatient preventable medication errors cost approximately \$16.4 billion annually. Root Cause Analysis, a method often used in hospitals, identified multiple factors during medication preparation that cause medication errors including phone calls to the registered nurse (RN), staff interrupting medication pass, and admissions arriving to the floor. These concerns include, but are not limited to, preventing medication errors and passing medications after their scheduled time due to such interruptions. Our hospital has set up a team project called, Medication Safety Zone, developed by evidence from literature review.

Methods: After a rigorous literature review conducted, a replication studied was identified. The unit RNs took a pre and post perception interruption survey. Then all staff, including RNs, secretaries, and nursing assistants, received a ten-minute education session. Intervention tools and auditing strategies were reviewed. The intervention tool included donning a yellow safety sash during PMAT to promote uninterrupted safe medication administration and then educating patients and their families regarding the importance and significance of the sash, which implicates the RNs wearing a sash should not be interrupted.

Outcomes: Visual audits were performed consisting of pre-367 and post-77, interruptions. Day shift average pre- 43 and post- 9 interruptions per 2-hour periods. Night shift average pre- 31 and post 7. Late medications decreased from 6.3 average pre- shift to 3.3. Nursing post perception surveys are still being collected and results will be presented at the conference.

Implications: Based on this 6-week trial it appears that education and wearing a sash did decrease interruptions the RNs experienced. Results from this project also showed a decrease in the number of late medications given. Nurses' perceptions on types and frequencies of interruptions may be decreased.

LEADERSHIP AND HEALTH SYSTEMS

An Examination of Patient Outcomes Utilizing a Team-Based Approach to Caring for Patients with Multiple Cardiac Diagnoses

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Purpose: To develop a common data model and processes that can be used by academic partners to evaluate private practice data; to evaluate the effectiveness of a team-based approach (TBA) compared to a cardiologist only approach (COA) to chronic disease management for patients with heart failure.

Background: The Million Hearts Initiative calls for the implementation of team based approaches to the management of cardiac risk factors and for the provision of self-management education in structured programs. Evaluations of programs that provide care based on the Chronic Care Model (CCM), which include a prepared, proactive practice team approach and the delivery of self-management support, suggest that team based approaches lead to improved patient care, better health outcomes, and enhanced provider productivity. An urban cardiac specialty practice in the American southwest follows the recommended model of team-based care by requiring patients who chose to receive prescription medications from practice providers to enroll in specialized nurse-led clinical programs for cholesterol management, anticoagulation medication management, and antiarrhythmic medication management. We are currently evaluating the clinical outcomes of patients with heart failure to demonstrate the effectiveness of the team-based approach to managing chronic heart failure.

Methods: Active patients with appropriate heart failure-related ICD-10 diagnosis codes were included in the study. Participants were placed into one of two cohorts: TBA for those participating in nurse-led clinics alongside cardiology-specialist provider care, and COA for those patients who only saw the cardiology provider for treatment. Data were extracted from the practice's electronic health record and patient management systems (GE Centricity) by practice personnel. The limited datasets were provided to investigators in encrypted, password protected files and are being stored on a secure WSU file server. The limited dataset was prepared as instructed by the investigators as a fully de-identified dataset for analysis. All data analyses were performed by WSU investigators.

Results: Investigators and practice staff met frequently to develop procedures for the extract, transform, load (ETL) process, which was extensive. Analysis is ongoing and we will have preliminary data to share by spring 2018.

Implications: This research addresses an important question based on an innovative model of care delivery: "do patients participating in team based models of care experience improved clinical outcomes?" We have successfully built a large database from private practice data that can queried by academic partners for multiple purposes, including the examination of clinical, utilization, and cost outcomes. These analyses are helpful to our private practice partners who seek better reimbursement and to us in academe, as we train students on the skills associated with ETL, quantitative design, and data analysis.

LEADERSHIP AND HEALTH SYSTEMS

Improving Pneumococcal Immunization Rates through Academic Detailing

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Purpose: To improve pneumococcal immunization rates in rural WA state through an innovative intervention known as academic detailing; to develop educational material and to provide academic detailing to physicians, nurses, clinic staff, pharmacists, and pharmacy staff in rural areas.

Background: Academic detailing is an evidence-based approach to improving clinical practice, using tailored materials shared colleague-to-colleague, to improve decision making. This approach was used to address the problem of under vaccination in WA where state level immunization data is no better than national data from the CDC which reveals that adult pneumococcal immunization rates are not meeting HealthyPeople 2020 goals with only 59.9% of adults ages 65 years and older receiving the immunizations.

Methods: An interprofessional team of faculty and students lead by clinical pharmacists specially trained in academic detailing, performed needs assessments, workflow assessments, developed educational materials including a patient-centered exam room poster and a provider-targeted guideline based handout, delivered in-service training, made best practice recommendations for the use of the practice electronic health record, collected and analyzed immunization practices over a four-year period, and met with participating practice administrators over a one-year intervention period.

Results: Academic detailing presentations, materials, and meetings at participating practices and pharmacies were well received. The exam room posters in particular were well liked by providers and patients and are being displayed in clinics and pharmacies in rural WA. The interprofessional team has developed a method to optimize intervention delivery which has met our criteria for success and is being used in subsequent NIH submissions. Immunization trends steadily increased year-over-year during the reference period.

Implications: Immunizations, such as pneumococcal vaccine, are a low-cost, high-impact intervention, according to the Task Force on Community Preventative Services. While academic detailing has been utilized in the areas of diabetes and mental health, the impact on immunization practices is limited. The use of academic detailing as a technique to boost immunizations therefore represents a significant contribution to the literature, demonstrates an approach to utilizing academic skills in community settings, and provides an opportunity to involve health science students in interprofessional research.

LEADERSHIP AND HEALTH SYSTEMS

Does a Standardized Hand-Off Tool Improve Nursing Communication?

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Purpose: Communication is a key component of nursing practice which improves patient safety and enhances quality of care. In order for patient care to operate smoothly, a considerable effort must be placed in the improvement of communication between healthcare personnel. The effective transfer of crucial information between staff members may be the difference between a successful outcome and an undesirable event. Our college of nursing has implemented a hand-off tool titled the SHARQ (Situation, History, Assessment, Recommendations/Results, and Questions) tool. The emphasis and use of this hand-off tool is variable among nursing professors. The aim of this research is to determine if the use of a standardized hand-off tool will improve the transfer of important patient information and reduce the potential for errors.

Background: An estimated 80% of all sentinel events have been connected to ineffective communication between medical staff. Clear communication presents a challenge among healthcare providers. The omission of accurate and vital information in nurse-to-nurse reports significantly increases the risk of patient harm and can have devastating consequences. An effective hand-off tool supports the transfer of thorough, accurate patient information. Using a tool consistently would uphold patient safety by providing novice nursing students an organized method in which to transmit vital information to team members.

Methods: Students will be video recorded in their scheduled simulations and will voluntarily complete a debriefing questionnaire after each simulation. When the completed questionnaires are gathered, a member of the research team will log this information in a secure computer. When the simulations are complete, a member of the research team will view the video recording and complete an observation tool for each simulation.

This will be a quantitative, experimental study. Demographics will be analyzed using simple univariate statistics. Independent t-tests will be used to compare the means of quality of Hand-Off Report using the standardized criteria listed in the "Hand-Off Observation Tool" (yes=1, no=0). This will be an experimental design, with 2 groups: 1 group will receive the SHARQ hand-off tool prompt (intervention), 1 group will not receive any hand-off tool prompt (control, current practice). We plan on doing separate independent t-tests for each nursing semester (cohort).

Results: Institutional Review Board approval has been granted and the team is beginning research. Data collection and analysis will be performed October 2017-March 2017 and data will be analyzed by early April 2017. Results will be finalized prior to the spring WIN conference.

Implications: Miscommunicating pertinent patient information jeopardizes the practice of giving safe care and endangers patient safety. Self-assurance and proficiency in using the standardized hand-off tool may increase confidence, promote an environment for learning, decrease unnecessary stress, provide organization/time management skills, and aid in the transition from student nurse to the role of professional nurse.

LEADERSHIP AND HEALTH SYSTEMS

Reducing CLABSI Related to Line Tampering

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Purpose: The purpose of this quality improvement project was to develop an innovative protocol to prevent central line tampering and identify instances of illicit line use.

Background: Individuals who use Intravenous drugs and who are suffering from life-threatening infection are at risk for recurrent bloodstream infections. Often these patients are admitted to the hospital for medical conditions secondary to their usage of intravenous drugs and require central lines for treatment. Harmful consequences including accidental perforation of the central line, contamination, bacteremia, and death in patients self-injecting illicit drugs may occur in the hospital setting. At a large NW Magnet designated facility, five Central line associated bloodstream infections (CLABSI) related to line tampering occurred in 2015. This illicit drug use accounted for 31% percent of the overall CLABSI rate.

Methodology: An interdisciplinary team consisting of nurses, physicians, care managers, security, quality management, and ethicists reviewed community standards. As pre-existing standards were not available the team developed a protocol that included:

Required education to patient on risks of self-line access;
Use of tamper tape to show access of line by patient;
Nurse to Check line with each medication administration; and
Limit available opportunities for illicit drug use;

Outcomes: With the introduction of the no tamper protocol in 2016, there has been an 80% decrease in CLABSI due to self- tamper.

Conclusion: Tamper tape is one strategy to decrease risk of patient self-administering illicit intravenous drugs.

LEADERSHIP AND HEALTH SYSTEMS

Medical Errors Abound: When an Intramuscular Injection Isn't Intramuscular

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Background: Intramuscular (IM) injections are administered to patients in all health care settings. Even though evidence supporting the process of administration is extensive, techniques and procedures vary throughout the literature and in practice. This variance in practice results in intramuscular injection errors not recognized as errors.

Objectives: A survey was sent to healthcare personnel to identify intramuscular injection practices in all healthcare settings. The objectives are threefold: 1. Describe major causes of intramuscular injection errors, 2. Contrast evidence-based intramuscular injections with current techniques used in practice, 3. Discuss recommendations on changing practice in the workplace.

Methods: A 41-question survey was sent via email to various professional healthcare facilities. Two hundred and six (206) healthcare personnel of various healthcare backgrounds and educational levels accessed the survey via a link to Qualtrics software. SPSS Version 24 was used for data analysis.

Results: Most respondents were registered nurses. Variances in practice were noted in gender, z-track, needle sizes, patient weight, and injection site considerations. Almost 80% of respondents considered their intramuscular injection knowledge at above average or expert levels, yet results showed varying practices among all job types in all work settings, especially primary and acute care.

Conclusions: IM injection practices are linked to errors both in this study and in the literature. Healthcare organizations and the literature must consider needle depth as a potential medical error. Nurses and other healthcare personnel need to critically analyze the site, depth, needle, volume, medication, vaccine, and whether to bunch or stretch, according to evidence-based practice. Future studies are needed to further demonstrate the best evidence leading to safe and effective IM injections.

Key Words: Intramuscular injections; nursing education; patient safety; injection practices; evidence based practice

LEADERSHIP AND HEALTH SYSTEMS

Generational Differences in Preferred Learning Styles amongst Nursing Staff

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Purposes/Aims: The purpose of this research is to describe generational differences in preferred learning styles for nursing staff.

Rationale/Conceptual Basis/Background: Generational differences in preferred learning styles are unknown. Understanding learning style preferences can inform professional development initiatives in a manner that supports learning style profiles.

Methods: The setting was a tertiary and quaternary academic medical center in the southwest United States. The organization's institutional review board deemed the correlational study exempt from review. The independent variable was generational category and the dependent variable was learning style preference. The Index of Learning Styles, a 44-item questionnaire with four subscales (Active/Reflective, Sensing/Intuitive, Visual/Verbal, and Sequential/Global) and demographic data were collected. The Index of Learning Styles has established test-retest reliability and discriminant construct validity. Data were collected from January 1- April 20, 2017. Dominant patterns of learning were identified and Poisson regression was conducted to predict differences among generational groups in the number of items endorsed on each of the learning scales. Analysis was conducted using SAS Studio statistical software (Version 4.1, SAS Institute, Cary, NC) and RStudio (Version 0.99.891).

Results: The survey had an overall response rate of 67% (1399/2098). Of the respondents, 49% were of the Millennial/Centennial generations, 26% were from Generation X, and 25% were from the Traditional/ Baby Boomer generations. Generational groups were combined due to a low sample size for the Centennial and Traditional generations. Poisson regression showed statistically significant differences among generational groups in preferred learning style for Sensing/Intuitive ($p < 0.01$) and Visual/Verbal ($p = < 0.01$) learning styles. Post-hoc analyses showed that those in the Millennial/Centennial cohort had an 8% stronger preference for sensing than the Traditional/Baby Boomer cohort ($exp[0.078] = 1.08$, 95% CI [1.03, 1.13], $p < 0.01$) and a 9% stronger preference for visual learning than the Traditional/Baby Boomer cohort ($exp[0.089] = 1.09$, 95% CI [1.04, 1.15], $p < 0.01$). The Generation X cohort showed a 7% stronger preference for sensing than the Traditional/Baby Boomer cohort ($exp[0.068] = 1.07$, 95% CI [1.02, 1.13], $p < .05$).

Implications for Translation to Practice/Further Research: Learning style preferences differ among generational groups related to the Sensing/Intuitive and Visual/Verbal subscales. Those in the Millennial/Centennial Generations have a stronger preference for visual over verbal learning and are sensing learners more than intuitive learners. While this study was limited to one academic medical center, nurse educators can facilitate learning through the use of pictures, diagrams, charts, videos and demonstration to meet the learning needs of the newest generations in the workforce. However, all types of learners are present in educational settings and educators must strive for variety and incorporate multiple modalities. Future research is needed to evaluate teaching methods to fit specific learning style preferences.

LEADERSHIP AND HEALTH SYSTEMS

Administration & Interprofessional Leadership Program: UCSF Goes Online

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Purposes/Aims: The vision for the Master of Science Healthcare Administration and Interprofessional Leadership (MS-HAIL) Program is to prepare interprofessional leaders to effect essential change in the healthcare system. Aims for this low residency online graduate program include: 1) access to high-quality education for working professionals, 2) increase in the number of healthcare leaders prepared for interprofessional management and 3) develop a self-supporting model for this and future programs.

Rationale/Background: The program and curriculum is designed to respond to national and international calls for graduate health education to move beyond discipline-based silos. Aligned with the University's goals to increase online and interprofessional education, the MS-HAIL program addresses demands of rapidly changing health systems by providing high quality education for working professionals in an intensive one-year program. Hallmarks of the program include development of a distance learning model, creation of a robust and relevant specialty curriculum, inclusion of interprofessional students holding both clinical and non-clinical leadership roles in their healthcare organizations, and recruitment of a strong interprofessional faculty for the program.

Undertaking/Process: In 2012, a School of Nursing team explored the potential to expand the traditional Nursing Administration Program to consider new delivery formats and address interprofessional needs. Focus groups were held with local health organizations and leaders. Campus-wide involvement and University-system support led to establishing the first on-line program on this campus.

Outcomes Achieved: MS-HAIL is the first hybrid online/on-campus interprofessional graduate degree program in healthcare in this university system. The program has successfully recruited an ethnically diverse student population. Most students are from within the state however about one tenth of students come from across the country. While the clinical to non-clinical ratio varies by cohort, almost 50% of students are clinical leaders from nursing, pharmacy, medicine, social work and allied fields such as physical and occupational therapies and radiology. Others are early to mid-level managers in healthcare finance, human resources, research, quality management, information technology and non-profit services. The program has 112 graduates; almost two thirds have been promoted within their organization or recruited for leadership positions in new organizations. Other outcomes include development of an active alumni-student network and positive financial metrics.

Conclusions: Since inception, the program has undergone quarterly review. Current student and graduates' surveys have yielded important information about their ability to complete the program within a 12-month timeframe, the effect of courses on developing leadership and interprofessional competencies, reasonable-cost, the opportunity to complete a meaningful capstone project in their workplace and the value of the program for career development. Design modifications have also been made and include the addition of an online pre-entry orientation course followed by a one day on-campus session to acquaint students with faculty and academic expectations as well as promote working relationships among peers. Minor adjustments to course sequencing have been made to ensure that interprofessional and leadership competencies build systematically. The program is a model for online specialty programs currently in development. Plans for program expansion include international student recruitment within the next five years.

Abstracts of Poster Presentations

MATERNAL HEALTH

FEMALE PREVALENCE OF DEPRESSION & PERCEPTIONS
OF YOGA: INTEGRATIVE NURSING FRAMEWORK

Sherry E. Sweikert-Smith

IDENTIFYING POSTPARTUM DEPRESSION IN
PARENTS AT ROUTINE WELL-CHILD CHECKS

Annie Elizabeth Bixler

IMPLEMENTATION OF A POSTPARTUM DEPRESSION
EDUCATION AND SCREENING INTERVENTION

Marcia A. Clevesy, Callie Cheese

THE EFFECTIVENESS OF TUB BATHING IN NEWBORNS

Andrea Tran

THE EFFECTS OF BREASTFEEDING ON OBESITY
IN MEXICAN AMERICAN WOMEN & INFANTS

Emily G. Schmid, Elizabeth Reifsnider

TRANSFORMING HEALTH REDUCING POST-PARTUM
DEPRESSION IN CLINICAL PRACTICE

Sophia Diana Falana, Jane M. Carrington

INTIMATE PARTNER VIOLENCE AMONG AFRICAN
AMERICAN PREGNANT WOMEN: A SYSTEMATIC REVIEW

Nnenna Abaeze

EMBODIMENT OF DISTRESS: LINKS IN THE MATERNAL,
PLACENTAL, AND FETAL ENVIRONMENT

Sharon L. Ruyak

HEALTHIER MOTHERS AND INFANTS: EXPANDING
TELEHEALTH TO IMPROVE MATERNAL DISTRESS

Sharon L. Ruyak, S. Van Roper

MOTHER'S EXPERIENCES IN THE NICU BEFORE
AND AFTER PATIENT CENTERED CARE

Madalynn Neu, Susanne Klawetter

GENETIC SCREENING AND ORAL CONTRACEPTIVES
FROM A PATIENT-CENTERED CARE PERSPECTIVE

Bonnie H. Bowie, Erin Vernon

MOTHERS' CONCERNS BREASTFEEDING
INFANTS WITH PHEYNLYKETONURIA

Sandra A. Banta-Wright, Kristin F. Lutz

MATERNAL HEALTH

Mindfulness Yoga for Depression in College Females: An Integrative Nurse Framework

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Purpose/Aims: Yoga is becoming increasingly more popular for treatment of health concerns, like depression, due to accessibility, affordability and minimal side effects. Knowing that current rates of depression are increasing on campuses, and many campuses may not have on-site health services or limited community providers gave way to two specific goals:

1. Implement a mindfulness based Hatha yoga trial to reduce depressive symptoms in undergraduate female students on a rural campus.
2. Identify barriers, motivators and patterns of personal use of yoga for mental and physical wellness.

Rationale/Background: Onset of depressive symptoms starts between 18-25 years of age and women are 70% more likely to experience symptoms over men. Females are also increased risk for depression due to hormones, genes and stress which impairs their personal and academic success, particularly during college years. Over 40% of college students are now reporting depression across our campuses. This continued increase in depression with college students suggests the need to find additional treatments options accessible to this population, especially in underserved areas. An integrative approach with alternative medical therapies like mindfulness and yoga have shown promising effects in improving depressive symptoms with the benefits of accessibility and affordability to conventional pharmacological treatment. Barriers like rural locality, provider shortages, no on-campus health clinics, and cost has prompted me toward a brief trial of mindfulness-based yoga. Literature on undergraduate females in rural areas with use of mindfulness based yoga for treatment of depression, or best practice guidelines for duration of yoga therapy for reduction in depression for provider decision making is limited. Perceptions on this population with use is varied as well. This yoga trial will identify a replicable mindfulness yoga therapy for depression in females and a newer screening tool for acceptability of yoga.

Undertaking/Methods/Process: This is a quasi-experimental one group pre-post design. The online survey begins with an announcement, study purpose, informed consent, benefits, and risks of the study. The survey transitions to the Patient Health Questionnaire-2 Item (PHQ2), gender and age identification. A PHQ2 score of ≥ 3 , female gender and between 18-30 years will meet inclusion for study. The Acceptability of Yoga Survey follows, comprised of 18 questions, addressing barriers, motivators and patterns of use with yoga; discrete and open-ended questions. The yoga trial will last four weeks, with one sixty minute session of yoga on campus per week. A post screen with the PHQ2 will be completed for intervention effects.

Outcomes Achieved: The survey is in progress; data will be obtained by January 8th, 2017 and analyzed.

Conclusions: We anticipate improved depression rates after the yoga intervention and we expect barriers to participation to exist. We hope to increase provider knowledge and uptake of alternative therapy uses and how to avoid barriers in depression care with yoga. Data gathered will attempt to confirm current evidence among female students in rural settings.

MATERNAL HEALTH

Identifying Postpartum Depression in Parents at Routine Well-Child Checks

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Aims: To increase screening for postpartum depression of caregivers attending 0 to 12 month well-child visits at a family practice clinic and to assess if increased interval screening leads to improved identification and treatment of postpartum depression.

Background: Untreated postpartum depression has been associated with impaired caregiver-infant bonding and long-term consequences on child behavior, emotions, and cognitive functioning. According to the American Psychological Association (APA), 1 in 7 women experience postpartum depression following delivery. Despite improved awareness, postpartum depression remains vastly under diagnosed and treatment rates are significantly low. Multiple agencies, including USPSTF and American College of Obstetrics & Gynecology, recommend practitioners screen patients once during the postpartum period using a validated screening tool. Typically this screening is performed once at the 6-week postpartum visit, yet research shows that postpartum depression can develop any time up to 12 months post-delivery. The American Academy of Pediatrics recommends providers caring for pediatric patients screen mothers for postpartum depression at the infants' 1-, 2-, and 4-month visits as increased screening may lead to improved identification.

Approach/Methods: A mixed-methods, quasi-experimental with pre- and post-experiment data collection design will be used to evaluate this project. The proposed intervention is an educational presentation to medical assistants and clinicians discussing symptomology and risk factors associated with postpartum depression. The Patient Health Questionnaire (PHQ) screening tools will be presented along with options for treating and referring those patients positive for postpartum depression. Pre-tests will be administered and used to determine the participant's knowledge of screening, diagnosis and treatment recommendations for postpartum depression. Post-tests will be administered upon completion of the educational workshop, using the same questions and utilizing a one-group pre-test/post-test design.

The intervention involves a systems change: implementing the PHQ screening for postpartum depression at identified intervals- 0, 1, 2, 4, 6, 9, and 12-month well-child checks. The PHQ will be embedded into an order set in the electronic health record system and assist clinic staff in screening, diagnosing, monitoring and treating postpartum depression. The intervention will include an initial screening with the PHQ-2 tool and further assessment for postpartum depression with the PHQ-9 tool as appropriate. A focus group held at the end of the study will allow for qualitative measurement of the project's impact. The group discussion will target medical assistants and providers from the clinic and assess the project's ease of use as well as identify possible improvements to achieve long-term sustainability.

Outcomes: Measurements include the number of caregivers identified with postpartum depression during 0 to 12 months well child visits initially with the PHQ-2 tool and confirmed by the PHQ-9 tool. This data will be compared to those successfully offered treatment or referral for treatment. Pre- and post-test scores will be analyzed after the educational presentation to assess change in participants' knowledge and implications for practice.

Conclusions: Best practice project data will be analyzed by March 2018.

MATERNAL HEALTH

Implementation of a Postpartum Depression Education and Screening Intervention

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Purposes/Aims: To implement a quality improvement (QI) project to enhance healthcare provider awareness and use of evidence-based postpartum depression (PPD) education and screening interventions in a women's health care clinic to promote best practice.

Rationale/Background: Postpartum depression has been determined as the most common complication following childbirth lasting up to 12 months post-delivery with documented rates as high as 21.9% (Gaynes et al, 2005; Wisner et al., 2013). Maternal depression frequently goes undetected and untreated due to lack of universal screening for depression among pregnant and postpartum women with rates of 14% in comparison to 26% among the general population (American Psychological Association [APA], n.d; Wisner et al., 2013). Based on significance of the findings, the literature supports the utilization of reliable PPD education and screening measures to inform, identify, and promote help-seeking behaviors for enhanced maternal-child outcomes (Gress-Smith, Luecken, Lemery-Chalfant, & Howe, 2012; Howell et al., 2014; Liberto, 2012; Logsdon, Tomasulo, Eckert, Beck, & Dennis, 2012).

Undertaking/Best Practice/Approach/Methods/Process: Methods used included the plan-do-study-act (PDSA) cycle, a pre and post-survey to determine HCP knowledge of preventive PPD practices, and a three-month retrospective and prospective chart audit to compare the PPD interventions. The QI project interventions included implementation of the APA PPD education pamphlet and the Edinburgh Postnatal Depression Scale (EPDS) screening tool (APA, 2017; Cox, Holden, & Sagovsky, 1987). The survey and chart audit results were calculated with the statistical package for the social sciences (SPSS) 24 for descriptive analysis and a paired samples *t*-test. Consequently, implementation of the comprehensive PPD education and screening interventions support the implications for best practice in the promotion of positive maternal-child welfare outcomes.

Outcomes Achieved/Documented: Enhanced healthcare provider awareness and increased utilization of the preventive PPD education and screening interventions with rates of 64% and 92.7% respectively. The PPD screening established an overall increase of 63% and a paired-samples *t*-test demonstrated statistical significance in PPD screening results ($t(123) = 7.841, p < .001$).

Conclusions: The QI project initiative improved healthcare provider use and knowledge of PPD interventions with implementation of the PPD educational and screening interventions resulting in increased awareness, detection, and treatment of PPD within the clinical practice setting.

MATERNAL HEALTH

The Effectiveness of Tub Bathing in Newborns

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Purposes: The purposes of this review are to assess the effects of bathing methods on temperature control of newborns and also to propose a change in practice that moves towards evidence-based practice.

Background: Newborns experience physiological changes immediately after birth in order to adjust to extra-uterine life. Although these changes are efficient, newborn thermoregulation ability is still immature. Hence, newborns rely on external factors to maintain temperature regulation. Current practice has nurses mainly sponge bathing newborns for their first baths, with the belief that submersion in water prior to the umbilical cord detachment would increase the risk of infection. Standardized nursing practice is based on the assumption that sponge bathing is a superior method.

Methods: This integrative review comprised of the use of PubMed, CINAHL, and Google Scholar. Key words included “body temperature AND newborn bath”, giving 59 articles. MeSH terms used within the given articles were “infant, newborn AND bath AND body temperature regulation.” This narrowed the search to 20 articles. A time frame of 25 years was then used to further narrow the search into the three articles used for this integrative review. The three studies included two randomized control trials and one quasi-experimental study.

Outcomes: In the one group quasi-experimental design, Anderson et al., 1995 found no significant decrease in temperature before and after tub bathing (36.8°C vs. 36.7°C). The randomized control study by Brayanton et al., 2004 found that newborns who were tub bathed had post bath temperatures were significantly higher than did those sponge bathed (36.6 °C vs 36.4C, $p= .00$). Loring et al., 2012 was also a randomized controlled study that found higher temperatures in newborns who were tub bathed vs those who were sponge bathed ($p= 0.024$). Only Brayanton et al., 2004 examined other newborn and maternal outcomes showing positive effects of tub bathing in terms of timely cord healing, increased newborn contentment and maternal pleasure.

Conclusion: The three studies provide evidence that tub bathing is more effective in maintaining newborn temperatures compared to sponge bathing. What was once thought as a practice that increased newborn umbilical infection, tub bathing has now shown the potential to improve newborn outcomes. Future studies that could arise from this current knowledge base would be to examine the newborn physiological and behavioral responses to tub bathing. With more rigorous evidence for tub bathing, the nursing practice should promote evidence based bathing methods for newborns.

MATERNAL HEALTH

Breastfeeding & Obesity in Low-Income Mexican-American Women & Infants

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Purpose: The purpose of this research is to examine the importance of gestational weight gain (GWG) and postpartum weight of mothers, as well as obesity rates in infants born to these mothers. We examined the factors in the population of low-income Mexican-American mothers and infants enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Evaluating these factors will contribute to finding recommendations to help solve the obesity epidemic in this specific population.

Background: Maternal child health in low-income Mexican-American families encompasses factors including home environment, obesity, and feeding behaviors. Families in this population can have a difficult time accessing and affording healthy food options which contribute to obesity. Obese women with excessive gestational weight gain have a greater likelihood of giving birth to a high birth weight infant (Chihara et al., 2014). Breastfeeding for at least six months is not a common practice in this population and sometimes leads to infants being fed solid foods too early or receiving juice more frequently if bottle fed. In these low income populations, resources and education on obesity, breastfeeding, and healthy choices is often not provided. Studying the obesity epidemic and home environment can provide an insight as to how to best serve this population to increase health and wellness of mothers and children.

Methods: A secondary analysis was completed on a population of women enrolled in a WIC program in Houston, Texas. A total of 150 women participated in the study, 75 women in the control group and 75 women in the intervention group. The study consists of a five year intervention project where the home environment, education on feeding practices, breastfeeding duration, and obesity are evaluated by community health workers who visit the homes. Breastfeeding duration, mother BMI, infant birth weight, and baby z-scores were statistically analyzed.

Results: The results found that (1) breastfeeding for a short amount of time indicates mothers will continue to breastfeed for a longer duration (2) mothers who breastfed for six months were likely to have a lower BMI at twelve to eighteen months than those who did not, (3) the weight of the child at birth is associated with the weight pattern of the child later on (4) the weight/height percentiles of newborns are somewhat likely to stay the same throughout childhood, (5) the prenatal weight of the mother impacts the weight of the newborn infant, and (6) the mother's postpartum BMI at one week is associated with a similar BMI at twelve months postpartum.

Implications: Maternal women in this population tend not to breastfeed for six months and therefore are not losing gestational weight postpartum. Consecutive weight gain over multiple pregnancies leads to heavier babies and maternal complications. Further breastfeeding, nutrition, exercise, obesity, and proper infant feeding education is needed to reduce the rate of obesity in low-income Mexican-American WIC populations.

MATERNAL HEALTH

Transforming Health Reducing Post-Partum Depression in Clinical Practice

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Purpose: An estimated 10-20% of women are diagnosed with post-partum depression within their first year after childbirth. New mothers are currently taught essentials in caring for their new born infants; however, little emphasis is placed on signs and symptoms of post-partum depression. This includes when to call for help, what treatments are available that do not threaten quality of life. The purpose of this presentation is to describe a quality improvement project designed to address this gap in patient education and to increase patient outcomes.

Theory Description: The Effective Nurse to Nurse Communication framework has been adapted to guide this project. The original framework describes the communication of a message by responding and receiving nurses, using a verbal and electronic communication system. This project defines the message as teaching of post-partum depression -- responding nurse sends the message to the new mother-- with the goal of prompt detection of post-partum depression.

Process Used: This quality improvement project will utilize the 10-item questionnaire of the Edinburgh Postnatal Depression Scale that will be presented to new mothers before discharge from hospital. When using this scale, a score of 10 or greater with a cut-off point at 12 or a positive answer on question 10 (presence of suicidal thoughts) is suggestive of postpartum depression and the Obstetrician will make a referral to the appropriate mental health provider for further evaluation. The questionnaire is appropriate to use on new mothers being discharged from the hospital given that most moms are discharged after 2-3 days. Studies have shown with using this scale those that score 9 or greater at 2-3 days post-partum will have the same results if given to the individual at 4 weeks post-partum; thus, suggesting the mother has postpartum depression and need referral to a mental health provider for further evaluation. Those that score low will be educated on the signs and symptoms of post-partum depression, as well as, when and who to call for help by the nursing staff.

Logic Linking Theory to Project Problem: Prevention and early detection is key with this population. This project will help to identify those that have early signs and symptoms of post-partum depression, help new mothers learn the signs and symptoms of post-partum depression, and when and who to call for help. This project will help to increase effective communication between patient and provider leaning toward an improved way for the detection and treatment of post-partum depression.

MATERNAL HEALTH

Intimate Partner Violence among African American Pregnant Women: A Systematic Review

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Purpose: The purpose of the systematic review is to examine the health effects of intimate partner violence (IPV) among African American pregnant women. Health effects refer to the physical and mental ailments of this population.

Background: 3-9% of women experience some form of abuse during pregnancy including physical and verbal abuse. There is limited cultural variation in the current research. African American women have highest rates of IPV. This includes sexual and physical violence and forms of threats and emotional abuse. African American women are disproportionately affected by IPV but there is limited culturally relevant and specific research and interventions to properly address this target group.

Methods: This review identified research by searching key terms *physical symptoms mental symptoms, intimate partner violence, African American, AND pregnant women*, in Google Scholar, CINAHL, PubMed, Medline databases. The search included studies published within the last fifteen years. Twelve articles were selected after reviewing the title and the abstract. All study designs were considered. Each article was assessed for quality and content.

Results: All of the studies analyzed either physical or mental effects of IPV in pregnant African American women. There is limited data on the effects of IPV as it encompasses emotional abuse, physical abuse, and threats. The results reveal higher rates of STDs, vaginal bleeding, infection, and UTI as well as higher rates of depression and suicide attempts. Partner violence was subjective to each study and often did not include emotional abuse. There is a gap in data specific to IPV and African American pregnant women.

Implications: The African American population is at great risk of adverse pregnancy outcome. Further studies should explore both physical and mental aspects of IPV as the current data is limited to physical or mental but not as they relate together. Nurses are a pivotal part of the identification of IPV in the acute care setting and their role should be considered for future studies.

MATERNAL HEALTH

Embodiment of Maternal Distress: Links in the Maternal, Placental, and Fetal Environment

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Purpose: The aim of this project is to conduct a rigorously designed study to explore the biological mechanisms by which maternal distress due to familial and other external contexts/social conditions is embodied during pregnancy and affects the health and well-being of both members of the dyad. Our central hypothesis is that symptoms of PMD will be associated with increased maternal inflammatory marker expression and an increased cortisol/cortisone ratio as a marker of 11 β -HSD2 activity in infant cord blood thereby transmitting the in utero experience to the fetus and ultimately the infant.

Rationale/Background: Symptoms of perinatal maternal distress [(PMD) anxiety, depression, chronic stress] are the most common complication of pregnancy affecting up to 25% of women. Psychosocial risk factors that increase vulnerability to symptoms of PMD are established, yet when considered alone, leave significant variance unexplained. Importantly, many frameworks used in the examination of PMD focus on individual determinants of health and neglect the context in which women are born, live, work, and interact. Viewing this phenomenon through the lens of ecosocial theory and embodiment necessitates exploring how these individual and social determinants are biologically expressed within the context of the physical and social world. Biological systems implicated in PMD include the immune system and the hypothalamic pituitary adrenal (HPA) axis. Mechanisms involved in the bidirectional interaction between these systems and the role they play in increasing maternal susceptibility to disease are poorly understood. Furthermore, mechanisms by which symptoms of PMD are transmitted to the fetus resulting in offspring disease susceptibility remain unknown.

Methods: This is a repeated measures, descriptive study of pregnant and postpartum women and their infants. We will enroll 60 women in their third trimester of pregnancy from a large collaborative nurse-midwife practice. The study is divided into three stages.

Stage one is the prenatal component. Maternal symptoms of distress, external social determinants, and immune function will be evaluated. Participants will complete a demographic questionnaire as well as surveys for anxiety, depression, stress, experiences of discrimination, and perceived neighborhood safety. A sample of maternal blood will be collected for measurement of inflammatory biomarkers (IL-1 β , IL-6, TNF- α). **Stage two** is the intrapartum stage. In this stage, a sample of venous cord blood will be collected at the time of birth for measurement of the cortisol/cortisone ratio. **Stage three** is the postpartum component. A postpartum demographic questionnaire as well as surveys for anxiety, depression, and stress will be completed. The aims of this study propose to examine associations among continuous variables both directly and, in the case of proposed mediation models, indirectly. Direct associations between continuous variables will be examined using Pearson's product-moment correlation coefficient. Mediation models will be assessed using a component-based SEM framework.

Results: will be reported upon completion of the study.

Implications: The results of this study will be used as preliminary data to support the rationale for a larger study. Clarifying the role these mechanisms have in disease risk has the potential to advance the field of PMD and alter the inter-generational transmission of adverse outcomes.

Funding: Supported by the University of New Mexico, College of Nursing.

MATERNAL HEALTH

Healthier Mothers and Infants: Expanding Telehealth to Improve Symptom Management of Perinatal Maternal Distress

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Purpose/Aims: The overall aim of this project is to develop and pilot an innovative internet cognitive behavior therapy (iCBT) course with iterative input from community stakeholders.

Rationale/Background: Symptoms of perinatal maternal distress [PMD (anxiety, depression, chronic stress)] affect up to 25% of women. Maternal consequence of PMD include periods of emotional disturbance, disability, impaired childcare practices, and in some cases, suicide and infanticide. Consequences for the infant may include insecure attachment and impaired emotional and cognitive development across the lifecourse as well as preterm birth and low birth weight, the leading causes of infant morbidity and mortality. Many women do not receive treatment due to stigma, childcare arrangements, transportation issues, time and financial constraints, as well as disparities in access to care. Traditional cognitive behavior therapy (CBT) is an effective method to treat a variety of mental health conditions, but is an office-based intervention posing a barrier for many women. As the internet integrates into our daily lives, there is growing interest in the use of this modality to deliver care. iCBT has been shown to be effective in the treatment of depression, anxiety, and other mental health conditions, and has been applied to mood disorders in the perinatal period. Therefore, iCBT may be an ideal way to reach women in need.

Methods: Stage one of the study identified and engaged key stakeholders in the community to provide input for iCBT module development. Stage Two was development of the iCBT modules. Using input from stakeholder meetings, CBT modules were adapted and developed to address symptoms of anxiety, depression, and stress in pregnancy. Secure online modules were built in the Moodle learning environment. Stage Three of the project involves piloting the completed modules with 15 women. Participants will complete surveys for depression (EPDS), anxiety (GAD-7), and posttraumatic stress disorder (PCL-C) prior to beginning the course. Following completion of the iCBT course, surveys will be repeated and an evaluation will be administered to determine feasibility and acceptability of administration. Based on evaluation data, edits will be made to the modules or the internet platform. Although our sample size for this project is limited, we will use the EPDS, GAD-7, and PCL-C scores to generate preliminary data on the effect of the iCBT course on symptoms of maternal distress.

Results: Comments from the first stakeholder meeting highlighted the need for inclusion of content specific to partner support, stigma, resource availability, and avoiding unhealthy influences. Preliminary effect results will be reported upon completion.

Implications: These modules will be used as preliminary work for a larger clinical trial. Given the lasting effects of PMD on mothers and infants, this research has the potential to improve the health of women, infants, and their families, and consequently decrease the public health burden.

Funding: University of New Mexico, College of Nursing (UNM HSC HRRC #16-381).

MATERNAL HEALTH

Mother's Experiences in the NICU before and after Patient Centered Care

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Aim: The aim of this study was to compare current experiences of mothers with infants hospitalized in a Neonatal Intensive Care Unit (NICU) where patient centered care is practiced, with maternal experiences narrated before establishment of patient centered care. This study is part of a larger study examining which barriers are most salient for mothers and how these barriers may contribute to later disparities in infant and child health and developments.

Background: Infants born prematurely and hospitalized in Neonatal Intensive Care Units (NICUs), are likely to be separated from their mothers for weeks or months during a critical developmental time. However, existing evidence indicates the importance of maternal visiting and engagement in the care of their infants. Findings of two previous qualitative studies conducted in Level III NICUs in the same metropolitan area as the current study, and before the establishment of patient centered care suggested that lack of privacy, inconsistent messages from care providers, and fear of harming the infant were some barriers to visiting and caregiving. The advent of family-centered care may have decreased or these barriers.

Methods: A qualitative descriptive approach was used in all three studies to provide a rich description of maternal experiences. In the current study purposive sampling was used to recruit mothers of infants born less than 32 weeks gestational age, who had been hospitalized for at least two weeks, and were 33 to 34 weeks at the time of the interview. Saturation was reached after 15 interviews.

Two experienced interviewers asked: "Please tell me about your experiences with the birth of your baby and the baby's hospitalization." Open-ended probing questions followed to clarify maternal experiences in the NICU. All interviews were recorded using HIPAA-compliant software and then transcribed for analysis. Two researchers read the interview transcriptions several times before beginning the coding process, and then are independently compiled lists of themes and subthemes. They met and conferred on interpretation of the themes and subthemes. The two previous studies used similar methods.

Results: Fifteen English or Spanish speaking mothers participated in the current study. Mean age of mothers was 30 years. Seven mothers were white (47%), eight (53%) had a high school education, and 9 (60%) lived with a partner. These demographics were similar to 33 mothers who participated in the previous studies. Common themes that emerged were: 1) Visiting can be difficult, 2) Nurses are important, 3) NICU environment, and 4) Ideas for change. Although mothers' narrations focused on topics similar to those in previous studies, comments of the mothers in the current study, who were experiencing patient centered care, were more positive and suggested that they felt more mastery in caring for their infants.

Implications: Findings suggest that infant hospitalization in the NICU is still traumatic and challenging for mothers, but in an atmosphere of family-centered care maternal perception of the experience has improved. Mothers are very willing to share their experiences and listening can provide valuable insight that can be used to further improve their experiences and the NICU environment.

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MATERNAL HEALTH

Genetic Screening and Oral Contraceptives from a Patient-Centered Care Perspective

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Purpose: The purpose of this paper is to examine arguments for and against thrombophilia screening prior to initiating combined oral contraceptives (COC), including the World Health Organization (WHO) Medical Eligibility for Contraceptive Guidelines and other published sources. We sought to answer the question: Given changing attitudes, technology, product availability and policies should health care providers be more proactive in providing available genetic screening information to women as they discuss birth control options?

Background: Over 100 million women worldwide use COC. A highly effective and convenient method of contraception, COC offer women reproductive autonomy; alleviate premenstrual syndrome, headaches, and acne; and reduce the risks of developing ovarian and endometrial cancer. However, COC also increase the risks of life-threatening conditions such as venous thromboembolism and/or ischemic stroke, particularly among women with inherited thrombophilia (i.e., thrombogenic mutations) such as the factor V Leiden (FVL) or the prothrombin gene mutation or deficiencies of protein C, protein S, or antithrombin. The WHO classifies “a known thrombogenic mutation” as “a condition which represents an unacceptable health risk if [combined hormonal contraception] is used”. However, in a clarification for this recommendation, WHO describes routine thrombophilia screening before initiating COC as inappropriate in light of the low prevalence of thrombogenic mutations and high screening costs.

Methods: From the perspective of patient-centered care, we examine cost and prevalence as well as other published arguments for and against thrombophilia screening before initiating COC. Our analysis draws on relevant empirical evidence concerning advantages and disadvantages of thrombophilia screening, while placing the discussion in the broader context of evolving attitudes toward genetic screening as well as a shifting policy landscape that affords more women over-the-counter access to COC and/or direct access to thrombophilia screening.

Results: Given variation in prior probabilities of thrombophilia, expected exposure to other risk factors for venous thromboembolism, attitudes towards risk, expected reactions to a positive test result, ability to pay for screening, and concerns about insurance discrimination, we conclude that a one-size-fits-all approach is not consistent with patient-centered care. Instead we advocate for greater patient education concerning the availability and implications of thrombophilia screening as well as the efficacy and safety of alternative forms of contraception. Moreover, we recommend offering individual patients the opportunity to choose actionable awareness concerning their thrombophilia status before initiating COC.

Implications: Women’s health providers need to partner with patients around the decision to take COCs, offering updated information regarding overall risks and an informed choice concerning thrombophilia screening prior to initiating COC.

MATERNAL HEALTH

Mothers' Concerns Breastfeeding Infants with Phenylketonuria

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Introduction: Despite documented benefits of breastfeeding and breastmilk, the prevalence and duration of breastfeeding when infants have phenylketonuria (PKU) continues to be less than with healthy, full-term infants who do not have PKU. No study has examined the particular maternal concerns about breastfeeding an infant after the diagnosis of PKU and the strategies mothers used in managing these concerns.

Purpose: Describe maternal concerns about breastfeeding an infant with PKU and to delineate the strategies mothers used in managing these concerns.

Method: Qualitative thematic description is being used for a secondary analysis of data performed in 2011 and 2012 with mothers in the United States and Canada who breastfed one infant with PKU. In the original study, the purpose was to describe the maternal experience of feeding an infant with PKU. Phase one was an on-line survey of mothers (n = 89) responses to breastfeeding their infant with PKU. In phase two, 10 mothers participated in semi-structured telephone interviews describing in-depth their experiences breastfeeding their infants with PKU. Mothers met the following inclusion criteria in the original study: 1) At least twenty-one years of age, 2) able to read and write in English, 3) have a breastfed child with PKU, and 4) live in the US or Canada.

Results: Preliminary analysis of the data continues with themes and categories evolving.

Discussion: This study will provide the first description of mothers' concerns about breastfeeding an infant with PKU and delineate the strategies mothers used in managing these concerns. As mothers' breastfeeding infants with PKU are in a unique situation where exclusive breastfeeding is not possible, delineation of successful strategies used by these mothers will aid other mothers of newly diagnosed infants with PKU to more successfully breastfeed their infants with PKU.

Funding: Faculty Developmental Research Grant, George Fox University, Newberg, Oregon.

Abstracts of Poster Presentations

MENTAL HEALTH

A REVIEW OF SOCIAL MEDIA USE AND
DEPRESSION IN OLDER ADULTS

Ariz Amoroso Guzman

QUALITY OF LIFE AMONG AGING AFRICAN
AMERICANS WITH A SERIOUS MENTAL ILLNESS

Sharon Fay Cobb

ADOLESCENT DEPRESSION SCREENING IN PRIMARY
CARE: AN INQUIRY INTO PROVIDER KNOWLEDGE

Mary Davis, Meg Davis

ANALYSIS OF DEPRESSION INTERVENTIONS OF
PHASE II CARDIAC REHABILITATION PATIENTS

Michael LeGal, Cathie Guzzetta

SYSTEMATIC REVIEW: GENETIC VARIANTS
ASSOCIATED WITH PSYCHOLOGICAL RESILIENCE

Kosuke Niitsu, Michael Rice

COGNITIVE REHEARSAL BASED EDUCATIONAL
INTERVENTION DECREASE LATERAL VIOLENCE

Julie Sutherland

STIGMA (RELATED TO MENTAL HEALTH)

Becky McDaniel

STAFFING IN ACUTE PSYCHIATRIC FACILITIES:
A SYSTEMATIC REVIEW OF THE LITERATURE

Teresa Serratt

MENTAL HEALTH

A Review of Social Media Use and Depression in Older Adults

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Purpose: Examine literature related to the complex relationship between social media use, and depression in the aging population.

Background: The growth of social media (SM) use is evident in older adults, and its association with depression remains unclear. Considering the fastest growing social media users are older adults, it is important to examine the implications of their social media use to depression.

Methods: This systematic review of the literature identified four databases: MEDLINE, CINAHL, PsychINFO, and Web of Science. Three key concepts identified were depression, social media use, and older adults. To be included in our review, the peer-reviewed literature must contain our selected keywords, must be a quantitative design that compares measures of social media use and depression, and must include sample population people aged ≥ 55 years. Excluded are literature that has no defined measure of social media use and depression, does not include individuals aged ≥ 55 years in their sample, literature specific to social media and adolescents, qualitative studies, and not written in English. Purposive sampling was used to analyze nine literature after titles, abstracts, and article reviewed were selected and duplicates removed. The search included articles published up to June 2017.

Results: Significant associations between social media use remained even after controlling for a variety of confounding variables from gender, age, marital status, education, employment, income, perceived social support, clinical variables, social networking usage variables and offline variables. The resulted findings were mixed, depending on how social media use was operationalized or measured.

Implications: The results of this review showed potential age variation in examining the relationship between social media use and depression. As such, further research should acknowledge age cohort effects and age cohort differences in examining the relationship between social media use and depression. In this data-driven age, advances in technology have shaped and transformed our relationships to the way we live, communicate and interact. Social technology can adjunct the way we engage with one another, and these interactions have implications for mental health and depressive symptoms in older adults. As a growing number of older adults adapt to mediated engagement facilitated by the technological vectors of social media, any indication of its detrimental or beneficial relationship to depression is important to understand.

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MENTAL HEALTH

Quality of Life among Aging African Americans with a Serious Mental Illness

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Purpose: Implicit in this emphasis is the identification of vulnerable minority adults who are aging with serious mental illness. The overall goal of this study was to assess quality of life (QOL) and self-rated health (SRH) among aging African Americans (AAs) managing a serious mental illness (SMI) to determine if specific chronic health conditions and geriatric syndromes were associated with lower QOL and SRH.

Background: Minority populations managing a SMI may be predisposed to poor physical and mental health outcomes. Growing research shows that individuals diagnosed with SMI die prematurely as compared with their non-SMI counterparts, which can be attributed to a higher risk of both physical and mental health conditions. Although literature has been well-studied on the QOL and SRH of various groups, none has been conducted with aging minority populations with SMI, who may be managing numerous chronic illnesses and geriatric syndromes.

Methods: This descriptive cross-sectional study included 150 aging African Americans living in South Los Angeles who were at least 45 years of age and reported managing a SMI for at least one year. Participants were administered a questionnaire that addressed their multiple health conditions and health status, including their quality of life. Questions regarding health questions were guided by the *Self-Administered Comorbidity Questionnaire* and QOL and was assessed using the *Quality of Life Scale* and *Short-Form-36* for SRH. Using SPSS v22, descriptive and inferential statistics were employed for data analysis.

Results: 67% of the sample was female and 81% stated that they were single. The mean age of the participants was 55 years (SD = 7.4 years; Range: 45-78 years). Almost 70% of the sample had a monthly household income of less than \$900/month and 40% viewed themselves as being considered in the struggling lower middle class when providing a self-perception of their social class. The highest reported psychiatric diagnosis was major depressive disorder (78.7%) and hypertension was the most common medical diagnosis (64.7%). The average comorbidity status was 2.7 for psychiatric comorbidities and 3.1 for medical comorbidities. Lower overall QOL scores were associated with those who reported chronic pain ($p=.002$), lung disease ($p=.042$), difficulty walking ($p=.004$), sleeping issues ($p=.016$), dizziness ($p=.012$), and falls ($p=.038$). When asked to rate their health on a 5-point scale, where 1=excellent and 5=poor, 5.3% rated their health as excellent, 7.3% stated it was very good, 23.3% as good, 48.7% as fair, and 15.3% as poor. The poorer the participant rated their health, the number of medical conditions ($p=.003$) and geriatric syndromes ($p\leq.001$) increased, but QOL decreased ($p=.001$).

Implications: The results underscore the importance of understanding the impact of chronic health issues and geriatric syndromes on QOL and SRH in this population. This subpopulation within the AAs community are at a higher risk for poor QOL and SRH. Health care providers should be assessing QOL and SRH to gain awareness and contribute to increasing holistic health outcomes among aging AAs with a serious mental illness.

MENTAL HEALTH

Adolescent Depression Screening in Primary Care: An Inquiry into Provider Knowledge

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Purpose: Because untreated depression in adolescence can cause lifelong mental and physical health problems, the purpose of this quality improvement project is to identify current primary care provider knowledge and barriers to adolescent depression screening guideline adherence in an urban clinic.

Background: Over 926 thousand children each year, ages 12-17, have had one major depressive episode. In Oklahoma alone, rates of adolescent depression are increasing, totaling 60% of all mental health illness among adolescents. Primary care providers routinely see approximately 75% of adolescents, placing them in a unique position to be able to screen for depression. Because depression mimics the mood swings caused by hormonal changes, mental health conditions are missed 62% to 84% of the time, and when diagnosed only 38% received treatment in Oklahoma. Current clinical guidelines recommend screening for major depressive disorder in adolescents with adequate systems to ensure accurate diagnosis, effective treatment, and appropriate follow-up. Prevalence of adolescent depression remains high and often undiagnosed in Oklahoma, presenting an opportunity for quality improvement projects to ensure and improve adherence to recommended screening guidelines. Left untreated the risk for consequences such as unintended pregnancy, substance abuse and chemical dependency, and suicide increases.

Methods: The providers of interest are nurse practitioners, physicians, and physician assistants providing primary care to children between the ages of 12 and 17 in a private pediatric practice group consisting of three clinics. The Model for Improvement will guide the process of exploring this issue and identifying what changes in provider practice could promote more screening. An electronic survey will be emailed to providers. Participants will be asked to complete a pre-test about knowledge and likelihood of changing their practice, asked to view an educational presentation on current depression screening guidelines, and then complete a post-survey to evaluate any changes in provider knowledge and willingness to change practices. The results will be shared with clinic representatives and decisions made about reducing barriers that may be indicated and/or if the change can be spread to other settings.

Outcomes Achieved: Data collection will take place in summer 2018.

Conclusions: Quality improvement projects, like the one proposed, help develop strategies to increase best practice adherence, leading to improved patient outcomes. Nurse-led improvement programs like this contribute to healthcare literature and the advancement of the nursing profession by developing patient-centered interventions applicable for a wide variety of providers. By participating in development and programs, APRNs are able to advocate and actively participate in policy change improvements. Results may be used to develop strategies to increase and align provider practices with best standards to help promote early identification and treatment of adolescents with depression.

MENTAL HEALTH

Analysis of Depression Interventions of Phase II Cardiac Rehabilitation Patients

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Aims: The specific aims of our study are to:

1. Measure the level of depression in Phase II CR patients post-cardiac event.
2. Compare the level of depression of Phase II CR post-cardiac event by type of procedure, gender, and age.
3. Assess whether interventions were implemented by the CR staff for depressed patients post-cardiac event.
4. Evaluate the types of interventions that were implemented by CR staff for depressed patients post-cardiac event.

Background: A Phase II Cardiac Rehabilitation (CR) program primarily aims at restoring an individual's physical health by making lifestyle changes; however, the patient's psychological well-being needs to be considered.

Objectives: To (1) examine the interventions used by CR staff to address patients' depression, (2) assess for any differences in depression by age, gender, and type of cardiac procedure, and (3) compare levels of patient depression before and after completing a Phase II CR program using the Center for Epidemiologic Studies-Depression (CES-D) tool.

Methods: A cross-sectional, comparative study with 700 outpatient CR patients post-cardiac event over a five-year period were included. Medically supervised, Phase II CR programs utilize RNs and exercise physiologists (EPs) to provide education and exercise training to restore a patient's physical and mental well-being. All patients completed a CES-D depression at entry and program completion (minimum of at least 12 sessions). Depression is scored based on 20 Likert-scale questions with mild depression ranging from 16-22 and severe depression being >22. Phase II CR post-cardiac event by type of procedure, gender, and age. T-tests, paired t-tests, and ANOVAs were used to analyze the data. Statistical significance was set at 0.05.

Results: Pending completion of study.

Conclusions: Pending completion of study.

Systematic Review: Genetic Variants Associated with Psychological Resilience

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Purposes/Aims: The study systematically identifies genetic variants empirically associated with psychological resilience following exposure to adversity.

Rationale/Conceptual Basis/Background: According to the Society-To-Cell Resilience Framework, one factor influencing psychological resilience to extreme stressors is genetic foundations. Because empirical studies of psychological resilience have focused on behavioral and psychosocial variables, there is less evidence on the genetic contributions to psychological resilience. A concept analysis revealed psychological resilience to adversity is defined by two resilient phenotypes: (1) Positive Adaptation and (2) None to Mild Psychopathological Symptoms. By definition, resilience presupposes exposure to substantial stress. There are three main interplays between genes and environment in the development of a phenotype: (1) *Main Effects*, (2) *Gene – Environment Correlation*, and (3) *Gene by Environmental (G x E) Interaction*. The *Main Effects* refer to the direct association between genes and phenotype. The *Gene – Environment Correlation* describes the direct association between genes and environment. The *G x E Interaction* refers to gene effects on a phenotype that are moderated by either genetic or environmental factors. Because resilience requires exposure to environmental adversity, only studies that investigated G x E Interactions contributing to psychological resilience were selected for further analysis in this review.

Methods: A systematic review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Two search engines, PubMed and PsycINFO, were used with the combination of following keywords: “psychological resilience” AND “genotype(s)”. Additional articles were identified from the Human Genome Epidemiology Navigator associated with a phenotype term “Resilience, Psychological”. Inclusion criteria included (1) human subjects approved research, (2) written in English, (3) published in peer-reviewed journals, and (4) molecular genetic studies.

Results: A total of 29 studies met the criteria for this review, and 15 studies were identified as G x E Interaction studies investigating psychological resilience. A total of nine genes were associated with psychological resilience: *Serotonin-Transporter-Linked Polymorphic Region (5-HTTLPR)*, *Dopamine Receptor D4 (DRD4)*, *Catechol-O-MethylTransferase (COMT)*, *Brain-Derived Neurotrophic Factor (BDNF)*, *FK506 Binding Protein 5 (FKBP5)*, *Corticotropin Releasing Hormone Receptor 1 (CRHR1)*, *Oxytocin Receptor (OXTR)*, *Regulator of G-Protein Signaling 2 (RGS2)*, and *MethyleneTetraHydroFolate Reductase (MTHFR)*. The 15 G x E Interaction studies were analyzed further to identify which genotypes of these nine genes contributed to psychological resilience. The study results were conflicting on some genes. For example, three studies suggested the Long/Long genotype of *5-HTTLPR* was associated with Positive Adaptation, whereas the other three studies found significant associations between the Short/Short genotype and Positive Adaptation. Inconsistent results of the existing studies may be due to (1) various methods to operationalize resilience, (2) exclusion of measurement of rs25531 in *5-HTTLPR*, (3) different assumptions of the mode of genetic inheritance, and (4) a variety of confounding sample-based variables.

Implications: Psychological resilience is a complex phenomenon influenced by genetic variants, epistasis, epigenetics, and G x E Interactions, requiring further investigation to determine the exact effect of genetic influence on resilience. Nurse scientists need to investigate factors contributing to resilience from macro to micro levels to address the holistic nature of the person.

MENTAL HEALTH

A Cognitive Rehearsal Educational Intervention to Decrease Lateral Violence

Julie Sutherland, MSN, RN

Purpose: To determine if an education based intervention will afford staff with the tools needed to handle lateral violence situations, and consequently feel more comfortable and willing to handle situations when they arise. These aims will be evaluated by pre-post survey after an educational intervention, with a 30 day post-intervention follow-up.

Rationale: Lateral violence in healthcare is a common occurrence that generates an unsafe work environment for employees and patients. Employees who encounter lateral violence have been linked to a greater level of job stress, psychological and physiological distress, higher levels of absenteeism, and turnover. Few studies have been conducted on interventions to decrease lateral violence. Research indicates that interventions based on cognitive rehearsal and general education may have a positive effect on lateral violence in the healthcare setting.

EBP Questions: (1) What is the frequency of lateral violence negative acts, perpetrator role, and perpetrator gender experienced by staff in the healthcare environment? (2) Is there a relationship between personal characteristics, lateral violence knowledge, comfort level to confront lateral violence, willingness to confront lateral violence, approach to lateral violence, and barriers to lateral violence for staff working in the hospital environment? (3) Is there a relationship between professional characteristics, lateral violence knowledge, comfort level to confront lateral violence, willingness to confront lateral violence, approach to lateral violence, and barriers to lateral violence for staff working in the hospital environment? (4) Is there a difference in lateral violence knowledge, comfort level to confront lateral violence, willingness to confront lateral violence, and barriers to lateral violence following participation in a Nurse Executive led lateral violence education?

Methods: The education intervention will occur at a 300-bed inpatient hospital. Target population includes registered nurses, licensed practical nurses, and patient care technicians. The intervention will involve one group of participants. Intervention and data collection in process.

Outcomes: Participants will have greater comfort in handling lateral violence after the intervention. Intervention and data collection in process.

Conclusion: Intervention and data collection in process. To be completed 12/1/17.

MENTAL HEALTH

Stigma (Related To Mental Health): A Concept Analysis

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Purposes/Aims: The purpose of this concept analysis is to examine stigma and its relationship to suicide prevention and mental health using the Walker and Avant method. The history, attributes, antecedents, consequences and operational definition of stigma will be examined along with an exemplar of a case study of stigma as a societal attitude towards the taboo topic of suicide.

Definition of Concept: The term stigma can have multiple definitions, meanings and assumptions. Stigmatization can be described as “an act or omitted action taken against a person or family. This act or omission can lead to a negative attitude and perception which includes labeling, stereotyping and rejection. Comprehension of the term stigma is specific to an individual or group and may vary in perception whether is it being experienced, observed or examined. For this analysis, stigma was defined as: a mark of disgrace or reproach associated with a particular circumstance.

Concept Analysis Process: The concept analysis method by Walker and Avant was used to assess:

1. The causes of stigma include fear or misconceptions of someone with suicidal ideation along with the negative historical perspective of mental illness.
2. The attributes of stigma including isolation, limiting access to education and support for suicidal individuals along.
3. Antecedents including social, physical, emotional/psychological, environmental, and situational consequences of components of suicide.
4. Consequences of stigma include delay in seeking treatment, increased isolation and increased incidence of suicide.
5. Applicable case study on stigma and a suicidal patient will be presented.
6. Empirical referents of stigma including beliefs that discussing suicide may promote suicidal attempts, as well as limiting access to mental health care and support along with online bullying.

Linkage of Concept to Nursing Practice: Perceived stigmatization continues to be a barrier to patients seeking care. Examining the concept of stigma may be instrumental for the nurse patient relationship and suicide prevention. Decreasing stigmatization may help with removing barriers for community members in seeking the resources needed for to combat suicide. Understanding this concept is vital to improving population health and impacting mental health outcomes. Sensitization of patients and their families, mental health professionals and the public to the impact of suicide stigma is critical in the development of effective interventions. The most dire of these is the impact of stigma on suicide prevention.

Conclusion: The understanding of mental health and perceived stigmatization can have an effect on suicide rates. It is instrumental for interventions to be in place for those effected by mental illness. The clarification and understanding of stigma and mental health may impact our future working with mental health patients.

MENTAL HEALTH

Staffing in Acute Psychiatric Facilities: A Systematic Literature Review

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Background: Acutely ill mental health patients are a vulnerable population that requires adequate numbers and types of staff to ensure active engagement with the treatment plan in a healing environment (American Psychiatric Nurses Association, 2012). Recent attention has been focused on nurse staffing in acute medical/surgical hospitals and the impact staffing has on patient outcomes; however, little is known about the state of staffing in acute psychiatric facilities.

Objective: This systematic literature review was conducted to synthesize research findings related to staffing in acute psychiatric facilities in the United States.

Design: The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guideline was utilized for this systematic review. A search of the literature was conducted from 1999 to present using the key words staffing, direct care providers, acute psychiatric facility, inpatient psychiatric facility, and behavioral health facility. Databases included PubMed, CINAHL, Nursing and Allied Health Database and Medline.

Results: Twelve articles were identified that met the inclusion criteria and were part of this review. Five articles focused on organizational factors related to staffing (staffing intensity/activities, cost, and emergency department throughput) while the majority of the articles (6) examined staffing in relation to patient outcomes; primarily as violent behavior resulting in injury or requiring restraint and/or seclusion. Only one article explored nurse factors and was focused on work environment and burn out.

Conclusions: There is a paucity of studies over the last 18 years related to staffing in acute psychiatric facilities in the U.S. For those reviewing the literature for direction in improving organizational factors, nurse factors, and/or patient outcomes, there are few findings available to guide meaningful changes. Additional research is needed to identify and investigate relevant organizational and nurse factors, and the specific impacts they may have on patient outcomes.

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Abstracts of Poster Presentations

PATIENT EDUCATION

REDESIGN OF EMERGENCY DEPARTMENT
DISCHARGE MATERIALS

Karen Colorafi, Christopher Trudeau

COMPARISON OF PATIENT PERCEPTION
AND PATIENT FALLS

Nicole Pena

REFINING DIABETES SELF-MANAGEMENT
EDUCATION PROGRAM IN A LATINO POPULATION

Janet Amanda Hildebrand

PATIENT EDUCATION

Redesign of Emergency Dept. Discharge Materials to Improve Patient Understanding

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Purpose: To evaluate the materials given to patients upon discharge from emergency departments (ED) and (i) identify potential areas of confusion that may lead to misunderstanding, (ii) analyze the content of the discharge package, including the number of diagnoses, medications, and plan items commonly included for readability, and (iii) to develop prototypes for “plain language” discharge packages that may enhance understanding.

Background: American adults have a difficult time interpreting and using the health information given to them to support their engagement with treatment plans. Two decades of research indicate that at the most fundamental level, as many as 90 million American adults do not understand the written or oral information given by healthcare providers to help them manage their chronic disease. This is frequently referred to as health literacy, commonly defined as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. Health literacy is significantly correlated with the ability to engage in the healthcare system and self-management. Documentation given to patients that does not meet health literacy standards is a common cause of discontent. It has been linked with poor adherence to treatment, higher readmission rates, and even litigation.

Methods: We collected 33 discharge packets from adult patients discharged from three EDs with a diagnosis of chest pain, abdominal pain, or back pain. Facility sponsors printed a duplicate copy of the discharge packet, removing all personally identifiable health information yet giving the investigators an exact replica of what the patient received. The investigators analyzed materials for multiple variables, including reading level, readability using the CDC’s Clear Communication Index, number of medications, presence of personalized instructions. The Co-PIs created revised prototypes designed to enhance readability using the Adobe suite of software products. Prototypes are being shared with study contacts for feedback. Revisions will be made in an iterative fashion until the facilities are satisfied with the prototypes, which will be shared with facility informatics teams and used as the basis for future intervention research.

Results: The clinical summaries were examined for readability and an average grade reading level will be presented. The average score of the clinical summaries examined with the CDC Clear Communication Index indicates that the items on the document are not easy to understand or use. The content analysis and redesign work are ongoing. We will have preliminary results to share in the spring of 2018.

Implications: We believe that patients are better equipped to follow a treatment plan that they can read and understand. To that end, we endeavor to use a plethora of federal resources and best practice guidelines designed to improve the health literacy of medical documents to improve the material we give patients discharged from the ED. Future research involves the testing of adapted materials for patient preference and understanding and the electronic adaption of discharge materials from commercial electronic health records.

PATIENT EDUCATION

Comparison of Patient Perception and Patient Falls

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Purpose: Despite mandated government regulations and multiple hospital interventions, hospitals continue to report falls as their most prevalent adverse event. The purpose of the proposed study is to examine the relationships between patient perception, screening instruments, and preventing adult inpatient falls.

Background: One in three Americans over the age of 65 fall each year. Falls are the most common safety incident among hospitalized patients, affecting over 13 hospitalized adults per 1000 patient days. Falls are the leading driver of health care costs, amounting to over \$30 billion each year. This figure is expected to almost double by 2030. Inpatient falls have been a nationwide concern for individuals admitted to the hospitals, health care professionals and third-party payers. Third party payers are demanding close to perfect care, decreasing reimbursement for patient falls, and severely impacting hospitals financial stability. Multiple fall prevention strategies have been identified and implemented yet patient injuries are still predominant.

Conceptual Frameworks: The Health Belief Model and Social Model guide the overall conceptual framework, composed of conceptually-related variables associated with fall risk. The concept of perception is defined to guide measuring patients' perception and those identified as a high fall risk.

Methods: A descriptive correlational design using prospective data will be used and data will be abstracted from the electronic medical records of enrolled participants. The sample will include patients who are age 65 and above. Patients will be included in the convenience sampling if they are English-speaking adults, admitted on a medical-surgical acute care unit, cognitively alert and oriented, physiologically stable, screened and identified as a high fall risk. Patients will be excluded if they have a medical diagnosis of dementia, delirium, Alzheimer's, or psychiatric disorders or if they are admitted to an intensive care unit, rehabilitation unit, or emergency department. The instruments used in the proposed study will be the Confidence Scale, Fear Scale, Intention Scale, and Consequences Scale, all measuring patients' perception related to falls. Descriptive statistics will be used to describe patient characteristics. Linear regression, odds ratios, and confidence intervals will be reported to identify relationships between multiple independent variables and a single dependent variable.

Results: Pending.

Implications: Healthcare is currently unpredictable. We know the profession of nursing needs to continue to provide for the future of nursing scholarship, nursing practice, and health policy. Using effective screening instruments that capture accurate fall risk is crucial. Until recently, there have been no screening instruments evaluating individual perception in relation to people at risk for falling. Accurately identifying patients at risk for falling can inform individualized fall prevention programs and interventions, leading to a decrease in morbidity, mortality, and cost while improving patient outcomes.

PATIENT EDUCATION

Refining Diabetes Self-Management Education Program in a Latino Population

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Purpose/Aim: The primary aim of this study is to evaluate the content and usability of a diabetes self-management education (DSME) program for adult Latino patients with type 2 diabetes mellitus (T2DM). Participants were asked to identify missing content that included cultural sensitivity and pertinent experiences to enrich the DSME course.

Background: Systematic reviews have shown that DSME can decrease glycosylated hemoglobin (A1C) values as much as 2 percentage points. Each percentage point reduction in A1C decreases microvascular complications by 35%. However, language barriers and cultural beliefs and practices intensify obstacles to glycemic control in minority and socioeconomically disadvantaged groups. It is essential to identify and integrate this cultural knowledge to engage vulnerable populations in significant behaviors changes.

Methods: One-to-one interviews were performed to determine common emergent themes. Patients waiting for their office appointment were invited to review the DSME curriculum. Participants were asked to review the monthly topics and handouts to identify culturally specific content to improve the program.

Outcomes Documented: Three themes emerged from the interviews that were incorporated into the course. Participants wanted cultural misconceptions of how one develops diabetes to be addressed, this included beliefs of *susto*. They wanted clarification about healthy nutrition that included integration of culturally specific foods. The final issue focused on medication concerns that included purpose, side effects and when to take the medicine. Initiation of insulin was also voiced as a pertinent subtopic. The program was revised to incorporate this input.

Conclusions: A culturally appropriate DSME course provides significant improvement in A1c that exceeds the effects of some diabetes medications. Implementing culturally robust DSME programs provide patients with diabetes the skills and knowledge to actively participate in the control of their disease.

Abstracts of Poster Presentations

POVERTY SIMULATION

POVERTY SIMULATION:
STUDENTS' IMPACTFUL MOMENTS

Gaye L. Ray, Debra K. Wing

POVERTY SIMULATION

Poverty Simulation: Students' Impactful Moments

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Purpose: The purpose of this study is to explore the aspects of poverty simulation that were particularly effective in contributing to students' learning and to identify the origin of these impactful moments.

Background: 62 undergraduate nursing students participated in a poverty simulation as part of a required public and global health nursing course and wrote reflection papers about their experiences. During the 3.5-hour simulation, students are assigned participant roles similar to those experienced in real life low-income families. Students develop strategies to prioritize and meet their family's basic needs, including food, housing, living expenses, school, employment, and healthcare. Unexpected life challenges occur throughout the simulation, including financial predicaments, illnesses, and job loss. Participants are expected to cope with such challenges, with limited time and resources, as they uphold obligations and continue to care for their families. Participants interact with simulated community resource sites as they strive to provide food and shelter for their family during one simulated month. Sites include: grocery stores, banks, employment and social services, schools, police stations, childcare, and healthcare facilities. Students participate in debrief sessions following the simulation.

Brief Description of Project: Qualitative data from the reflection papers was analyzed. The first-cycle coding process identified and labeled student statements that elaborated upon impactful moments in the simulation. Using focused coding, a second-cycle coding process was used to identify the origins of the impactful moments. Finally, origins of the impactful moments were grouped and categorized according to similarity.

Results: Completed analysis of the student reflection papers reveals the origins of meaningful experiences in the simulation arose from (1) the particular role played during the simulation, (2) community resource interaction, (3) illegal activities that occurred in the simulation, and (4) post-simulation debrief groups.

Nursing Implications: Participation in poverty simulation will influence student nurses to provide empathetic care towards impoverished individuals, increase efforts to connect the impoverished with community resources, increase their commitment to aid the eradication of health disparities, and reduce healthcare barriers for this vulnerable population.

Conclusion: Poverty simulation has remarkable influence on nursing students in helping them understand health inequalities, resource barriers, and poverty as a social determinant of health as a result of their impactful experiences.

Abstracts of Poster Presentations

PREVENTATIVE CARE

EVALUATION OF A PILOT PROGRAM: IMPLEMENTATION
OF FLUORIDE VARNISH IN RURAL PRIMARY CARE

Brian J. Huber, Janalee Isaacson

EASTERN EUROPE NURSES CENTER OF EXCELLENCE
FOR TOBACCO CONTROL PHASE II

Stella A. Bialous, Linda Sarna

BARRIERS TO SCREEN LUNG CANCER WITH LDCT
FOR ELIGIBLE US POPULATION

Fang Lei, Eunice Lee

COMPLICATION PREVENTION: FACILITATING EARLY
TREATMENT FOR TRANSITIONING PATIENTS

Tanya Beth GGBarney, Phlica A. Morgan

HIV WITH DIABETES: RETENTION IN CARE
AND SYMPTOM BURDEN

Jungmin Park, Julie Ann Zuniga

IMPLEMENTING AN OBESITY PREVENTION LIFESTYLE
PROGRAM IN A SCHOOL-BASED HEALTH CENTER

Claudia R. Amura, Emily Steen

IMPLEMENTATION OF FOCUSED MEDICATION MANAGEMENT
(FMM) IN HOME HEALTH THERAPY PATIENTS

Briana N. Maynor

IMPLEMENTATION OF EVIDENCE-BASED HAND HYGIENE
MEASURES IN A CORRECTIONAL SETTING

Jessica Pearl, Janet Purath

FACTORS ASSOCIATED WITH CHINESE COLLEGE STUDENTS'
INTENTION TO RECEIVE HPV VACCINE

Angela Chia-Chen Chen, Elizabeth Reifsnider

HPV AND VACCINATION: KNOWLEDGE, ATTITUDES,
AND INTENTION IN ADOLESCENTS

Whitney Reidhead, Angela Chia-Chen Chen

PREVENTATIVE CARE

Evaluation of a Pilot Program: Implementation of Fluoride Varnish in Rural Primary Care

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Purpose/Aims: The purpose of this Doctor of Nursing Practice (DNP) project was to improve access to preventive dental health care for pediatric patients. The goals of this project were to raise the awareness among healthcare providers in a rural primary care clinic of the need to offer fluoride varnish (FV) treatments to eligible pediatric patients, and to provide education and training on FV treatments for clinic providers and staff.

Rationale/Background: Dental caries continues to be a common but preventable problem among children in the United States today. The United States Preventative Services Task Force (USPSTF) recommends that primary care clinicians apply FV to the primary teeth of all infants and children starting at the age of primary tooth eruption. FV application is an effective method to prevent dental caries and can be easily adopted in primary care as a valuable service for patients. The literature reveals that in the United States, children ages five years and younger are more likely to be seen by a primary care provider (PCP) than a dentist. Unfortunately, the literature also exposes that due to the many demands on the time of a PCP during a well-child visit, preventive dental care does not always take priority. In addition, according to the Rural Health Theory developed by Long and Weinert (1989), those clients in rural settings tend to be resistant to preventive and new therapies.

This is a report of a DNP project designed to raise awareness of the need and provide training for FV application, and to increase the number of FV applications provided during well-child visits to children with primary tooth eruption in a rural primary care clinic.

Methods: Data was collected from pre- and post-surveys of healthcare providers and staff in a rural primary care clinic. Well-child visits and FV applications were tracked and quantified for two-month time frames prior to and following the implementation of the FV awareness project.

Results: Survey responses demonstrated staff support for the FV overall, and informed with regard to the potential challenges faced in the process. Compared to the two months prior to project implementation, FV application increased 88.6% within the target population.

Implications: This project raised awareness of the need for preventive dental healthcare among young pediatric clients, educated the clinic staff about the benefits of fluoride varnish, and demonstrated an improved application rate. Preventive oral healthcare services can be improved through the implementation of projects such as this one, which provided focused education and training for healthcare providers in a rural primary care setting.

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PREVENTATIVE CARE

Eastern Europe Nurses Center of Excellence for Tobacco Control Phase II

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Aims: To assess the impact of an online evidence-based educational program about nursing delivery of smoking cessation interventions to patients, with a special focus on patients with cancer, in Central and Eastern Europe on: 1) nurses' self-reported changes in practices related to consistently (usually/always) providing smoking cessation interventions, based on the 5As (i.e., ask, advise, assess, assist and arrange), to smokers, before and 3-months after participation in the online program, and 2) to compare these results with data from our previous, Phase I study. The RE-AIM (i.e., reach effectiveness, adoption, implementation, maintenance) framework was used to guide the development, implementation and evaluation of the program.

Background: Tobacco use is the leading cause of preventable disease and death in Central and Eastern Europe, including high rates of tobacco-related cancers. Nurses can play a pivotal role in reducing the suffering, disease and mortality burden associated with tobacco use when appropriately educated. Providing nurses with educational opportunities to address smoking among their patients is essential to enhance nurses' engagement. The Eastern Europe Nurses' Centre of Excellence for Tobacco Control (EE-COE) was established in 2014 to meet the educational needs of nurses in the region and support their engagement in tobacco control.

The next phase of the COE (Phase II, 2017-2019) is a partnership involving nurses and nurse researchers in the United States and 6 countries: the Czech Republic (CZ), Hungary (HU), The Republic of Moldova (MD), Romania (RO), Slovakia (SK), and Slovenia (SI). Phase II aims at expanding the number of nurses who are prepared to provide evidence-based interventions to patients who smoke and to build leadership and sustainability for nurses' engagement in tobacco control using online education. This paper will present preliminary data from the distance learning web-based program on nursing practice.

Methods: A prospective single-group pre-post design will be employed. The educational intervention consists of two evidence-based pre-recorded webcasts: a 30-minute webcast about helping smokers quit, and a 30-minute webcast about the role of nurses in helping patients with cancer to quit smoking. A valid and reliable web-based survey was translated into 5 languages (Romanian and Moldovan are similar) and will be used to assess changes in nurses' delivery of smoking cessation interventions 3-months after viewing two educational webcasts compared to baseline. Web-based, country-specific, resources that nurses can use to help smokers quit are available to download. We expect to recruit 100 nurses per country for each of the 6 countries (N=600).

Results: Preliminary results of data from nurses in 4 countries will be presented.

Implications: The EE-COE continues to be a positive model to promote and accelerate to support the establishment of a regional network of nurses engaged in tobacco control. Our past projects in this area have shown that online education was a feasible and successful way to educate nurses about evidence-based smoking cessation interventions and increase their interventions with patients. Our overall goal is that delivering evidence-based smoking cessation interventions will become an expected part of routine nursing care.

Funding: Supported was provided by a grant from the Bristol-Myers Squibb Foundation Bridging Cancer Care Initiative to the International Society of Nurses in Cancer Care and the UCLA School of Nursing.

PREVENTATIVE CARE

Barriers to Screen Lung Cancer with LDCT for Eligible US Population

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Purposes: To identify barriers to screening for lung cancer with low-dose computed tomography (LDCT) for at-risk United States population.

Background: Despite the changed landscape of lung cancer screening (LCS) guidelines and public and private insurance coverages, uptake rates of LCS with LDCT remain low among eligible United States population who are at risk for lung cancer.

Methods: Electronic literature databases, including PubMed, CINAHL, PsycINFO, and Google Scholar were searched.

Results: Initially, 382 references were retrieved from the databases. After adjustment for repeated articles and inspection of titles and abstract and article content, 10 articles (four qualitative and six quantitative studies) were included in the review. Procedural rigor and methodology were considered for each study design. A taxonomy approach based on the Symbolic Interactionism and the Health Belief Model was used to categorize and stratify the barriers identified.. Internal barriers included lack of knowledge and incorrect beliefs about LCS, financial and demographic limitations, distrust of the medical system and lack of information from primary care providers, stigma around smoking and lung cancer, negative expectation about LCS, and inconvenience of LCS. External barriers included concern about the accuracy of LDCT, uncertainty regarding the benefit of LCS, concerns about the procedure, acceptance of trial evidence and guidelines, and infrastructural barriers related to insufficient screening centers, personnel, programs and equipment.

Implications: Developing a tailored education and intervention program is essential to increase the LCS uptake rate. Exploring the causes for the barriers and addressing the gaps related to secondary prevention of lung cancer are directions for future studies.

Knowledge Translation: 1) Multiple-level barriers, including internal and external barriers, hindered LCS behaviors among the United States eligible population. 2) Targeted interventions and programs to increase LCS rates among United States eligible population should be implemented. 3) Future research addressing the gaps in LCS among diverse groups should be conducted.

PREVENTATIVE CARE

Complication Prevention: Facilitating Early Treatment for Transitioning Patients

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Purposes/Aims: The focus of this study is to prevent complications from Rheumatologic diseases by facilitating prior authorizations (PA), patient education, infusion appointments, and promote outpatient compliance to the prescribed therapies.

Rationale/Background: In July 2016, the rheumatology clinic staff received report that three patients were required to have renal dialysis related to complications of vasculitis post hospitalization. Physicians felt that earlier Chemotherapy and Biologic Intravenous (IV) therapy might have prevented these complications. Rushed discharge planning arrangements for follow-up care with untimely prior authorization (PA) requests cause lengthy delays in infusion therapy and reports of organ failure. Patient adherence to treatment can also be hindered without proper education.

This study was introduced as a Plan, Do, Study, Act (PDSA) to see if collaboration between a rheumatology clinic Registered Nurse (RN), rheumatology physicians, and the unit discharge RNs would improve patient adherence and outcomes.

Undertaking/Best Practice/Approach/Methods/Process: This is a quantitative design study that is looking at the numbers of patients who require outpatient infusion therapy post hospitalization or after a rheumatology appointment and the length of time required to apply for and receive prior authorization (PA) and the time to infusion date. Inclusion criteria are patients over 17 years of age with newly diagnosed autoimmune disorders awaiting discharge from the hospital or have attended clinic appointments and require continuation of infusion therapy in an outpatient setting.

The control group was obtained by electronic medical record review of rheumatology infusion patients from 2013 - 2016. Patients with complete documentation of the dates that PAs were requested, obtained, and the dates of first outpatient infusion therapies comprised the control group.

The trained clinic RN visits each patient while in the hospital awaiting discharge. Verbal consent is obtained. Education on disease process and recommended outpatient treatment plan is provided. Also at this time, all necessary information is obtained from the patients to apply for PA, apply for patient assistance programs from the drug companies, and she brings patients to the clinic and the OTC. The clinic RN documents on the spreadsheet the dates of discharge, ordered medications, PA application, denials, appeals, approvals, and initial outpatient infusions. This information is collected, analyzed, and decisions are made as to the appropriateness of dates of infusion.

Outcomes Achieved/Documented: The average number of days for a patient to receive infusion therapy after hospital discharge in the control group was 65 days, while for the study group was 33 days. Of the 17 study patients, two patients' treatments were delayed. Patients have been educated and 15 patients provided the needed information for PA, patient assistance programs, and did attend their first infusion therapy appointments.

Conclusions: The importance of data collection in this ongoing study is evaluated to determine effectiveness of patient education. Uncover if there are poor outcomes related to patient non-adherence. In addition, to determine if there were any poor outcomes related to process hindrance and plan improvements.

PREVENTATIVE CARE

HIV with Diabetes: Retention in Care and Symptom Burden

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Purpose: The purpose of this study is to investigate the relationships between symptom burdens and retention in care PLWH+DM.

Background: Between 10-15% of persons living with HIV (PLWH) have a dual diagnosis of HIV and diabetes (HIV+DM). Both conditions highly associated with symptom burden. Many of the symptoms of the two are similar, such as headache, nausea, and numbness. PLWH and diabetes (PLWH+DM) report more symptoms than PLWH without DM. Symptom burden can be a barrier to retention in care for PLWH, however we don't know if the additional diagnosis of DM changes the relationship between those variables.

Methods: We used a secondary data analysis from the Center for AIDS Research (CFAR) Network of Integrate Clinic Systems (CNICS), which captures a broad range of information in PLWH from 8 clinics around the US. We used the Health and Resources Services Administration HIV/AIDS Bureau (HRSA HAB) measure (0: not retained; 1: retained 90-days gap) for retention in care and symptom burden using HIV Symptom Index. For investigating relationships between symptom burden and retention in care, we 50 years old).

Results: A total of 798 samples in 2015 year (older adults [OA] n=564, younger adults [YA] PLWH+DM n=234). Both age groups had the similar percentage of people retained in care (YA= 66%, OA 71%, p=.39). The most prevalent symptoms were fatigue (9.8%), fever (8.9%), and dizzy (6.9%) in OA living with HIV (OALWH)+DM (n=447), and fatigue (11.6%), fever (10.1%), and diarrhea (5.3%) in YA living with HIV (YALWH)+DM (n=189). There were significant relationships took place with symptom burden (fatigue, sadness, memory loss) and retention in care in OALWH+DM. Of OALWH+DM having less fatigue, 0.584 times (95% CI: 0.363-0.938) higher retained, those with less memory loss had 0.35 times higher retained (95% CI: 0.399-1.011), and those having less sadness had 1.937 times higher retained (95% CI: 1.235-3.038). However, there were no relationships between retention in care and symptom burden in YALWH+DM.

Implications: The results showed that certain symptoms can impact retention in care OALWH+DM. Though this did not hold true for YALWH+DM. Based on study result, healthcare professionals need to focus more on symptom management, in particular fatigue and sadness, in OALWH+DM in order to keep them retained into care.

Keywords: HIV, diabetes, comorbid conditions, retention in care, symptom burden

PREVENTATIVE CARE

Implementing an Obesity Prevention Lifestyle Program in a School-Based Health Center

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Aim: The purpose of this research was to assess impact and feasibility of implementation of the Mind, Exercise, Nutrition, Do it! (MEND) after-school program for overweight and obese youth in a low-income, community setting.

Background: One-third of children in the United States are overweight or obese. Comorbidities continue into adulthood, if a healthy weight is not established. This is particularly true among minority youth who are at an increased risk for weight-related health problems. School-based health centers serving at-risk youth are ideal venues for the recruitment of participants and delivery of obesity-related, family-centered nutrition interventions to help slow the rate of weight gain in this population.

Methods: We held five sessions of the 10-week MEND lifestyle intervention. Obese or overweight children ages 6-14 who were patients at the Sheridan Health Services school-based health center were referred to the program. Children who met the criteria were invited to participate in the free program with a parent or guardian. The intervention was adapted for delivery in both English and Spanish at the local community recreation center. Phone reminders were used prior to each session to encourage participation. Primary outcomes were participants anthropometric measures and step test as well as self-reported nutrition and physical activity scores at the end of the program. Secondary outcomes included feasibility, health behaviors, attrition, parental scores, family satisfaction scores, and parent body mass index (BMI).

Results: Forty-five children and their parents/guardians enrolled in the program. Mean child age was 11.08 ± 2.16 years; 53.3% were female; 86.7% were either overweight or obese (BMI percentile for age/sex). Most families were racially/ethnically diverse (88.9% self-identified as Hispanic), with low-income (75.7% at or below federal poverty line). Most families spoke Spanish at home (83.3%). Despite the high attrition, (55% participants completed the program), participation was high among those who attended more than 6 sessions (76.9%). Among children who finished the program, there were significant improvements in physical activity [median 11 (IQR = 11.38) to 17 (IQR = 12.5) ($p = 0.031$)] and nutrition [(median of 19 (IQR = 5) to 24 (IQR = 6) ($p < 0.001$)] scores. Step test heart rate decreased from a median of 102 (IQR = 21) to a median of 88 (IQR = 16) ($p = 0.001$). Child BMI z-scores also decreased significantly [(median 2.05 (IQR = 0.55) to 1.98 (IQR = 0.58), $p = 0.006$] over the course of the program. Despite the challenges of having combined English and Spanish speaking families together, most were overall satisfied with the intervention (78% found the sessions good/very good and 91.3% found the materials culturally appropriate and useful. Moreover, the group session created cohesion and support among peers.

Implications: This study shows the feasibility of adapting an evidence-based family program for childhood obesity in a low-income, community setting, thanks to the partnership with a school-based health center. The results also underscore challenges for families at-risk to continue participating in the program, likely due to socioeconomic status and social context, and the need to tailor these types of interventions.

Funding: This research was funded by the MEND foundation.

PREVENTATIVE CARE

Implementation of Focused Medication Management (FMM) in Home Health Therapy Patients

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Purpose: The purpose of this study is to determine if patients receiving Focused Medication Management (FMM) in a home nursing visit in addition to home therapy services have better Outcome and Assessment Information Set (OASIS) and Home Health Care Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores focused on medication administration, patient safety and satisfaction.

Rationale: In seniors, polypharmacy (use of multiple medications concurrently to manage coexisting medical problems) is a common problem with upwards of 50% of people taking greater than five medications per day. Inappropriate prescribing and use of medications increases the risk to the patient for major adverse effects. In fact studies indicate that medication adverse effects result in a considerable amount of hospitalizations translating into increased healthcare dollars spent. As many of these patients receive interdisciplinary home health visits, home health personnel are key to providing interventions, education and medication monitoring, to counteract the detrimental effects of polypharmacy. Home health agencies have the patient's safety as a top priority and are reimbursed by Centers for Medicare and Medicaid Services for the care provided based on outcomes in the form of OASIS and HCAHPS scores. Historically, the HCAHPS scores related to medication education are low in the region this project was implemented in.

Methods: The population for this project was home health patients over the age of 65 in a rural community in Washington State. The baseline referent (pre-intervention) group of 30 patients was randomly selected from the fourth quarter of 2016. The intervention group included 22 participants. Outcomes measured in this project were OASIS and HCAHPS scores. The OASIS is assessment data used by all home health agencies for Medicare patients upon admission, recertification, and discharge from home health. The HCAHPS is a survey used to measure patient's perception of care. The OASIS admission and discharge scores from both groups will be analyzed. A nurse provided each participant from the intervention group a FMM visit within two weeks of starting home health services. The FMM visit included additional medication reconciliation, individualized education, and handouts. Additionally, data was collected regarding medication discrepancies and need for hospital visits during their episode of home health care. Monthly HCAHPS scores from both pre-intervention and post-intervention were compared for data analysis.

Results: Results pending.

Implications: Target date for completion of data analysis is December 2017. Preliminary review of the data indicates a high number of medication discrepancies between what the patient was taking and what the provider had ordered. In addition, the initial review indicates an increase in HCAHPS scores since intervention began. It is anticipated that final data analysis will reveal that participants benefited from FMM as they received more medication education including an assessment of independence with medication management and detailed one-on-one medication education. This project has potential to lead to further research regarding where medication discrepancies occur. Benefits to society and academic knowledge include a detailed medication management process for home health patients that could aid in CMS reimbursement, increased quality of care, patient safety, and patient satisfaction.

PREVENTATIVE CARE

Implementation of Evidence-Based Hand Hygiene Measures in a Correctional Setting

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Aims: To implement an evidence based multimodal hand hygiene improvement intervention at Coyote Ridge Corrections Center to increase hand hygiene compliance among healthcare staff in the medical clinic by at least 50%, to meet national standards at completion of the project.

Background: Substantial epidemiologic evidence supports the role of hand hygiene in reducing the transmission of pathogens and the incidence of healthcare associated infections. Incarceration places inmates at an increased risk for the acquisition of blood-borne pathogens. To help prevent and control the transmission of infectious diseases within prisons it is imperative that healthcare personnel employ stringent infection control practices. Recent hand hygiene audits at the one prison's medical clinic showed hand hygiene compliance to be 20%.

Objectives: This project aims to implement an evidence-based, multimodal, hand hygiene improvement intervention at a prison medical clinic and to increase hand hygiene compliance among staff by at least 50%, to meet national standards.

Methods: The multimodal intervention includes four components: systems change, education, evaluation/feedback, and visual reminders to promote hand hygiene activities. The intervention targets all nurses and medical practitioners that work in the medical clinic (n=28). Data collected from direct hand hygiene audits and product consumption measures performed before, directly after, and one month post-intervention will evaluate the intervention.

Results and Conclusions: Pending. Project will be analyzed by January 2018.

PREVENTATIVE CARE

Factors Associated with Chinese College Students' Intention to Receive HPV Vaccine

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Purpose: This study examined (1) Chinese college students' knowledge about Human Papillomavirus (HPV) and vaccines, perceived risks of getting HPV infection, and facilitators, barriers, and intention of receiving the vaccines, (2) gender differences in these variables, and (3) factors associated with their vaccination intent.

Background: HPV infection, the most common sexually transmitted infection worldwide, is associated with different cancers in males and females. Given the cost effectiveness of the HPV vaccination, it is recommended for routine vaccination of both boys and girls at age 11-12 years. HPV vaccine (Cervarix) was just approved by the Chinese FDA in July 2016. Evidence suggests low HPV knowledge and vaccine awareness in the Chinese population, thus it is essential to understand Chinese young adults' intention of getting HPV vaccine as well as the factors associated with their decision-making so tailored, culturally congruent interventions can be developed.

Methods: A cross-sectional anonymous survey was conducted in summer 2017. We recruited participants through a University Immersion Program in China. A student was eligible to participate if s/he reads and writes Chinese; and submitted the consent online. Survey questions were pilot tested in our prior research and validated by two Chinese speaking researchers with extensive experience working with the target sample. Data was saved and managed using a secure data collection application REDCap and then imported to SPSS 24.0 for analysis. We conducted descriptive and inferential statistics to compare gender differences in the variables and to examine factors associated with vaccination intent.

Results: About 89.5% of the sample (n = 102, mean age = 20.6, SD = 1.21, 84.7% female; 85.7% nursing major) reported that they intend to receive HPV vaccines. Only 29.4% received HPV information in the past; the primary sources of information were media (13.7%) and teachers (12.7%). The mean knowledge score was 8.22 (SD = 1.59; range 0-10). They perceived very low risk of getting HPV infection (M = 0.72; SD = 1.64; range 0-9). Majority (94%) reported the chance getting HPV infection is low if vaccinated. Participants identified "I will do it to prevent diseases," "if my teachers tell me to do it," "if my doctor or nurse tells me to do it," and "if I can afford it" as main factors that facilitate vaccination. The main barriers were "I am worried about the safety of the vaccine," "I don't know if it works," and "I don't know where to get it." No gender difference in the key variables were found. Findings of logistic regression suggested that Chinese students who identified more facilitators (OR = 4.74, 95% CI 1.24-18.14) reported higher vaccination intent.

Implications: These results suggested many of the Chinese college students had not learned about HPV and the vaccines yet, even though they majored in Nursing and other health disciplines. They also perceived very low risk of getting HPV infection. Nevertheless, the Chinese college students showed very high vaccination intent. Educational intervention that provides adequate information about HPV and the vaccines via multiple sources and addresses facilitators may promote their vaccination behaviors.

PREVENTATIVE CARE

Adolescents' Intention to Receive HPV Vaccines: Gender Comparison

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Purpose: This descriptive study examines: (a) adolescents' Human Papillomavirus (HPV)-related knowledge, perceived risks, facilitators, barriers, cultural beliefs and intention of receiving the vaccines and (b) gender differences in these variables.

Background: HPV infection, the most common sexually transmitted infection in the United States, is associated with different cancers in males and females. Given the cost effectiveness of the vaccination, it is recommended for routine vaccination for both boys and girls at age 11-12 years. Despite the importance of understanding adolescents' intention of getting HPV vaccines and factors associated with their decision, researchers have primarily focused on parents or young adults. It is also imperative to understand gender difference in adolescents' vaccination intent and factors associated with it, so tailored interventions can be developed.

Methods: A cross-sectional anonymous survey was used. Participants were recruited through vaccine clinics and local communities. Adolescents were eligible to participate if they: (a) were aged 11-17; (b) understood, read, and wrote English; and (c) submitted both a parental consent and an adolescent assent. Each participant received a \$10 gift card for their time and effort. Data was saved using a secure application REDCap and then was imported to SPSS 24.0 for analysis. Univariate analyses was used to describe distributions of variables. Given the small sample size, Mann-Whitney and Chi-Square tests were used to compare gender differences in the study variables and associations that were significant at $p < 0.10$ were explored.

Results: Sixty-three percent of adolescents ($n = 48$, mean age = 14.0, $SD = 2.1$, 45.8% male; 48% receive free/reduced lunch at school) reported intent to receive vaccines. Forty percent identified themselves as Latinos, following by Asian Americans (21%). Only 12.5% report ever getting HPV information from healthcare providers, teachers or family. The mean knowledge score was 8.9 ($SD = 2.5$; range 0-12). Participants perceived a low risk of getting HPV infection ($M = 2.3$; $SD = 2.5$); 76% reported the chance of getting HPV infection as zero or low if vaccinated. Participants also identified "I will do it to save my life," "if my parents tell me to do it," "I will do it to prevent diseases," "if my doctor or nurse tells me to do it," and "if I know where to get it" as main facilitators. The main barriers were "I don't know if it works," "I am worried about the safety of the vaccine," "I am too young," "my doctor or nurse does not suggest it," and "I don't have any physical symptoms or signs of infection." Compared with girls, boys had a higher knowledge score ($U = 185.5$, $p = .053$) and a higher vaccination intent ($\chi^2 (1, N = 48) = 3.15$, $p = .076$).

Implications: Our findings suggest that a majority of adolescents have not received HPV-related information. The higher vaccination intent in boys than in girls may be associated with boys' higher knowledge score. Interventions that provide adequate information about HPV and the vaccines and address facilitators and barriers may promote adolescents' intention of getting HPV vaccines.

Abstracts of Poster Presentations

PUBLIC HEALTH

CARE COORDINATION OF A COMMUNITY-BASED
HOME VISITATION PROGRAM

Yuqing Guo, Miriam Bender

A LATENT CLASS APPROACH TO UNDERSTANDING
HOMELESSNESS AMONG OLDER ADULTS

Anita Marie Souza, Jenny Hsin-Chun Tsai

WHAT ARE THE MOST IMPORTANT CHARACTERISTICS
OF A FAMILY HEALTH HISTORY TOOL?

Gaye L. Ray, Karen Whitt

PUBLIC HEALTH

Care Coordination of a Community-Based Home Visitation Program

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Purpose: The purpose of the study was to provide the evidence describing the process of care coordination of a community-based home visiting program between registered nurses (RNs) and paraprofessional home visitors (HVs).

Background: MOMS Orange County (MOMS), the region's largest community-based home visitation program, provides prenatal and postnatal services to an estimated 3,300 at-risk pregnant women in Orange County, California annually. MOMS Orange County is a home visitation program based on a care coordination model implemented by registered nurse case managers and paraprofessionals in an underserved community. Although MOMS has made significant contributions to the community for 25 years there is a lack of rigorous evidence to understand registered nurses' and paraprofessional home visitors' experiences and roles.

Methods: A mixed quantitative and qualitative design was in this study. The Organization and Management of Intensive Care Units Questionnaire was adapted to measure communication between four RNs and 20 HVs. The Cronbach Alpha of three communication subscales (Openness, Accuracy and Managing Disagreement) was 0.82, 0.71, and 0.93, respectively. Qualitative methods included six individual interviews with two administrators and four RNs and three focus groups with 20 HVs. Independent T-tests were used to compare the differences in communication between RNs and HVs; Pearson correlations to examine the relationships between communication and job satisfaction for RNs and HVs; and content analysis to identify themes.

Results: The HVs and RNs shared the similar ratings of open communication [4.72(0.36) vs. 4.75 (0.38), $p = 0.88$] and managing disagreements [4.56(1.12) vs. 4.18 (0.72), $p = 0.52$]. HVs reported information to be more accurate when received from RNs compared to the RNs who received the information from HVs [4.10(0.81) vs. 2.42 (1.40), $p = 0.003$]. Greater level of managing disagreements was significantly associated with higher job satisfaction for HVs ($r = .91$, $p < 0.001$), but not for RNs ($r = .17$, $p = .84$). The content analysis supported the survey results that HVs and RNs had 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 summarized HVs' and RNs' roles and communication strategies between RNs and HVs.

Implications: The findings could guide future studies in implementing the MOMS home visitation program to improve pregnancy, birth, and infant outcomes in underserved communities.

Funding: The project described was supported by Sigma Theta Tau International Honor Society of Nursing.

PUBLIC HEALTH

A Latent Class Approach to Understanding Homelessness among Older Adults

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Purpose: Taking the advantage of a previously unexamined large administrative data, this presentation focuses on an innovative application of latent class analysis (LCA) to develop new knowledge about homeless older adults who have complex array of health and social needs.

Background: National and regional data reveal an upward trend in the age of persons experiencing homelessness. With high rates of mortality and morbidity, older adults represent a vulnerable and often invisible subsector of the homeless adult population. These adults are seen throughout the continuum of homeless services, including day programs, emergency shelters, hygiene centers, transitional housing, and permanent supportive housing. Private and public sectors are looking for solutions to address this growing public health crisis. Currently, little is known about constellation of complex characteristics that differentiate older adults experiencing homelessness. LCA is a novel methodological approach to identifying unobservable subgroup within a population. Compass Housing Alliance, a major homeless service agency in King County, Washington and University of Washington School of Nursing partnered to address the growing need for health and housing supports for homeless older adults.

Methods: Using a retrospective descriptive cohort study design, data were extracted from Homeless Management Information System (HMIS) for homeless individuals in King County, Washington, served by Compass Housing Alliance from March 2016-August 2017. HMIS is a national database that collects an array of data on individuals accessing homeless services. Data are being examined for the distributions of key variables and missing data. LCA will be used to develop a description of subgroup populations utilizing the continuum of housing and support services. Indices of model fit and case classification (i.e., Bayesian information criteria (BIC), latent class probability, entropy, class interpretability and prevalence) will initially be used to compare models with different number of classes to determine the best-fitting model. Additional predictor variables such as age, gender, presence of chronic illness, and duration of homelessness will then be used to model variation across the profiles or classes.

Results: The final study sample is comprised of 6,411 unduplicated records. The majority are male (78%) and 25% of the sample was age 55 years or older. We anticipate identifying several classes (subgroups) of homeless adults based on their HMIS characteristics.

Implications: Social service administrative data provide rich information for researchers to examine current service utilization patterns by older adults. LCA is a valuable approach to assist researchers in understand the complexity of the homeless populations. Findings on subgroup populations builds a foundation for future nursing research to identify or develop tailored interventions to support this population's critical need. Additionally, this investigation will provide new scientific evidence and insight to inform critical policy discussions at a state and national level.

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PUBLIC HEALTH

What Are the Most Important Characteristics of a Family Health History Tool?

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Purpose: The purpose of this project is to identify characteristics deemed most important to include in a family health history (FHH) gathering tool by registered nurses and nursing students.

Background: Collecting an accurate FHH is one of the most important jobs of a health care provider and is valuable for diagnoses and risk assessment. FHH is a significant risk factor for many diseases and can identify patients who would benefit from lifestyle changes and preventative screenings at earlier ages. Although FHH is valuable in assessing risk for disease, the information collected by healthcare providers is often incomplete. Collecting this information is time intensive and FHH tools are often seen as too complex. These variables, as well as many others, limit the usefulness and availability of this information. Many questionnaires, surveys, and websites have been created to bridge the gap between the ideal and the practical but a standard way of collecting FHH has yet to be identified. This may be a result of existing tools not meeting the needs of healthcare providers.

Brief Description of Project: This descriptive study asked nurses and nursing students to rank the top five characteristics that should be included in a FHH tool out of 16 possible characteristics. The participants ranked the characteristics they thought most important on a scale from 1 to 5, with 1 being the most important and 5 being the least important. Participants were also asked to provide suggestions for additional characteristics not included in the list. The list of survey characteristics was developed from a literature search of FHH tools and reviewed by a content expert in genetics. Participants included 23 students enrolled in a baccalaureate nursing program and 14 nurses working at a midsize hospital. Survey data was analyzed using Excel to determine which characteristics were deemed most important by nurses and nursing students.

Outcomes Achieved: The overall top five FHH tool characteristics as ranked by the participants from most important to least important was; 1) "Asks about parents," 2) "Assesses all organ systems," 3) "Less than 15 minutes to complete," 4) "Asks about grandparents," 5) "Asks about diseases for which there are reliable screenings." Nurses put much more importance on "asks enough questions to collect information to make recommendations based on the US preventive services task force screening guidelines" and believed that menu based questioning was imperative, compared with nursing students who placed more emphasis on the tool being multilingual and believed a tool should have free response style questions.

Conclusions: There was wide consensus among nurses and students that a FHH tool should ask about parents and assess all organ systems to be most effective. Understanding which characteristics are important to a FHH gathering tool could help improve the quality and quantity of FHH information collected by health care professionals.

Funding: Brigham Young University Office of Research and Creative Activities (ORCA) grant.

Abstracts of Poster Presentations

RN TO BSN EDUCATION IN WASHINGTON STATE:
PROGRAM DESIGN & FACULTY PERSPECTIVES

RN TO BSN EDUCATION IN WASHINGTON STATE:
PROGRAM DESIGN & FACULTY PERSPECTIVES
Suzanne Sikma

RN-BSN EDUCATION IN WA STATE:
INSTITUTIONAL & FACULTY SURVEY RESULTS
Mary A. Baroni, Suzanne Sikma

REWARDS, OPPORTUNITIES AND CHALLENGES
FOR RN-BSN FACULTY
Renee Hoeksel, Suzanne Sikma

TEACHING WITH THE DISTINCTIVE
RN TO BSN STUDENT POPULATION
Suzanne Sikma, Mary A. Baroni

RN TO BSN EDUCATION IN WASHINGTON STATE:
PROGRAM DESIGN & FACULTY PERSPECTIVES

Overview: RN to BSN Education in Washington State:
Program Design & Faculty Perspectives

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In response to the 2010 IOM *Future of Nursing* report recommendations and employer demands for a more highly educated nursing workforce, the number of RN to BSN education programs continue to grow. There is an increasing number of such programs as well as a 13-year history of increasing their enrollments (AACN, 2017). This growth, the expansion of RN to BSN education to new settings, and the rapid development and implementation of online learning technologies to deliver this type of education presents a challenge to both established and emerging programs in maintaining rigor. This symposium reports the findings of a descriptive study conducted in WA State with the purpose of identifying common elements and promising practices for curricular and program design to promote quality RN to BSN education and advance the IOM goal to increase the proportion of nurses with baccalaureate degrees to 80% by 2020. WA state provided a fertile context for this study as it offers RN-BSN programs in a variety of settings: long-established university-based programs within schools/colleges of nursing; universities without pre-licensure nursing programs; and community colleges. Online learning technologies are used to varying extents across the settings. The WA Nursing Care Quality Assurance Commission (NCQAC) reviews and authorizes all RN to BSN programs operating in the state and collects annual data about registration and graduations. Annual graduations from RN to BSN programs have increased by 310% from 2006-2016 and enrollments have more than quadrupled in the same period. Seven out of nine RN to BSN program approved by the NCQAC at the time consented to participate in the study.

The study was conducted in two phases using online surveys. Phase one was an online survey of programs completed under the direction of the Dean/Director of the program and collected information about program configuration, utilization, resources and faculty and student characteristics. Phase two was an online survey of program faculty which gathered perceptions of their role in providing RN to BSN education. Specific aims included: 1) describing student population characteristics that have implications for program design and assurance of quality pedagogy; 2) describe institutional factors designed to assure seamless academic progression and support for this population of students; 3) describe faculty perceptions of roles, challenges and benefits of teaching this population; and 4) describe strategies for optimal preparation, orientation and ongoing development of RN to BSN faculty. The first paper in the symposium will focus on the quantitative descriptive findings and implications from both institutional and faculty surveys. The second paper will focus on qualitative findings and implications related to challenges, opportunities and rewards for RN to BSN faculty members. The third paper will focus on teaching approaches effective with the distinctive RN to BSN student population.

Funding: This study was funded by Grant #71948 from the Robert Wood Johnson Foundation, Academic Progression in Nursing Program to the Washington Center for Nursing.

RN TO BSN EDUCATION IN WASHINGTON STATE:
PROGRAM DESIGN & FACULTY PERSPECTIVES

RN-BSN Programs in WA State: Institutional & Faculty Survey Results

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Purpose: This report includes the quantitative portions of a large Washington State survey of RN to BSN education programs and faculty in Washington State providing a descriptive summary of statewide RN-to-BSN nursing education programs with respect to program configuration, faculty resources, pedagogical strategies, and student enrollments across participating schools.

Background: Increasing access to quality RN-to-BSN education has been a priority in Washington State for the last decade as highlighted in a Masterplan for Nursing Education in Washington State (2008) and critical to meeting the IOM (2011) recommendation to increase the proportion of BSN prepared nurses to 80% by 2020. Washington State is unique in its statewide efforts including diversity of venues and support for expansion of regulatory review of post-licensure nursing education programs (2013) to assure geographical access, enrollment capacity and quality pedagogy for RN-to-BSN education.

Methods: The study design consisted in two phases using online surveys. The first was an institutional survey completed under the direction of the Dean/Director of 7 out of the 8 approved in-state RN-BSN programs addressing structural configurations, enrollments, capacity, faculty characteristics, and available resources. The 2nd phase surveyed 82 faculty teaching in participating RN-BSN programs regarding their educational preparation, current roles, and pedagogical expertise.

Results: The 7 participating schools provided access to RN-BSN education in 16 different settings including public and private university home campuses, community colleges, hospital facilities, and free-standing satellite campuses with a total enrollment of 715 during 2014-2015 reflecting a 70% capacity. All programs offered one day per week classes using mixed classroom/online opportunities and practice experiences ranging from 60-150 hours. Between 2010-2015, applications had increased by 61%, enrollments by 56%, and graduations by 46%. Attrition rates were consistently low and no more than 3% over the last 5 years. The faculty survey resulted in a 91% response rate including 37 full-time and 38 part-time faculty. Over 78% of full-time and 5% of part-time faculty held tenured or tenure track positions. Faculty ages ranged from 33-78 years with over 46% being over the age of 60. The majority of faculty preferred hybrid teach models (54%) over face-to-face (37%) or totally online (9%) and less than 29% self-assessed their teaching competence as proficient (26.2%) or expert (1.6%).

Implications: As effort to meet the IOM recommendation of increasing the percentages of BSN prepared nurses in the workforce and positively impact patient outcomes as reported in the literature, it is paramount that RN-to-BSN programs are of sufficient capacity and quality to actually transform practice. Post-licensure RN-to-BSN programs have until recently, been relatively off the radar of boards of nursing and accreditation agencies however, for practice to truly transform, we need to identify and monitor quality indicators of successful programs. This study provides preliminary insights into selected challenges and opportunities to promote quality RN-BSN education.

Funding: This study was funded by Grant #71948 from the Robert Wood Johnson Foundation, Academic Progression in Nursing Program to the Washington Center for Nursing.

RN TO BSN EDUCATION IN WASHINGTON STATE:
PROGRAM DESIGN & FACULTY PERSPECTIVES

Rewards, Opportunities, and Challenges for RN-BSN Faculty

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Purpose: This report is part of a large Washington state descriptive study whose purpose was to identify common elements and promising practices for curricular and program design to promote quality RN to BSN education and advance the IOM goal to increase the proportion of nurses with baccalaureate degrees to 80% by 2020. The specific aim of this study portion was to describe faculty perceptions of roles, challenges and benefits of teaching RN-BSN students.

Background: The need for a more highly educated nursing workforce has been well established. The expansion of the number of RN-BSN programs nationally and their increasing enrollment attests to the significance of research efforts to explore the factors that contribute to the overall program quality.

Methods: An online survey of program faculty teaching in the participating RN-BSN programs was utilized to gather responses to the investigator-developed questions. Human subject approval was obtained from the investigators' schools. The Social Work Research Division (SRD) of the University of Washington administered the surveys from faculty rosters provided by the program directors at participating schools. The survey link was active for 8 weeks with frequent reminders. A total of 75 faculty surveys were returned (91% response rate). Results were analyzed using conventional qualitative content analysis procedures as well as descriptive statistics. All three investigators comprised the analytic team.

Results: Rewards included seeing students grow and succeed as practitioners and leaders; personal satisfaction of working with RNs; participating in a positive learning environment; and being able to grow as a teacher and try new strategies and technology. Opportunities included working with a highly diverse group of nurses with a wide range of nursing experience and readiness for BSN studies; being on the front lines where there could be immediate application of student learning to clinical practice; and being future oriented. Challenges included the lack of orientation, mentoring and faculty development available; the work/life demands on the RN students; sustaining rigor in the face of students' grade expectations; depressed salary and escalating academic role expectations.

Implications: Two major factors were seen as both a reward and a challenge: creating meaningful learning experiences as well as the level of student engagement and motivation. Teaching in these programs is dynamic and full of opportunities to challenge yourself as a nurse educator and to challenge your students to apply theory and evidence to practice. Given the looming faculty shortage, academic leaders need to be responsive to the lack of mentorship and orientation explicitly described by these informants from multiple programs. Best practices must include ongoing faculty development and educational research so that evidence of the best ways to facilitate learning in this increasingly diverse group of learners is always seeking to improve.

Funding: This study was funded by Grant #71948 from the Robert Wood Johnson Foundation, Academic Progression in Nursing Program to the Washington Center for Nursing.

RN TO BSN EDUCATION IN WASHINGTON STATE:
PROGRAM DESIGN & FACULTY PERSPECTIVES

Teaching with the Distinctive RN to BSN Student Population

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Purpose: This report focuses on findings from an online survey of RN to BSN faculty in Washington State. The study aims were to describe: 1) characteristics of the student population, 2) approaches for quality pedagogy, and 3) strategies for developing RN to BSN faculty.

Background: The demand for a more highly educated nursing workforce and the subsequent growth of RN to BSN programs attest to the significance of developing program faculty with the expertise to teach with this population of nursing students.

Methods: The online survey of program faculty included open-ended questions focused on generating: RN to BSN population distinctives; knowledge skills & attitudes (KSA) important in teaching this population; teaching strategies used to engage RNB students; faculty development needs and strategies; and program factors that enhance faculty capacity. Data collection and analysis procedures were detailed in the previous abstract.

Results: Seventy-five faculty members participated in the online survey (91% response rate).

Distinctives of the RN to BSN student population included: significant life-work demands; a wide range of professional experiences; wide diversity in race, ethnicity, culture, age, gender identity and sexuality; as well as a wide range of readiness for upper division academic skills (reading, writing, language and technology skills). *KSA important in teaching* this population include: engagement of students; pedagogical range & flexibility; promotion of diversity and inclusion; facilitation of knowledge application to practice; application of adult learning principles and problem-based learning; use of e-learning; and maintenance of standards & academic rigor across all approaches. *Teaching strategies to engage students* included: active & student-led learning activities; integration of content learning and academic/professional skill development; providing space for choice in learning activities; making connections for application to practice; scaffolding of learning; carefully structured & managed diverse small groups; use of a variety of media/learning technology; community-based learning; reflective learning; and ungraded assignments to focus on taking risks in new learning. Faculty described two themes that were similar for both *helpful role preparation* and *continuing faculty development strategies*: mentorship, collaboration & consultation from other faculty; and faculty development activities helping expand pedagogical expertise in both breadth and depth. *Program factors that enhance faculty capacity* include: proactive advising; academic support services; faculty peers and mentors; IT support and learning management system to facilitate online learning; clinical placement support; class size; autonomy/academic freedom; program leadership; strong community partners & alumni; commitment to accessibility and student-centeredness; and a well-designed curriculum.

Implications: Best practices for teaching in RN to BSN programs include: understanding the characteristics and context of students' lives; developing KSA important to provide a rigorous and meaningful learning experience for them; and utilizing a wide range of strategies to engage them actively in the learning process. Programs need to invest in a commitment to faculty development and other program resources that enhance faculty capacity in their teaching role.

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Abstracts of Poster Presentations

RURAL HEALTH

CONTROLLED SUBSTANCE PRESCRIBING PRACTICES
OF CERTIFIED NURSE-MIDWIVES IN NEW MEXICO

Kim Cox, Katrina Nardini

RURAL RESEARCH: WHERE HAVE
ALL THE PARTICIPANTS GONE?

Jean Shreffler-Grant, Clarann Weinert

CHILD FATALITY TRENDS: INSIGHTS
FROM A RURAL COUNTY ANALYSIS

Julie Rekiere, Max Veltman

RURAL NURSE'S PERSONAL AND PROFESSIONAL
GOALS: WAGES, WORK HOURS, OR JOB STABILITY?

Laurie Jo Johansen

RURAL NURSE'S COMMUTING EXPERIENCES:
CHALLENGES AND BENEFITS

Laurie Jo Johansen

THE RURAL INPATIENT MORTALITY STUDY:
DOES RURALITY PREDICT HOSPITAL MORTALITY?

Daniel T. Linnen, John Kornak

ENGAGING STAKEHOLDERS TO IMPLEMENT PERIPARTUM
CARE MEASURES IN RURAL GUJARAT, INDIA

Brittany J. Kemp, Krystal Bodily

RURAL HEALTH

Controlled Substance Prescribing Practices of Certified Nurse-Midwives in New Mexico

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Purposes/Aims: The purpose of this study was to examine the controlled substance prescribing practices of Certified Nurse-Midwives (CNMs) in New Mexico.

Background: New Mexico has one of the highest death rates from opioid overdose in the United States. One of the strategies that has been implemented in an effort to reduce these deaths is to attempt to alter opioid prescribing practices by improving access to and use of prescription drug monitoring programs (PMPs). CNMs have controlled substance prescriptive authority in New Mexico, yet there are no studies to date that report on their prescribing practices or on their knowledge and use of the PMP.

Methods/Sample: We worked with the New Mexico Department of Health to develop an online, anonymous survey that was emailed to all licensed CNMs in New Mexico (N = 210). A reminder email was sent out at the halfway point of the survey timeframe. The survey was open for a total of six weeks. Data were analyzed in SPSS 24.0 and reported as descriptive statistics.

Results: Forty percent of CNMs responded to the survey (N = 83). Nearly 90% identified as white, 5% as American Indian, and 5% as Hispanic/Latina. The majority held a Master's degree (84.3%), and 50% had received their training in New Mexico. The majority (66%) had been in practice for more than 10 years, and most of them (77%) provided clinical care. Forty percent worked in a rural setting. Most CNMs worked in full-scope practices. While 6 CNMs worked in practices that provided substance abuse services, only 2 actually provided this care. Most CNMs (90%) had a Drug Enforcement Agency (DEA) license. Although 100% of respondents understood what the New Mexico PMP was, 5% reported not being registered in the PMP. Of those registered, 11% had never logged in to their PMP account, and 65% logged in every six months or less. Less than 50% of the CNMs ran self-reports from the PMP on prescriptions written in their name, and 33% never checked it for patient alerts. Of the 64 CNMs who provided clinical care, 61 prescribed controlled substances. Schedule II drugs (morphine, Vicodin, Percocet, or oxycodone) were the most frequently prescribed. One-third of CNMs reported that they prescribed controlled substances infrequently (q 2-3 months), 3.3% prescribed daily, 25% prescribed weekly, and 25% prescribed monthly. Only 18% of CNMs prescribed less often than every six months. Of those that checked the PMP, 25% checked it every time they prescribed a controlled substance, and 6% never checked it at all.

Implications: Our findings suggest that most New Mexico CNMs are not frequent prescribers of controlled substances. However, the results raise concern that some CNMs in the state are unaware of current New Mexico CNM Practice Rules, especially those regarding controlled substance prescribing and PMP monitoring.

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RURAL HEALTH

Rural Research: Where Have All The Participants Gone?

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Purpose: The purpose of this paper is to discuss the realities of research participant recruitment and retention in sparsely populated rural communities. Lessons learned and approaches implemented to achieve an adequate sample will be described.

Background: In a long term series of studies, this research team demonstrated that older rural adults use self-prescribed dietary supplements and home remedies, often with limited health literacy regarding these supplements/remedies. The team developed and implemented a health literacy skill building intervention for older rural adults in multiple small rural communities in Montana. The four session intervention was delivered at local senior centers. The goal was to have a total of 80 older rural adults complete the intervention. Recruitment and retention challenges were encountered that threatened the team's ability to obtain an adequate number of participants.

Methods: Numerous methods were utilized in each community to promote local visibility and interest. Community-wide promotional activities were conducted prior to start dates. Senior Center Directors and others were recruited to assist with recruitment and retention. Incentives were provided to the Center "hosting" the project. The timing of the intervention was planned to encourage participation, e.g. avoiding busy times of the year, planning short sessions immediately after congregate meals. The sessions were interactive and relatively light-hearted in order to engage and hence, retain participants. Reminder contacts were made to participants a few days before each upcoming session.

Results: Despite the recruitment and retention efforts, the team struggled to obtain an adequate sample. A sufficient number was recruited at the first session in most communities but many participants were not retained through the full intervention. Completion was affected by participants' health status, inclement weather, forgetfulness, and other factors. The team added sites beyond those originally planned in order to attain an adequate sample.

Implications: Obtaining and maintaining an adequate rural sample will likely always be challenging due to the limited rural population. Older rural adults present additional challenges with higher prevalence of chronic health problems, reluctance to travel in poor weather conditions, and other life events. It is anticipated that the strategies used and lessons learned will be instructive to others planning research projects in rural communities.

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RURAL HEALTH

Child Fatality Trends: Insights from a Rural County Analysis

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Purpose/Aims: The purpose of this project was to analyze data from child fatality reviews, autopsy records and first responder reports for a three-year period from a rural county in the Northwest. Each case had previously been reviewed by the local child fatality review board. The data will be published as a comprehensive report in an attempt to understand why children in this county die and how best to reduce or prevent child deaths in the future.

Rationale/Background: A child fatality review team often investigates child fatalities in an effort to identify the causes, risk factors and preventability of child deaths within a specific community. Currently, there is only a single statewide report of child fatality available, the most recent was from 2013. This out of date and state wide focused report leads to a gap of more current information for local counties to use to allocate resources to public health activities. More up-to-date information of child fatality at a more local level could assist county officials with important decisions regarding use of limited resources. Local review boards can take a public health approach to increase public awareness or target specialized education for parents on how to prevent child fatalities. Key policies can also be implemented or changed at the county level utilizing the data provided by the child fatality review board and this report.

Methods: After obtaining the approval of multiple agencies as well as the university's Institutional Review Board, key data was obtained from the County Coroner's office utilizing their comprehensive records system. Thirty-six cases were analyzed from these records for fatalities that occurred in 2013, 2014, and 2015. Over the course of several weeks, all data was collected, securely stored, and then later analyzed and organized. This data will be reported to the local county child fatality review team when completed. The report will outline the major causes of death in the county, and these numbers will be compared to state and national numbers where appropriate. Recommendations for reducing or preventing these types of deaths in the future will be included. Following approval by the review team, it is hoped that this report will be published in an appropriate format for the public to view.

Results: Preliminary data analysis indicates that the leading cause of death over the three-year period was unintentional injuries, often from motor vehicle accidents, and crush injuries. Previous research has shown that incidences of these types of fatalities can be reduced with specific interventions. The preliminary data currently suggests that the rates of other causes of death are similar to comparable state and national data.

Implications: This project plays an important part of understanding the occurrence of child fatalities at the county level. Accurate, up-to-date data increases the child fatality review board's ability to target limited public health resources appropriately as well as to promote policy changes. Both are vital to decreasing the amount of preventable child deaths in the community.

RURAL HEALTH

Rural Nurse's Personal and Professional Goals: Wages, Work Hours, or Job Stability?

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Purposes/Aims: The purpose of this study was to describe the phenomenon of “*commuting away*” to non-rural settings, as experienced by the registered nurse (RN) living in a rural community. This study went beyond the assumptions that wages are one of the primary factors influencing commuter trends of RNs, leading to an understanding of the experiences of rural RNs, including their personal and professional goals, and their inability to achieve some of these goals in rural healthcare settings.

Rationale/Conceptual Basis/Background: The phenomenon of commuting away among RNs living in rural communities leaves the U.S. rural population at risk because of the scarcity of RNs working in rural healthcare settings. With an increase in the number of RNs commuting away from rural communities, there is a need to know more about their experiences and the factors involved in this phenomenon of commuting away. In order to address the challenges rural populations face accessing healthcare, while developing the most effective RN recruitment and retention strategies for rural healthcare facilities, an understanding of the experiences of RNs living in rural communities who commute for employment is necessary.

Methods: The qualitative research approach used in this study was descriptive phenomenology. Recruitment strategies included purposeful sampling of currently licensed RNs, residing in rural communities of less than 2,500 residents with a critical access hospital, who commute away for employment in a non-rural setting. Sixteen participants from two Midwestern states provided rich variations in experiences. Data collection included semi-structured phenomenological interviews. Data analysis included a tripartite process moving between the whole, to the parts, and back to the whole of the data, using transcribed data. A definition of the essence of the phenomenon of commuting away surfaced, along with its constituents.

Results: Through the lived experiences of RNs commuting away, the essence, or core meaning, of the phenomenon, *Commuting to Achieve Personal and Professional Goals While Being a Nurse in a Rural Community*, was identified. One specific constituent of this essence was Personal and Professional Goals, which included employment opportunities and benefits within, and beyond, the participant's rural, home communities. Participants experienced an inability to achieve some of their personal and professional goals through employment benefit opportunities in their rural, home communities. Some personal goals were better met through employment benefit opportunities in non-rural healthcare settings. Additionally, participants could meet a variety of their professional goals through nursing practices in non-rural healthcare settings. All of the participants indicated that personal and professional goals were primary considerations in their decisions to work in non-rural healthcare settings, finding many unique and varied individual goals within the participant group.

Implications: Study results suggest that rural employers need to determine the intricacies of the multifaceted reasons nurses commute for employment. Recruitment efforts should address factors that cause less dissatisfaction and more motivation for RNs, including opportunities for personal growth, advancement opportunities, and specialty nursing opportunities, while paying attention to equitable benefit packages and ingenious staffing patterns.

Funding: Sigma Theta Tau International Phi Chapter.

RURAL HEALTH

Rural Nurse's Commuting Experiences: Challenges and Benefits

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Purposes/Aims: The purpose of this study was to describe the phenomenon of “commuting away” to non-rural settings, as experienced by the registered nurse (RN) living in a rural community.

Rational/Conceptual Basis/Background: Rural populations face challenges accessing healthcare, associated with suboptimal levels of health throughout the United States. An increasing number of RNs commute away from their rural, home communities for employment. The phenomenon of commuting away, among RNs living in rural communities, leaves the U.S. rural population at risk because of the scarcity of RNs working in rural healthcare settings. With the increase in numbers of RNs commuting away, there is a need to know more about their experiences and the factors involved in this phenomenon.

Methods: The qualitative research approach used in this study was descriptive phenomenology. Recruitment strategies included purposeful sampling. Participants were currently licensed RNs, residing in rural communities of less than 2,500 residents with a critical access hospital, who commute away for employment in a non-rural setting. Sixteen participants from two Midwestern states provided rich variations in experiences. Following Institutional Review Board approval from the researcher's academic setting, data collection included semi-structured phenomenological interviews. Data analysis included a tripartite structure moving between the whole, to the parts, and back to the whole of the data, using transcribed data. A definition of the essence of the phenomenon of commuting away surfaced, along with its constituents.

Results: Through the lived experiences of RNs, the essence, or core meaning, of commuting away, *Commuting to Achieve Personal and Professional Goals While Being a Nurse in a Rural Community*, was identified. One specific constituent of this essence was Commuting, defined as the act of driving to a non-rural community for the purpose of employment. Benefits and challenges experienced by RNs commuting for employment affected both the nurses' personal and professional lives. Many challenges existed for RNs commuting, including personal safety concerns, family considerations, weather, challenges with alertness while driving, and the time spent commuting. Along with these challenges, an appreciation of the downtime available while commuting surfaced.

Implications: Study results show an appreciation for the downtime experienced by RNs as they commute. Nurses appreciated the time to purposefully reflect and decompress while driving, however they displayed a lack of awareness of safety hazards associated with such mental wandering while commuting. Rural recruitment efforts need to be tailored to the challenges nurses face while commuting. Additionally, all employers need to be aware of nurses' needs for peer support. The need for personal decompression time while commuting may reflect an unmet need in work settings.

Funding: Sigma Theta Tau International Phi Chapter.

RURAL HEALTH

The Rural Inpatient Mortality Study: Does Rurality Predict Hospital Mortality?

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Introduction: Evidence suggests an association between rurality and decreased life expectancy. It is unclear whether rural hospitals also have higher hospital mortality, given that very sick patients may be transferred to regional hospitals.

Methods: In this ecologic study, we combined Medicare hospital mortality ratings (n=1267) with U.S. census data, critical access hospital classification and National Center for Health Statistics (NCHS) urban-rural county classifications. Ratings included mortality for CABG, stroke, COPD, heart attack, heart failure and pneumonia across 277 California hospitals between July 2011 and June 2014. The outcome was an unfavorable Medicare rating “worse than the national rate”, compared to “better” or “same”. We used generalized estimating equations to evaluate the association of NCHS urban-rural county classifications on mortality ratings.

Results: Compared to large central metro counties, hospitals in medium metro counties had 6.4 times the odds of rating “worse than the national rate” (95% CI [2.8, 14.8], $P < .001$). For hospitals in small metro counties, the odds of having such a rating were 3.7 times greater (95% CI [0.7, 23.4], $P = .12$), although this was not statistically significant. Few ratings were provided for rural counties, and analysis of rural counties was underpowered.

Discussion: Hospitals in medium metro counties are associated with unfavorable CMS mortality ratings. Patient transfers from rural locations to regional medical centers may contribute to these results.

Conclusion: Current methodology to assign mortality ratings may hinder fair comparisons. Future research should examine whether rural patient transfers to regional hubs explain increased mortality in receiving hospitals.

Funding: This study was partially funded by the Maribelle and Stephen Leavitt Scholarship at UCSF and the Jonas Nurse Leaders Scholarship.

RURAL HEALTH

Engaging Stakeholders to Implement Peripartum Care Measures in Rural Gujarat, India

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Purposes/Aims: This QI project seeks to improve maternal and neonatal care at the Mota Fofalia Community Health Centre in Gujarat, India; a rural hospital serving 100,000 people from 42 surrounding villages.

Rationale/Background: Shifting births to facilities with skilled birth attendants (SBA) has not correlated with a significant decrease in India's maternal mortality rate (MMR). Evidence-based practices can reduce MMR and improve care quality. Ensuring participation of frontline health workers in quality improvement (QI) initiatives can lead to sustained system improvements and superior outcomes.

Approach/Method: Potential peripartum care quality measures were developed through a global literature review. A collaborative process was undertaken with local stakeholders: nurses, physicians and administrative staff. Individual interviews and four group meetings with five doctors; one OB specialist, hospital administration and eleven nurses were conducted over a non-consecutive seven-week period from June to August 2017. Using a modified Delphi approach, proposed quality measures were vetted for reliability, validity and feasibility in this setting.

Outcomes Achieved/Evaluation: Hospital leadership reached a final consensus on 22 quality measures. Each stage of labor has five care measures. Four measures focus on neonatal care and three describe postpartum care quality. Direct observations (n=24) were utilized to determine compliance with the proposed measures and WHO care standards. Among observed births, 96% (23/24) of women received antenatal care and 100% of women were accompanied during the first stage of labor. However, many care gaps were identified. Partographs were not utilized for any woman (0/24) during the labor process. At least 46% (11/24) of women did not have their blood pressure evaluated at time of admission and only one patient (1/24) had vital signs measured in the early postpartum period. At least 54% (13 /24) of women underwent routine episiotomies and only 8% (2/24) of fetal heart tones were obtained during second stage.

Conclusions: Adherence to evidence-based birth practices is low at this site. Significant investment is required to ensure that frontline SBAs are truly skilled, thus leading to improved care quality. Implementation of a peripartum QI program is urgently needed and is now underway. The impact of these efforts will be tracked using the 22 quality measures.

TECHNOLOGY

EXAMINING THE IMPACT OF TECHNOLOGY-ENABLED
PERFORMANCE MONITORING AND FEEDBACK IN ICU

Jacqueline DeMellow, Tae Youn Kim

SELF-EFFICACY IN SBAR USING INFORMATION
TECHNOLOGY IN BACCALAUREATE NURSING

Kelly Espinoza

PEER CHART REVIEW VIDEO TO IMPROVE DOCUMENTATION
FOR SEXUAL ASSAULT NURSE EXAMINERS

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PATIENT'S PERCEPTIONS OF THE NURSE'S USE
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CAN A MODIFIED VERSION OF PHOTOVOICE HELP
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USING BOYER'S MODEL OF SCHOLARSHIP
AS A GUIDE TO TRAIN ONLINE EDUCATORS

Mary Jo Stanley, Carolyn Martin

TECHNOLOGY

Examining the Impact of Technology-Enabled Performance Monitoring and Feedback in ICU

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Background: Performance monitoring/feedback of evidence-based practice (EBP) in intensive care units (ICU) is integral to improving quality of care and patient outcomes. The Centers for Disease Control and Prevention recommend implementation of EBP bundles to prevent catheter associated urinary tract infections (CAUTI), hospital acquired pressure ulcers (HAPU), central line associated blood stream infections (CLABSI) and ventilator associated pneumonia (VAP). Implementation of EBP bundles in ICUs, however, increase the burden of data collection and analysis required for performance monitoring. Health information technology (HIT) could automate the performance monitoring process and provide real-time feedback to clinicians. It is important to understand the utility of HIT in improving clinicians' performance and patient outcomes in the ICU.

Aims: The purpose of this integrative literature review was to examine the extent to which HIT-enabled performance monitoring/feedback contributed to improving quality of care and patient outcomes when implementing an EBP bundle. This review aimed to examine: (1) characteristics of EBP practice implemented in ICUs; (2) features of HIT adopted in performance monitoring/feedback; and (3) impact of technology-enabled monitoring/feedback on the quality of care and/or patient outcomes.

Methods: A literature search was conducted for studies published between January 2005 and April 2017 using PubMed, Embase, Scopus, CINHALL and Ovid Medline. Only original research articles were included if the authors reported both the adoption of a HIT-enabled performance monitoring/feedback mechanism and outcome evaluations. Of 1,296 abstracts retrieved, nine studies were included in this review.

Results: All nine studies employed a quasi-experimental study design, comparing study outcomes of interest before and after implementing technology-enabled performance monitoring/feedback in ICUs at large university hospitals. There were wide variations in the implementation of EBP bundles, EHR systems used, and features of HIT designed for performance monitoring/feedback. All studies reported developing structured data fields within the EHR, to standardize documentation of key process measures. Feedback included daily reports of key measures via printouts or email, dashboards for real-time summary of key process measures, and scorecards that included outcome data. Improved clinician compliance with elements of the EBP bundles ranged from 3% to 60% after implementing the HIT-enabled feedback mechanism. Significantly improved compliance rates with CLABSI, HAPU and VAP bundles were reported in five studies ($p < .029 - p < .001$). Real-time feedback to clinicians played a critical role in improving "all or none" compliance with the VAP bundle in two studies ($p = 0.01 - p < .001$). Interestingly, improvement of clinicians' compliance was not directly associated with better patient outcomes in three studies with missing elements of EBP bundles.

Implications: The findings of this review indicate that technology-enabled performance monitoring/feedback could be a contributing factor to the improvement of clinicians' compliance with the EBP bundle. It is important to note, however, that each study also addressed implementation strategies used in their study, such as involvement of multiple stakeholders and intensive staff training. It is recommended that more studies be conducted to assess the effectiveness of technology-enabled performance monitoring and feedback in improving patient outcomes on a larger scale involving community hospitals, and cost-effectiveness of adopting such technology.

TECHNOLOGY

Self-Efficacy in SBAR Using Information Technology in Baccalaureate Nursing

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Aims: To examine and describe web messaging self-efficacy, describe the web messaging communication of SBAR in IT using a fictitious clinical scenario requiring communication to a physician on a change in patient status, and to determine the relationship between web messaging self-efficacy and web messaging communication ability using the SBAR method in response to a change in patient condition requiring communication with the physician in a group of senior baccalaureate nursing students.

Background: Strong communication skills are essential in establishing a foundation for safe delivery of care. A report from the Institute of Medicine (IOM) titled: *To Err is Human: Building a Safer Health System* estimated 44,000 to 98,000 deaths occur due to medical errors annually. Communication failure was found to be the root cause in 70% of these cases of medical error. Several studies also indicate communication issues still represent up to 80% of errors and sentinel events in hospitals accredited by the Joint Commission. The IOM's report indicates improving communication in the healthcare setting is essential in reducing medical errors.

In a second landmark publication, *Crossing the Quality Chasm: A New Health System for the 21st Century*, a key finding identified information and communication technology as critical to achieving safe delivery of patient care. Additionally, the report highlighted that information and communication technology (IT) and the IT demands impose the need for nursing education to prepare the entry-level nurse in the knowledge, skills, and abilities to communicate effectively using IT in patient care.

Design: A quantitative study used a cross-sectional, descriptive, correlational design with a convenience sample.

Findings: The web messaging communication ability scores of the student nurses were not correlated with positive web messaging self-efficacy scores or high Situation Background Assessment Recommendation Knowledge Acquisition Quiz scores; consequently, there was no significant relationship between web messaging communication ability and SBAR knowledge moderated by web messaging self-efficacy. The findings also highlighted a level of perceived self-efficacy in web messaging; yet, the information did not translate into the SBAR web messaging application. This suggested self-efficacy was influenced by a psychomotor component such as hands on practice through the use of simulation either alone or in conjunction with clinical experience.

Conclusion: The findings were not statistically significant, yet the clinical significance suggested a lack in the students' ability to understand pertinent clinical information within a patient scenario, synthesize this information, and apply and translate it into the electronic SBAR format within the character limitation. Knowledge translation is the transition from *knowing* to *doing*; this study suggests a need in baccalaureate education to use similar technology and focus on facilitating the learning and application of transferring knowledge into practice for improved communication and ultimately patient safety.

TECHNOLOGY

Peer Chart Review Video to Improve Documentation for Sexual Assault Examiners

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Purposes/Aims: The purpose of this scholarly project is to utilize on-line survey methods to evaluate the impact of a newly developed educational video, entitled “Improving Peer Chart Review for Sexual Assault Nurse Examiners (SANEs)”, on current SANE practices. Two specific goals are to:

1. Improve sexual assault examination documentation by SANEs as evidenced by an increase in self-reported “yes” from baseline responses from the Peer Review Audit Tool (PRAT) two to three months after video viewing.
2. Improve SANE perceptions of the peer review process as measured by coherence, cognitive participation, collective action, and reflexive monitoring questions from the NoMAD survey two to three months after viewing.

Rationale/Background: There is no information in the literature demonstrating if peer chart review improves outcomes, or how peer review is performed, specifically among forensic nursing teams. To uncover a large knowledge gap we must educate SANEs on peer review and learn how they are performing peer review to understand how documentation can be improved. In order to improve examiner competency, the International Association of Forensic Nurses (IAFN) recommends that all sexual assault exam charts be peer reviewed. Programs must continue to explore ways to stay in alignment with IAFN recommendations. Understanding and applying best practice in peer review may improve the quality of exams, by increasing exposure of detailed exams performed by colleagues, as well as through having one’s own work evaluated by colleagues.

Undertaking/Approach/Methods/Process: The initial survey begins with an introduction letter, which introduces informed consent, benefits, and risks of the study. The survey then begins with five inclusion criteria questions. Three additional questions add insight to the participants experience and peer review practices. Next, NoMAD instrument questions are blended into the survey with questions taken directly from the NoMAD instrument. Additionally, the PRAT was used to ask a set of Yes/No/Uncertain, Prefer not to answer questions specific to the recommended tool. After survey completion the participant will click on links that will take them directly to both the PRAT document and the newly developed peer chart review educational video. Eight to twelve weeks later the follow-up survey will be sent out by email. This survey asks one introduction question to learn if the participant watched the video. The remainder of the follow-up survey follows the same format as the first without inclusion criteria questions.

Outcomes Achieved/Documented: The survey is currently in progress; all data will be obtained by March 1, 2017 and subsequently analyzed.

Conclusions: In review, the goal of this peer chart review project is to improve the documentation of sexual assault exams through the implementation of an on-line educational video. We will anticipate improved NoMAD instrument measurements of nursing perceptions as increased uptake of chart audit indicators. Ultimately we will increase nurses’ exposure to a variety of cases and improve care provided to victims of sexual assault throughout the country among IAFN members. This project is intended to implement and evaluate a nursing process of peer review, in order to improve patient outcomes through medical and legal processes.

TECHNOLOGY

Patients Perceptions of the Nurses' Use of Technology in Care Delivery

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Purposes/Aims: The impact of the use of technology on patient care has been a focus of the healthcare industry for more than a decade. Recognizing the impact of technology on nursing practice and how this affects the nurse's engagement with patients is a significant challenge for the future of nursing education and professional development. Teaching and incorporating competencies such as transpersonal caring and patient engagement in the here and now will continue to be a challenge as the evolution of technology continues at warp speed.

Rationale/Conceptual Basis/Background: During the past decade, our health system has become increasingly complex. Most of this complexity has evolved from the implementation of health information technology and the use of increasingly high tech equipment in patient care. It is a fine line between the use of those technologies that are considered by patients to be for clinical necessity and those technologies that are perceived by patients to be for nursing convenience and/or economics that is at issue.

There has been an abundance of research and literature that addresses the impact of technology on the nurse's role, much of which implies or provides evidence that the effect of technology is dehumanizing care delivery. However, the majority of the research has been on the impact on the nurse with little focus on the patients' perceptions of the high tech environment.

Methods: The methodology used in this study is a combination of phenomenology and narrative analysis. The study explored the patients' perspective of the nurse's use of technology in care delivery at the bedside. A semi-structured interview format was used to interview 8-10 hospitalized patients (ages 60-80 years) during July/August, 2017. The intent was to interview *hospitalized* patients who were surrounded by "machine technology" in a new, modern hospital environment.

Results: The data analysis resulted in five major themes that affect nursing care delivery:

- Noise/lack of sleep
- Emotional/patient engagement
- Individualized care
- Patient and nurse knowledge levels (related to technology)
- Benefits/challenges of care related technology

Patient and family comments support the themes and validate that the high touch vs. high tech debate continues in nursing practice and must be addressed to improve the quality of patient care, increase patient/family engagement, and achieve patient centered outcomes in care delivery.

Implications: The nursing profession has not ignored the impact of emerging technologies on patient care, however we have ignored the importance of listening to our clients and asking how they perceive these changes in nursing practice. In addition, nursing education has not kept up with these changes and this lack of response has created a deficit in the skills needed to provide comprehensive, individualized patient centered care. This research provides evidence, and suggestions for, additional skills and competencies that need to be developed and integrated into nursing school curricula and professional development activities.

TECHNOLOGY

Exploring the Public's View of Nursing: Media Image, Misconceptions, and Accuracy

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Purpose: The purpose of this study was to explore the general public's view of nurses, their role, where they work, their education level, and the characteristics of a good nurse. Comparisons were also made with nursing to other professions as well as how nursing is portrayed in the media.

Background: The public image of nursing continues to contain stereotypical images, such as all female, dressed in white. However, nurses today are more likely to be found in scrubs, business suits, or lab coats and nearly 10% of them are male. Media portrays nurses as the background of healthcare, meaning that nurses are involved but not significant. Popular medical dramas on television cast nurses as minor characters, with major characters being more likely to be physicians. Nurses view themselves as hardworking individuals that have been well-trained to fulfill the job requirements of the profession, although many people still objectify nurses as being inferior to a doctor.

Methodology: This was a mixed methods study using content analysis to analyze narrative responses of a SurveyMonkey questionnaire. Sample consisted of public participants (n=85), recruited through social media platforms such as Facebook, Twitter, Instagram, and Reddit. Further recruitment occurred from snowball sampling when participants reposted the online flyer to other platforms. Data analysis included interpretation of textual data through the process of coding and the identification of themes and core categories. Content analysis goes beyond merely counting words and includes a deep examination of meanings. Demographic data was also collected.

Results: Three core categories emerged from the data: Media, Misconceptions, and Accuracy. Public participants described television nurses as attractive or sexy, unimportant, and overly dramatic. Misconceptions of nursing included a lack of formal education resulting in a degree, primary role of nursing as the doctor's assistant, and working in a doctor's office setting. However, accuracy of the image, role, education, and characteristics was the predominant finding. Public participants most often described nurses as: a) caring, which included being patient, kind, and empathetic; b) educated, including being wise and intelligent with a college degree; c) diverse, including men and women, and humans of all races; and d) teamwork, with collaboration, advocacy, and communication with all healthcare providers.

Implications: The image of nursing not only impacts recruitment of nurses, but it also impacts policy decisions and resources for nursing research, education, and service. Although the public expressed some areas of misconception, they were surprisingly accurate in the caring attributes of nurses, educational level, knowledge base, and role of collaboration and advocacy. They recognized the diversity of the profession (all races and genders) and the complexity of the discipline. This accuracy strengthens our profession and indicates that the influence of media on public awareness of nursing is limited.

TECHNOLOGY

Pop-up Reminders and Provider Adherence to Metabolic Monitoring Guidelines

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Computer pop up alerts may help mental health care professionals to adhere with published guidelines related to the care of patients prescribed SGA's and effectively monitor these patients at risk for metabolic syndrome. This quality improvement study explores the effectiveness of computer pop up alerts as a facilitating agent for physicians, physician-assistants and nurse practitioners treating patients with diagnosed mental illness who are prescribed second generation antipsychotics (SGA's) in addition to current aggregate outcomes related to risk for metabolic syndrome in patients treated with SGA's.

Methods: A quality improvement project will be completed through a retrospective chart review of adult patients treated with scheduled second-generation antipsychotics to evaluate the effectiveness of pop up alert notifications on metabolic monitoring outcomes based on published metabolic monitoring guidelines. These guidelines indicate that patients taking prescribed SGA's are at risk for metabolic syndrome and monitoring should include body mass index, waist circumference, blood pressure, fasting plasma glucose, and fasting lipid profile; quarterly reassessments of body mass index; and 12 weeks post-initiation and yearly reassessments of blood pressure, fasting plasma glucose, and fasting lipids.

The quality improvement project will be completed at Omega Behavioral Health, a privately owned for-profit rural clinic serving children, adolescents and adults in Garden City, Idaho and the surrounding areas.

One hundred charts will be randomly selected and reviewed from a client base of adult patients taking prescribed second generation antipsychotics over a one year time period. One aggregate will comprise a random selection of fifty charts of patients taking prescribed SGA's for a period of one year (Minimum of one year) with the care provider having received pop up alerts in the process of care. The second aggregate set will comprise a random selection of fifty charts of patients taking prescribed SGA's for a period of one year (minimum of one year) with the care provider not receiving pop up alerts in the process of care. Descriptive statistics will be used to explore the established metabolic monitoring outcomes related to published metabolic monitoring guidelines in both sets. Using a pre-post design method, a chi-square and T-test statistical analysis will be done to determine the difference between the two groups. Data will be collected by retrospective review in mid-September. Results of this quality improvement project will be reported in aggregate form and be used to inform practice.

TECHNOLOGY

Smartphone App-Based Education for Asian-American Dementia Family Caregivers

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Background: The widespread prevalence of Alzheimer's and other dementias accounts for one in three deaths among adults 65 years and older in the United States (U.S.). Families of individuals with dementia often seek help in later stages of the disease, and some remain undiagnosed. Internet or phone-based interventions have been implemented to support the caregiving experiences of dementia caregivers. Yet, little is known about the relevance and effectiveness of these interventions for ethnic minority caregivers. Asian Americans are the fastest-growing group in the U.S. and yet remain an understudied group in dementia care. More research is needed to highlight the unmet needs of and inform the development of educational interventions for this population.

Purpose: To identify Vietnamese- and Korean-American family dementia caregivers' usage of computers and smartphones and caregiving needs to develop a dementia care education program for these groups.

Methods: Flyers were distributed in two community centers and a local non-profit Alzheimer's agency in Southern California. Snowball recruitment was also used to reach out community-dwelling families impacted by dementia. We conducted a survey on computer or smartphone use, in conjunction with interviews that assesses the needs of Vietnamese- and Korean-American family dementia caregivers.

Results: For a 6-month recruitment period, 20 Vietnamese and 15 Korean dementia caregivers participated in this study. The mean age of participants was 63.9 years, ranging from 32 to 85. The sample comprised of 18 spouse caregivers (51.4%), 16 adult-child caregivers (45.7%), and a sibling caregiver. Two pairs of family caregivers (spouse-child) were recruited. Participants reported the majority (25 of 33, 75.8%) of demented family members were in moderate or severe stages of dementia. Thirty participants (30 of 35, 85.7%) were computer users. Among those, 76.7% (23 of 30) reported daily usage and 53% (16 of 30) reported use of social media such as Facebook. Most of the participants (31 of 35, 88.6%) reported they owned smartphones. Among those, 29 of 31 (94%) reported daily smartphone usage. More than half of smartphone users (18 of 29, 62%) reported they use social media applications (app) such as Kakao Talk for Korean caregivers or other apps for Vietnamese caregivers. Less than half of the participants (14 of 35, 40%) disclosed that they cannot speak English or spoke very limited English. Most of ethnic minority family caregiver participants revealed that they did not search dementia-related information written in English, and that they were not aware of local associations or resources related to Alzheimer's or dementia. Many participants expressed they cannot attend in-class education due to caregiving and/or transportation issues.

Conclusion/Implications: Most family dementia caregivers in this study use smartphones more often than computers. Over half of those caregivers use social media apps to communicate with others. A smartphone app-based caregiver intervention could potentially serve as a more effective approach compared to the conventional in-class method. Multiple modalities in the development of caregiver intervention should be considered.

Funding: The project was supported by (1) the National Center for Research Resources and the National Center for Advancing Translational Sciences, National Institutes of Health, through Grant UL1 TR000153 and (2) the Arnold N. Rupe Foundation.

TECHNOLOGY

Can a Modified Version of PhotoVoice Help Us Understand Daily Living Routines?

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Aim: This pilot study evaluated the feasibility and efficiency of a modified version of the PhotoVoice technique to better understand daily living routines of individuals.

Background: PhotoVoice technique prompts participants to photograph scenes that highlight meaningful concepts. PhotoVoice has been used in research to explore the practice of self-care and empower participants to enhance their health. However, the PhotoVoice technique is limited by the degree of the participant's involvement. We modified the PhotoVoice technique by adding auto-picture features to traditional manual pictures. We sought to better understand daily routines of those with chronic conditions. Understanding daily living routines can inform treatment plans and subsequently that the design of consumer health informatics interventions are congruent with the daily routines and can be adopted.

Methods: A convenience sample of three participants was recruited for this qualitative pilot study. After a twenty-minute training, participants were given a mobile phone mounted on an armband. They wore the phone for two days with the phone set to take pictures every 3 minutes. The pictures were automatically transmitted to University of Colorado servers and stored. Participants could turn off the automated picturing process to protect their privacy. In addition, we encouraged participants to manually take pictures about their food consumption. All pictures taken included a GPS tag identifying participant location. All three participants were interviewed after the two-day period and interviews were audio recorded. The first author reviewed the pictures before the interviews and developed the interview guide. During the interviews, all pictures were presented to the participant as a slideshow. The interview focused on daily living activities of participants as well as the physical, social and organizational context of the participants' routine. We also asked questions about technology-related problems during the study.

Results: Both automatic and manually taken pictures provided information about daily living routines and the living environment of participants. Various activities such as preparing meals, shopping, leisure time, attending social functions, traveling, and working were captured. We organized these activities temporally. The social and physical context of participants' daily living was also captured. More importantly, pictures started a conversation that allowed the collection of in depth information about the motivation, challenges, and obstacles of these activities, and how meaningful physical and social context shape these activities and their daily routines. We concluded that our modified version of PhotoVoice was feasible and efficient.

Implications: The modification of adding auto picture feature to PhotoVoice may allow naturalistic capturing and understanding of daily routines of patients. This understanding leads to a better examining challenges related to self-management and developing interventions more congruent with these routines.

Funding: This study was supported by University of Colorado College of Nursing intramural award.

TECHNOLOGY

Measuring the Impact of iPad Use on Preoperative Patient Anxiety and Empowerment

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Purposes/Aims: This study seeks to examine the impact of the use of electronic tablets with interactive educational software on orthopedic patients in the preoperative area of the ambulatory surgery center. Area of focus is on the impact of technology on patient anxiety levels and patient empowerment regarding their surgical procedure.

Rationale/Conceptual Basis/Background: Today's health care environment demands that health care workers provide quality care and information more efficiently with larger volumes and less time. When dealing with surgical procedures, issues such as patient anxiety and lack of empowerment can have an impact on patient outcomes. Some researchers suggest that patient anxiety should be addressed prior to surgery to have improved outcomes and patient experience. There is growing evidence that patient empowerment through addressing psychosocial needs decreases the risk of complications, and also improve post-operative health outcomes and cost effectiveness (Kindler, et al 2005).

Methods: A prospective observational study on orthopedic surgical patients, measuring anxiety and empowerment levels utilizing validated tools prior to the surgical procedure. Anxiety levels will be measured using the Amsterdam Preoperative Anxiety and Information Scale developed and validated by N Moerman in 1996, Berth, 2007 and Goebel, 2011. The tool is designed as a preoperative measurement tool and is a six-item questionnaire with measurements on a seven point likert scale. The questions are grouped by anxiety and information scores and will be analyzed as intended by tool function.

Patient empowerment / enablement levels will be measured using the Patient Enablement Instrument developed and validated by Dr. J Howie in 1998 and validated by Roost 2015, and Hudon, 2010. This questionnaire is a six-question tool that is measured on a four point likert scale. Results will be measured comparing responses.

Study inclusion of 100 patients having orthopedic same day surgery for ACL reconstruction, meniscal repair, or carpal tunnel has been completed with a goal of 150 patients. All patients were consented prior to study inclusion and randomized into control (standard education provided by the nurse designed to confirm patient knowledge, and preparedness for surgery), versus electronic tablet (independent use of technology prior to surgery) group. Demographic information has been collected to include patient procedure, treating physician, age, gender, and method of education. 38 patients consented prior to presentation for surgery; withdrew due to anxiety. This will be noted in the study analysis. Study analysis comparisons results of anxiety and empowerment are pending.

Relevance: Results of this study will provide information regarding the use of technology on anxiety and levels of empowerment. This may lead to increased awareness of the needs of the preoperative patient and improve outcomes.

Implication: The nurse is the bridge to providing education, assessment, and supportive care. The use of interactive technology may enhance the ability for the nurse to address patient anxiety and empowerment in the pre-operative phase of surgery. Understanding the relationship of these two attributes will lead to better understanding of the patient experience and improved interventions in the preoperative area.

TECHNOLOGY

Telehealth for Transition between Oncology and Palliative Care Nurses

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Purpose: This pilot study explores the feasibility of oncology and palliative care nurses using a telehealth intervention to improve patients' satisfaction with transition between care delivery systems.

Background: Patients with advanced cancer frequently develop close relationships with their oncology APRNs. As the cancer progresses and treatments become less effective, however, the decision may be made to pursue comfort care through palliative care or hospice nurses. Because comfort care is commonly provided at home to reduce the burden of travel, patients may lose contact with their oncology APRNs, leading to lapses in care as well as patient and caregiver distress.

Methods: The descriptive quantitative study examined the feasibility of delivery and patient satisfaction with standard iPads™ with video FaceTime™ use for remote real-time visits. The oncology APRN, palliative/hospice nurse, patient and caregiver participated in the video visit. A 10-item Likert scaled telehealth visit satisfaction survey, ranging from strongly disagree to strongly agree, was developed and trialed. The survey elicited patient comfort with the modality and any privacy concerns. One open-ended question was included at the end of the survey to obtain participant feedback about recommended changes that could be made to enhance the telehealth experience.

Results: A total of 11 patients with advanced thoracic or gastrointestinal malignancies were enrolled. Two patients died before completion of the second visit. Of the 9 surveys completed, only 6 were included in the analysis because the other 3 surveys had been completed by the informal caregiver rather than the patient. The surveys that were completed performed well based on a confirmatory factor analysis and users understood the questions easily. All participants (6/6) expressed satisfaction with the intervention, and all found it helpful to have both their oncology provider and home palliative care/hospice provider together in one encounter. In addition, the technology performed well; none of the visits had to be terminated due to technical problems.

Implications: Coordination of care and care transitions have been identified as key considerations in providing quality end of life care. APRNs represent integral providers of coordinated care, and their role will become increasingly prominent in new delivery models of cancer care. Organizations such as the American Society of Clinical Oncology (ASCO) and Oncology Nursing Society (ONS) are partnering to further define these roles, which should include the integration of inter-specialty care and evolving modalities such as telehealth. Further studies will evaluate the effectiveness of telehealth in reducing distress from transitions.

TECHNOLOGY

Lessons Learned Regarding Institutional Readiness for a Fully Online RN-BSN Program

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Aim: To identify and share lessons learned regarding institutional readiness for a fully online Registered Nurse (RN) to Bachelor of Science in Nursing (RN-BSN) program.

Background: Increasing demand for baccalaureate-prepared RNs reflects recommendations from the IOM Future of Nursing report, evidence of associations with improved patient outcomes, student and employer preferences, and differentials in potential earnings. Rapid growth in educational programs to meet this demand has included both traditional and accelerated BSN programs, and RN-BSN programs. To offer flexibility and accessibility for students, many current RN-BSN programs are fully online, with institutions facing challenges related to ensuring educational quality and rigor as well as meeting regulatory and administrative requirements.

Project Description: A School of Nursing faculty taskforce was formed to work on a proposal to offer a fully online RN-BSN program at a large public university, in addition to the existing hybrid/blended RN-BSN programs. Specific goals in having a fully online program included: 1) increasing access for nurses living in rural areas; 2) providing more flexible options for working nurses; and 3) responding to market demand from students and employers. Taskforce members attended conferences for online teaching, interacted with potential educational partners, and reviewed online programs offered by other Schools of Nursing. Interested faculty also received trainings and certifications from Quality Matters[®] in order to strengthen the quality and rigor of online courses. In addition, taskforce members completed a comprehensive review of the current RN-BSN curriculum and worked on course alignment across existing and proposed formats.

Outcomes: Taskforce members identified a number of issues that should be considered when planning a fully online RN-BSN program: 1) Model/Approach considerations included deciding whether to develop the program internally or with external (third-party) support and determining capacity and schedule of offerings, such as number of starts per year; 2) Target audience considerations included whether to have local, regional, or national enrollment with implications for oversight (particularly for clinical), standards for admission, and applicant screening; 3) Faculty considerations included preparedness for teaching online, workload issues, and professional development needs; 4) Regulation considerations included securing institutional approval and meeting external accreditation and clinical requirements; 5) Institutional readiness considerations were at all levels – department, university, and system – and consisted of institutional openness to fully online nursing programs, availability of and gaps in resources such as faculty and staff, IT and library support, student financial support, curricular approval processes, marketing strategies, and leadership/coordination support.

Conclusions: This project identified key issues that need to be addressed when considering a fully online RN-BSN program. Some of these issues are relevant to all settings while others are unique to large public university settings. Ensuring the educational rigor of a fully online program is fundamental, but ensuring institutional readiness for taking this approach is just as critical. An unexpected benefit of this project was increased faculty proficiency in online educational technologies, a comprehensive curriculum review process, and substantial team building, which have strengthened the quality of existing blended RN-BSN courses and other programs offered by the School of Nursing.

TECHNOLOGY

Using Boyer's Model of Scholarship as a Guide to Train Online Educators

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Purposes/Aims: To promote growth and sustainability for schools of nursing with online programs of study, a model for teaching and mentorship for online nurse educators regardless of a formal tenure role is presented. Using Boyer's model of scholarship, part time and non-tenured nurse faculty and MSN students engaged in mentoring relationships to support scholarship and teaching practices that enhance the online educator role.

Rational/Conceptual Basis/Background: Lack of qualified applicants for teaching positions and a limited pool of masters and doctoral students prepared to step into a faculty role have prevented resolution of the nurse faculty shortage. Mentoring articles to address faculty retention issues are abundant in the literature, but limited research exists for mentoring faculty as online educators. Instructors that teach in the online venue need training to feel comfortable with the technology and online pedagogy strategies that support best practice for online education. The concept of internal training and mentoring can ease the transition into the educational milieu.

Methods: Through purposeful sampling, five part time, non-tenured faculty and MSN students supported by the XXX Commission on the Extended University Innovative Grant, participated in the study. Participants were part of mentored teams completing online instructional training, online course development and teaching in an online program. Reflective journaling and open-ended interviews elicited meaningful information regarding the training and the mentored experience.

Results: Denzin's interpretive interactionism was used to educe meaning from the data. Three themes emerged: online pedagogy, knowledge acquisition, and the mentor-mentee role; these align with the scholarship of teaching, discovery, and integration, respectively. The data provided an overarching emphasis of the role of the nurse educator as a valued component of nursing practice aligning with Boyer's scholarship of application. A conceptual framework was developed to show this relationship.

Implications: Using Boyer's Model of Scholarship as a framework for training and mentorship can prepare instructors for the online nurse educator role. Exposing graduate nursing students to online instructional and mentoring experiences is an essential component needed to prepare our future nurse educators. Online instructional delivery is a mainstay in education necessitating nurse educators who are prepared to apply best practice strategies in online education.

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Abstracts of Poster Presentations

TRANSFORMING HEALTHCARE COMMUNICATION
FROM A HUMAN FACTORS PERSPECTIVE

OVERVIEW: TRANSFORMING HEALTHCARE COMMUNICATION
FROM A HUMAN FACTORS PERSPECTIVE

Jane M. Carrington, Angela Brittain

IMPROVING USER-TECH INTERFACE AND PATIENT
DATA COMMUNICATION USING THE EHR

Monte L. Roberts, Jane M. Carrington

EXPLORING THE NURSE HANDOFF COMMUNICATION
INTERFACE IN A SOCIO-TECHNICAL SYSTEM

Benjamin J. Galatzan, Jane M. Carrington

TRANSFORMING NEONATE-NURSE COMMUNICATION
OF PAIN USING HUMAN FACTOR DESIGN

Katherine M. Dudding, Jane M. Carrington

TRANSFORMING HEALTH WITH EFFECTIVE
PROVIDER-PUBLIC HEALTH COMMUNICATION

Joyce Lopez, Jane M. Carrington

TRANSFORMING HEALTHCARE COMMUNICATION FROM A HUMAN FACTORS PERSPECTIVE

Overview: Transforming Healthcare Communication from a Human Factors Perspective

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Purpose: It is well known that our current health care system threatens lives. Furthermore, efforts to address patient safety using technology have fallen short. Efforts to study this phenomenon began by learning nurses' perceptions of the electronic health record (EHR) as a communication system. This was followed by studying words used by nurses to communicate clinical events (CE) or changes in patient condition. This program of research now extends to re-design facets of the EHR by enhancing the user (nurses)-technology (EHR) to increase effective communication and patient safety. The purpose of this symposium is to present upcoming research that continues this program of research.

Background: The Effective Nurse to Nurse Communication framework has guided this program of research. Information and Symbolic Interaction theories guided the development of the framework. Information Theory has been applied to my research to address the technology and message in communication: entropy, negentropy, noise, redundancy, and probability. Symbolic interaction theory addresses the experience, culture, and characteristics of the user. Together these theories have been applied and modeled according to Gerbner's communication theory as the message, sender, channel, receiver, and outcome. Here, the message is the change in patient condition or CE (fever, pain, bleeding, changes in output, level of consciousness, and respiratory status). The sender is the nurse caring for the patient at the time of the CE and the receiving nurse continues care. The channel is the EHR and hand-off. The outcome is patient outcome.

Symposium Organization: Here we present the future work of four developing nurse scholars and scientists. Each has applied the Effective Nurse to Nurse Communication framework and adopted theories to their innovative research. Each seeks to address user-technology interaction threats to communication using principles of human factors to better understand communication of a CE. Mr. Roberts plans to explore message entry and retrieval by nurses using the EHR. Ms. Dudding is focusing on the communication of the patient to the nurse of the clinical event. Mr. Galatzan plans to explore nurse-hand-off communication interface of a clinical event. Ms. Lopez plans to explore provider-public health communication of changes in population health.

Conclusion: Human-factors or user-technology interface is key to increasing our understanding of healthcare and patient safety. Each of these presenters have applied theory and a human factors perspective to studying communication of CEs. This symposium demonstrates the innovative methods and "out of the box" thinking required to improve communication and increase patient safety.

TRANSFORMING HEALTHCARE COMMUNICATION FROM A HUMAN FACTORS PERSPECTIVE

Improving User-Tech Interface and Patient Data Communication Using the EHR

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Purpose: Building on theoretical frameworks this paper analyzes planned methods to address how human factors or user (nurses) technology (electronic health record) interface affect *communication of clinical events*. These methods informed the design of the Nurse-to-EHR framework developed to evaluate human and system factors affecting *user-tech interface* and *communication of patient data* within the EHR. Here I will present planned research that builds on previous works, exploring the influence of human factors design issues and impact on *communication*.

Description of Theory: Shannon's Information Theory illustrated how noise within a message affects the receivers' ability to articulate and respond/intervene to the sent message. Carrington's Effective Nurse to Nurse Communication framework evaluated how system (EHR) and nursing characteristics (human factor) decrease effectiveness of data communication. Goossen's Nursing Information Management and Processing Model (NIMP) analyzed how nurses synthesize data from the EHR into usable knowledge to create action and early intervention. A portion of Effken's Informatics Research Organization Model (IROM) explored the client and context of how a system (EHR) fits within an organization affecting accessibility, usability and system integrity. Building on each framework cognitive, task, and organizational analyses were used to inform human and system factors associated with the concepts of *communication* and *user-technology* interface. Each theory and framework identified human and system factors that led to a decrease in *communication*, increasingly likelihood of a *clinical event*, and threatening patient safety.

Process Used: A feasibility study was completed to analyze keystrokes completed by nurses when accessing and retrieving patient data from the EHR for communication during and post *clinical event*. Keystrokes recorded EHR navigation, entered or retrieved data, time spent on screens, and number of screens nurses scrolled through to obtain patient data to be communicated. Access and retrieval of patient data within the EHR were compared between nurses caring for a patient experiencing a *clinical event* and nurses receiving a patient post *clinical event*.

Logic Linking to Research Problem: Time spent navigating the EHR to access and retrieve data is costly to a patient experiencing a *clinical event*. Boy identified that human capability cannot change, however how humans perform tasks can. Human and system factors affect the ability for the nurse to interface concurrently with systems (EHR), *communicate* patient needs, and safely manage cares during a *clinical event*. Interruptions, distractions, task management and operator attention lead to error, decreasing *communication*, increasing intervention time, and decreasing overall patient safety. Understanding the methods previously used in framework designs assist in an improved study design, and improve concept (*communication and technology*) measurement. The Nurse to EHR framework illustrates human and system factors that examine the concepts of *user-technology* interface and patient data *communication*.

Conclusion: The Nurse to EHR framework seeks a paradigm shift in how the nurse interfaces with the EHR to synthesize and communicate patient data for early intervention and precision nursing. This interface may improve how the EHR is utilized in nursing cares, developing the EHR as a communication tool and partner in patient care and safety.

TRANSFORMING HEALTHCARE COMMUNICATION FROM A HUMAN FACTORS PERSPECTIVE

Exploring the Nurse Handoff Communication Interface in a Socio-Technical System

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Purpose: The healthcare environment is a complex adaptive socio-technical system (STS) involving nurse-to-nurse and nurse-to-electronic health record (EHR) communication. Communication within a STS involves human factor (HF) and ergonomics principles. The purpose of this presentation is to explore the principle human factors affecting the nurse hand-off communication interface in relation to a clinical event.

Description of Theory: The Effective Nurse-to-Nurse Communication Framework established a structure for examining how HF (nurse characteristics) in a STS affects the nurse handoff during a clinical event. A STS is composed of the complex interactions between humans and human-computer interface (HCI). Entropy in Shannon's Information Theory is the noise that interferes with message resulting in potential errors. A high level of entropy in the channel increases the strain on the nurse's cognitive ability to process the incoming message. The cognitive load theory has three main components: intrinsic load (IL), extraneous load (EL), and germane load (GL). IL refers to the innate complexity of the information being presented. EL is how the information is presented to the individual. GL is the processing, creating and automation of new knowledge. The HF principles involved in the IL and EL influence the GL. A blended approach analyzes how human-to-human and HCI influence communication, noise, and patient safety.

Process Used: An extensive examination of the current nurse hand-off communication literature was completed. Issues in the nurse-to-nurse and the nurse-to-EHR interface were identified. Artifact-User-Task-Organization-Situation (AUTOS) examines the interface of the artifact (EHR and verbal communication) with the user (nurse's characteristics), and the organization (nursing unit) to support the user's cognitive processes to complete the task (hand-off) in a STS. The analysis of this process is vital in discovering the issues related to miscommunication and patient safety.

Logic Linking to Research Problem: Cognitive load is the aggregate mental effort being used in the working and running memory to process new information and form new knowledge. The hand-off communication is a cognitively intense process in a STS. The complexity of STS in healthcare increases the entropy in the hand-off message. This requires the nurse to utilize working and running memory to process and recall relevant patient information. Multiple communication channels increase entropy, error and patient harm. Analyzing the nurse hand-off communication and content from a HF perspective evaluates the multifaceted interfaces of the communication.

Conclusion: The merger of the theories within the context of Carrington's communication framework provides a structure to analyze the message and entropy in nurse handoff communication. The analysis of the message and entropy involved in the nurse handoff communication provides insight on the factors involved to a decrease errors and the potential for patient harm. Additionally, a HF analysis of the handoff communication provides valuable information on cognitive support needed for the nurse working in a STS.

TRANSFORMING HEALTHCARE COMMUNICATION FROM A HUMAN FACTORS PERSPECTIVE

Transforming Neonate-Nurse Communication of Pain Using Human Factor Design

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Purpose: Using an overarching communication theory, this paper analyzes the nurse user-technology interface through the identification of human factor considerations when developing an innovative design to increase neonate to nurse communication of the neonate in pain within Neonatal Intensive Care Unit. Each human factor considered provides vital information to the design and the implementation of the feasibility study. Here, an overview of the results is presented as it relates to the impact of human factors.

Description of Theory: The concepts of pain and communication are being studied, building on the work Carrington's Nurse to Nurse Communication Framework (2012), an adapted framework was generated to study Neonate to Nurse Communication with the detection of pain in the neonate. Specifically, examining communication between the neonate and nurse and the nurse characteristics to describe neonatal pain. Additionally, the manner which the neonate communicates pain to the nurse is described through the interaction of the neonate and its environment as described by Al's Synactive Theory of Newborn Behavior and Organizational Development. Neonatal interaction is dependent upon the maturity of its subsystems to maintain homeostasis.

Process Used: Without understanding the user's environment and workflow, there is a risk that the technology will not be usable. Vicente's Human-Tech Ladder is one model that complements the user-technology interface while customizing a technology to particular human factor. Vicente presents five human factors (physical, psychological, team, organizational, and political) associated with their complementary societal needs represented by ladder rungs. As each ladder rung is addressed this model evaluates the technology leading to an effective, innovative design to study neonate to nurse communication.

Logic Linking to Research Problem: Neonates use subtle cues to communicate pain to nurses. We know this is ineffective communication as evidenced by the mortality rates for these patients. Currently, detection of pain is dependent upon nurse assessments of pain through pain scales. However, these pain scales remain unsuccessful and unreliable in capturing effective neonate to nurse communication of a neonate in pain. Prior research suggests a neonate experiencing pain results in poor outcomes. These weaknesses support the need for change and innovative design to detect pain in the neonate. When developing an innovative design, the user-tech interface and human factors are examined to create a successful design.

Implications to Practice: The significance of *unrelieved* pain can result in long-term consequences related to poor neurodevelopmental outcomes for neonates and death. Despite the best efforts to identify all the human factors, obstacles emerged during the feasibility study resulting in adjustments to the design. Learned human factors will inform future research that seeks to define neonate to nurse communication in the detection of the neonate in pain to increase patient outcomes through an effective user-tech interface.

TRANSFORMING HEALTHCARE COMMUNICATION FROM A HUMAN FACTORS PERSPECTIVE

Transforming Health with Effective Provider-Public Health Communication

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Purpose: Public Health agencies (PHA) prevent disease through protection and promotion of the health of people and the communities where they live, learn, work, and play. One of the methods used to accomplish this is surveillance. Law requires healthcare systems to submit information to PHAs on individuals suspected of carrying or who have a confirmed diagnosis of a communicable disease. A methodological approach to analyzing bi-directional communication between healthcare providers (HCP) and PHAs will be completed using two theories and two frameworks. Bi-directional communication is defined as HCP reporting and PHA clinical decision support via an electronic health record (EHR). Human Factors design issues can affect data quality, completeness, and accuracy of information submitted for operations or decisions. User interaction (communication) with an EHR via the user interface affects patient safety, organizational expenses, and decision – making capabilities as well as consumer satisfaction. This paper will discuss planned research on human factors design and bi-directional communication to avoid potential communicable disease outbreaks.

Description of Theory: Shannon’s Information Theory (1949) evaluates the accuracy and efficiency of the communication system (technical level), whether the system conveyed the intended meaning (semantic level), and the effect of the information on the receiver (effectiveness level). DeLone and McLean (2003) built on Shannon’s Theory and Mason’s Effectiveness Theory (1978) to define six dimensions of Information System (IS) success: system, information and service quality, (intention to) use, user satisfaction, and net benefits (individual and organizational impact). Carrington’s Effective Nurse to Nurse Communication Framework describes the effectiveness of nurse communication via EHRs; this framework will be adapted to describe usage of EHR systems to submit required data from a provider’s office to a PHA. Use of the Technology Acceptance Model (TAM) will provide a framework for measurement of perceived ease of use and perceived usefulness, which contributes to attitude toward use, intention to use, and actual use.

Process Used: A literature search was conducted on the status of bi-directional communication between HCP and PHAs. Four themes were identified: data quality, i.e. timeliness, completeness, and accuracy of communication; usability; terminology and data element definitions; and return on investment, i.e. benefits received outweigh the barriers to transmitting information.

Logic Linking to Research Problem: Bi-directional communication between HCP and PHAs is necessary to reduce potential communicable disease outbreaks. Current methods of communicating notifications are time-consuming. Using an EHR linked to the PHA database offers a more seamless communication channel for submission of reports. With complete, accurate information collected in the database PHA staff can follow-up with the provider in a timelier manner. Incorporation of a clinical decision support tool into the EHR will link PHAs with providers.

Conclusion: Electronic reporting of notifiable conditions enables a more efficient surveillance system for protecting the public’s health. Incorporating awareness of human factors into the design will address issues of user acceptance, global benefits, and data quality.

Abstracts of Poster Presentations

VETERAN AND MILITARY ISSUES

THE LIVED EXPERIENCE OF FEMALE MILITARY
VETERANS SCREENED FOR HBOC

Laura Anna Sherburne

STEREOTYPE THREAT AMONG WOMEN
VETERANS SEEKING HEALTHCARE

Lori Trego, Deborah Kenny

SERVICE BEYOND SELF: A THEORY FOR
MILITARY NURSING PRACTICE

Mona Pearl Treyball

VETERAN AND MILITARY ISSUES

The Lived Experience of Female Military Veterans Screened For HBOC

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Purposes/Aims: The goal of this study is to explore the perspective of female military veterans newly diagnosed with breast cancer and their experience with receiving hereditary breast and ovarian cancer syndrome (HBOC) testing.

Rationale/ Conceptual Basis/Background: Breast cancer is the second leading cause of cancer deaths for women in the United States, with 12% of American women diagnosed each year. Hereditary Breast and ovarian cancer genetic testing (HBOC) is recommended for women with a strong family history of breast and ovarian cancer. The lifetime risk of breast cancer is increased by 85% for women found to carry an HBOC mutation and have an increased lifetime risk of 24% for developing ovarian cancer. Breast cancer patients are recommended for HBOC testing if they have a strong family history of breast or ovarian cancer. Knowledge of HBOC mutation status assists patients in risk reduction treatment options.

Women represent only 10% of 22 million living military veterans. In the last ten years, the number of female veterans using the Veterans Administration Health system (VA) has doubled. Over 90% of research participants in VA studies are male veterans. A 2015 report on health care barriers for women veterans, found 60% women surveyed did not use VA health services due to the male-dominated atmosphere within the health care system. This gender disparity and underrepresentation illustrates the lack of voice among female military veterans as related to health care experiences, especially gender-specific diseases. One goal of this study is to explore the current approach to gender-sensitive care within the VA, such as for breast cancer and ovarian cancer.

Feminist critical theory (FCT) will provide the framework for this study. Feminist theory recognizes limited viewpoints and explores the idea of dynamic interrelational thinking. A component of FCT, critical realism, is based on an idea that the real world is highly complex, with multiple relationships, powers, and structures which need to be observed to form a greater understanding of the whole. FCT applied to the female military veterans, will strive to identify and interpret the unique perspectives and history of this underrepresented population.

Methods: Descriptive phenomenology (DP) will be used in the design, data gathering, and data analysis of this study. DP uses reduction or bracketing to identify preconceived ideas, knowledge, or personal viewpoints to remove temporarily from analysis to encourage a new viewpoint or observation of the participant's world. This method uses open-ended questions to uncover the underlying feelings and views of a selected population. Between 10 to 14 participants will be interviewed using semi-structured questions to explore their lived experience.

Results/Implications: Results of this study will be used to guide and instruct patients and healthcare providers in patient-centered practice. Participant feedback also has the potential to further understanding of motivators and barriers to use of genetic test and genetic therapies in the female military veteran population. This data may as be used in at the systems level to highlight potential barriers to genetic health care for female military veterans utilizing the VA health system.

VETERAN AND MILITARY ISSUES

Stereotype Threat among Women Veterans Seeking Healthcare

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Despite recent efforts to improve healthcare for Women Veterans, barriers to care such as concerns for personal safety and comfort in Veteran's healthcare facilities remain. In this study, we explored Women Veterans' concerns when seeking care in the Veterans Administration Healthcare System (VAHS). The underlying conceptual framework for this study is Stereotype Threat Theory (STT). STT has been identified as the phenomenon whereby individuals believe that they will be judged based on a negative stereotype about their social group rather than on their own merits, which results in a sense of threat. Common examples of stereotype threat that arise from negative gender stereotypes have been identified in relation to women and girls' math skills and potential for success in scientific disciplines. Stereotypes also exist among military and Veteran women in the historically male-dominated military culture. This study aims to discover the attributes of the stereotype of Veteran Women, their perceptions of being stereotyped in relation to health, and the resulting sense of stereotype threat as a barrier to their healthcare. Focus groups were conducted with a semi-structured interview guide that was designed to elicit women's opinions related to negative and positive experiences with the VAHS and the impact on their health. We utilized iterative, inductive, and deductive analytical strategies to discover themes related to the concept of Stereotype Threat. Initial codes included: Uncaring, Persistence, Knowledge, Privacy, Disbelief, Un-deserving. Grounded Theory methodology and narrative analysis of the data were used to further determine women's perceptions about stereotypes and the impact on healthcare in the VAHS. We anticipate long-term implications for the care of Veteran Women as we discover the genesis of stereotype threat. The findings of this study will be used to determine specific components of healthcare that are affected by the stereotype threat phenomenon and the impact on Veteran Women's healthcare behaviors. This study lays the foundation for future research to improve the care provided to all women who served in the Armed Forces.

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VETERAN AND MILITARY ISSUES

Service Beyond Self: A Theory for Military Nursing Practice

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Aims: This theory development extrapolates from a practice focused theory of military aeromedical evacuation (AE) to the development of concepts for a mid-range theory of military nursing practice.

Description/Development of Practice Theory: The practice focused theory of military AE nursing was developed from focus groups conducted at eight US Air Force AE squadrons and using grounded theory and utilization focused evaluation with constant comparative analysis, generated the elements that then expanded into a theory and model for practice. Sample ($n=61$) represented active-duty ($n=15$), reserve ($n=33$), and guard components ($n=13$) with a range of 1-26 years of experience (mean=9), 70-7500 flying hours (mean=830), and 0-500 combat hours (mean=85). Emerging from the data were findings related to the skills and competencies required of service members, the personal nature of the experience, the human component of caring, the complexity of integrating operations with other services, the various lines of authority/communication, and the complexity, responsibilities, and impact of leadership. These elements included both a human and military dimension with a focus on the work being done (Figure 1).

Consistency of Theory: Generalizing beyond the practice, a mid-range theory of Service Beyond Self includes the overarching concepts of service with a focus on a mission, the self being the nurse as the instrument, and going beyond to deliver care under austere conditions in a variety of environments, globally, and in partnership.

Linking Theory to Practice: The nurse must be prepared physically, being medically ready, mentally with knowledge and clinical competence, and socially as part of a team. Nursing personnel exhibit leadership and expeditionary diplomacy operating in dynamic uncertainty. Military nurses develop the ability to manage assets and assume command, network and build relationships to develop interoperating/intra-operating operations, and autonomously use ingenuity and adaptability by drawing upon broad and in-depth knowledge. The focus is on the patient with the ability to obtain needed personnel, equipment, supplies, and other resources and the ability to prioritize care based on injury, acuity, urgency, resources, and environmental/situational conditions in order to survive and accomplish the mission. The mission is paramount for both the individual and team, committed in the face of daunting challenges and minimal resources, and willingness to sacrifice the self in order to protect and defend, while delivering care. Overall theoretical constructs embody the love of country, love of life, and a belief in the ideals of the mission that allow the military health care provider to function in multiple roles, within challenging human and environmental contexts, for an overarching goal of accomplishing a mission. The individual and team provide health care within a military system. They apply practical wisdom and a variety of ways of knowing in dynamic relationships with the patient, the team, diverse individuals/groups, and multiple bureaucracies within a global community.

Conclusions/Utility of Theory: Understanding these characteristics of military nursing care provides information to guide military nursing practice, improve care, and enhance military readiness.

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RACE/ETHNICITY, METABOLIC SYNDROME COMPONENTS,
URIC ACID AND CARDIOVASCULAR DISEASE

Magda Shaheen

MICROBIOME, SYMPTOMS, AND QUALITY OF LIFE
IN WOMEN WITH IRRITABLE BOWEL SYNDROME

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IDENTIFICATION OF NURSE-CONTROLLED PREDICTORS
OF PAIN IN PATIENTS UNDERGOING A TOTAL HIP
OR A TOTAL KNEE ARTHROPLASTY

Melodie Daniels, Cynthia D. Connelly

LATE-BREAKING ABSTRACTS

Race/Ethnicity, Metabolic Syndrome Components, Uric Acid and Cardiovascular Disease

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Purpose: To examine the racial/ethnic variation in the relation between metabolic syndrome components, uric acid level and cardiovascular disease among non-diabetic population with metabolic syndrome.

Background: Research showed that uric acid level is related to both cardiovascular disease (CVD) and metabolic syndrome (MetS). Little is known about the racial differences in the relation between MetS components, uric acid and CVD.

Methods: We analyzed National Health and Nutrition Examination Surveys data (1999-2010) for adults aged ≥ 20 years with MetS. Using the ATP III clinical criteria for diagnosing MetS, subjects were classified as having MetS if they had ≥ 3 of the following: waist circumference ≥ 40 inches for men or ≥ 35 inches for women, triglyceride ≥ 50 mg/dL, High density lipoprotein-cholesterol (HDL-C) for men ≤ 40 mg/dL; women ≤ 50 mg/dL, blood pressure over $\geq 130/85$ mmHg, or fasting glucose ≥ 10 mg/dl. We used multiple logistic regression to examine the relation between MetS components and CVD adjusting for age, gender, race/ethnicity, education, smoking, alcohol, albuminuria, glomerular filtration rate, C-reactive protein, uric acid and white blood count. To assess the racial/ethnic variation in the relation of metabolic syndrome components, uric acid and CVD, we examined the multiple logistic regression model in each race/ethnic group. Data were analyzed using STATA 14 survey module taking into consideration the sampling design and the weight. We presented the data as odds ratio and 95% confidence interval and p-value of <0.05 is considered statistically significant.

Results: Of the 3,212 non-diabetic subjects with metabolic syndrome, 78% were Whites, 10% were Blacks & 15% had CVD. MetS components, CVD, and uric acid varied significantly by race/ethnicity ($p < 0.05$). In the multivariate model, HDL-C level [Odds Ratio (OR)=1.5; 95% confidence interval (CI)=1.1-2.0], triglyceride level [OR=2.0; CI=1.4-2.9], and elevated uric acid [OR=1.4; CI=1.1-1.9] were independently related to CVD ($p < 0.05$). Other significant predictors of CVD were gender, race/ethnicity, age and smoking status ($p < 0.05$). Among Whites, CVD was independently associated with HDL-C [OR=1.5; CI=1.1-2.1], triglyceride [OR=1.9; CI=1.3-3.0], and elevated uric acid level [OR=1.5; CI=1.1-2.1] ($p < 0.05$). Among Blacks, CVD was independently associated with pre-hypertension [OR=13.0; CI=1.2-161], and triglyceride level [OR=3.3; CI=1.6-7.0], ($p < 0.05$). In Hispanics, CVD was not associated with any metabolic syndrome components or elevated uric acid level ($p > 0.05$).

Conclusions and Implications: Elevated uric acid, HDL-C level, and triglyceride level are significant independent predictors of CVD among non-diabetic population with MetS. These predictors varied by race/ethnicity. Health care providers should be vigilant in the management and control of MetS components and uric acid level in each racial/ethnic group to prevent CVD among non-diabetic population with metabolic syndrome.

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Microbiome, Symptoms, and Quality of Life in Women with Irritable Bowel Syndrome

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Introduction: It is hypothesized that gastrointestinal dysbiosis plays a role in the pathophysiology of irritable bowel syndrome (IBS). However, specific taxonomic characteristics associated with symptoms such as diarrhea, constipation and abdominal pain remain to be determined. In addition, the relationship of gut bacterial composition and diversity to other pain-related symptoms, psychological distress, and reduced quality of life (QOL) commonly reported by women with IBS is not known. In the current study we aimed to evaluate the relationship of fecal microbiota composition and diversity to gastrointestinal (GI) symptoms, stool consistency, psychological distress, extra-intestinal pain, and QOL in women meeting Rome III criteria for IBS.

Methods: Women in this study were recruited from the community and a gastroenterology clinic for a behavioral intervention trial. As part of the assessment, women completed a 28-day diary that included GI, stool consistency, psychological distress (i.e., anxiety, depression), extraintestinal (heartburn, backache, joint pain, muscle pain, headache) pain ratings. Participants completed the IBS-Specific-Quality of Life questionnaire. Stool samples were collected and analyzed by 16S rRNA gene sequencing. Fecal microbial diversity was measured using a Shannon diversity index, and determination of operational taxonomic units (OTU) richness. Principal component analysis was performed and the first two components (PC1, PC2) were used to test relationships among the 35 most abundant bacterial families and clinical measures.

Results: Seventy-six participants were categorized as IBS-Constipation (n=22), IBS-Diarrhea (n=39), IBS-Mixed (n=13), and IBS-Unsubtyped (n=2). There was a significant group effect by bowel pattern subtype for the phyla Firmicutes to Bacteroidetes (FB) ratio and PC1. Lower microbial diversity and richness were associated with increased urgency and extra-intestinal pain, worse QOL, and looser stools. Lower daily levels of extra-intestinal pain were associated with increased abundances of Families *Rikenellaceae*, *Christensenellaceae*, *Dehalobacteriaceae*, *Oscillospiraceae*, *Mogibacteriaceae*, *Ruminococcaceae*, *Sutterellaceae*, *Desulfovibrionaceae*, and *Erysipelotrichaceae* abundances. QOL was positively associated with many of these same bacterial families. Higher FB ratio was positively associated with loose stools. There were no statistically significant relationships between daily psychological distress or abdominal pain and bacterial families.

Conclusion: This study is the first to address the relationship among prospectively collected daily GI, psychological distress, extra-intestinal pain symptoms and fecal microbiota composition in the context of IBS. Lower stool microbial diversity and composition are linked to greater daily extra-intestinal symptoms, reduced stool consistency, and reduced QOL in women with IBS. Our findings suggest that fecal bacterial composition may relate to somatic pain sensitivity in women with IBS. Additional research examining microbial signatures of persons with chronic pain conditions such as IBS is needed.

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Identification of Nurse-Controlled Predictors of Pain in Patients
Undergoing a Total Hip or a Total Knee Arthroplasty

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Purpose/Aims: The purpose of this study is to examine relationships between nursing interventions and pain in orthopedic surgical patients. **Specific Aims** 1. To describe pain management variables and pain in orthopedic surgical patients; 2. Examine relationships among variables in orthopedic surgical patients; 3. Identify predictors of pain among surgical-orthopedic, total hip or total knee, patients receiving services in 4 Community Hospital orthopedic units.

Rationale/Background: An epidemic of opioid-related adverse events creates a need for opioid sparing approaches to pain management. Nurse-specific pain management practices have been studied in relation to medicine; however, the relationship between opioid sparing, nurse-specific interventions are not clear.

Methods: Cross-sectional correlational design. Data were extracted from electronic health records for all patients ($n=1657$), who were discharged after receiving a total hip or total knee arthroplasty in one of 4 Community Hospital System Facilities, between March 1, 2016 and April 30, 2017.

Measurement: The dependent variable (DV) was pain during hospitalization. Controlled pain is described as pain at or below the patient's tolerable level of pain by subjective assessment. Patients were classified into two groups: controlled pain ($n = 1065$, 65.3%) and uncontrolled pain ($n = 566$, 34.7%). Independent variables included select demographics (age, sex, BMI, payor), 24-hour morphine equivalent (ME), 1st Pasero Opioid-induced Sedation Scale (POSS), average time between nursing pain assessments, acceptable level of pain, and the use of adjunctive therapy (aromatherapy and massage therapy). **Analyses:** Descriptive statistics were generated for all variables. A chi-square test of independence was conducted with the categorical variables. A one-way ANOVA was conducted on ratio level data to examine differences for patients with controlled and uncontrolled PAIN STATUS during their hospitalization. Logistic regression analysis was conducted to identify the factors that increased the odds for pain status (controlled, uncontrolled) in surgical orthopedic patient population during hospitalization. The predictors were: BMI, Nerve block, morphine equivalent – day 2, First Pasero Opioid-induced Sedation Scale (POSS), time between nurse pain assessments day 2 post-op, and aromatherapy during hospitalization.

Results: A statistically significant differences were found between whether a nerve block was administered, $\chi^2(1) = 9.90, p = .002, \text{Phi} = .079, p = .044, \text{Cramer's } V = .096$ (small effect); 1st POSS assessment, $\chi^2(4) = 16.81, p = .002, \text{Cramer's } V = .108$ (small effect); aromatherapy used during hospitalization, $\chi^2(1) = 23.59, p < .001, \text{Phi} = .122$ (small effect); massage therapy used during hospitalization, $\chi^2(1) = 10.96, p = .001, \text{Phi} = .084$ (small effect); aromatherapy used day 2 post op, $\chi^2(1) = 16.91, p < .001, \text{Phi} = .103$ (small effect); massage therapy used during hospitalization, $\chi^2(1) = 8.07, p = .003, \text{Phi} = .072$ (small effect) and Pain Status during hospitalization respectively. The logistic regression model was statistically significant, $\chi^2(9) = 112.45, p < .001$, indicating the predictors reliably predicted Pain Status (those patients who had controlled from those who had uncontrolled pain during hospitalization). The Nagelkerke's R^2 of .124 indicated a predictor model with an overall prediction success of 68.2 (24.8% for patients with uncontrolled pain and 90.8% for patients with controlled pain during hospitalization). Four variables, contributed to the model.

Implications: Patients who received a nerve block, had lower BMI, aromatherapy during hospitalization and longer time between nurse pain assessments on day 2 post-op, were more likely to have controlled pain during their hospitalization. Results augment health care professionals existing evidence-based knowledge of the determinants of post- surgical pain control. Nurse-controlled variables empowers the nurse to improve patient care while decreasing the patient's risk for post-surgical opioid addictions. Future research is needed to examine the patient and nurse's perspectives in pain variability.

RESEARCH & INFORMATION EXCHANGE

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Infant Weight and Its Influences: Examining the Correlated Variables
Autumn Argent

Self-Compassion Eating Awareness Training (SC-EAT): A Randomized Controlled Trial
to Assess Program Feasibility and Acceptability on Obesity Related Eating Behaviors in
First-Time University Students
Dara James

Red Flags: Identifying & Treating Sex Trafficking in the Clinic
Samantha Calvin

Exploration of Older Adult Informal Caregiver Self-Care Promoting Well-Being
Laura Blank

Linking Active Transportation and Walkability to Cardiometabolic
Risk Factors among Hispanic Mothers
Elizabeth Lorenzo

Clinical Manager Perceptions of New Nurse Preparation for Leadership
Nick Miehl

How Shared Narratives among Young Adults with Inflammatory Arthritic Pain
May Improve Their Physical Function and Resilience
Priyanka Chatterjee

Reliability of the Preterm Infant Breastfeeding Behavior Scale (PIBBS)
for the Late Preterm Infant Population
Angela Lober

AZUSA PACIFIC UNIVERSITY SCHOOL OF NURSING *Azusa, CA*

Dietary Habits, Health Literacy & CVD Risk Levels among West Africans in the US
Chidiebele Obichi, Vivien Dee

Patient Perceptions of Nurse Listening Behaviors: A Qualitative Study
Nancy Loos, Vivien Dee

The Delphi Method for Content Validity of the Munro Scale
Cassandra Munro

Spiritual Distress among Acute Care Nurses
Diane Sadoughi, Sheryl Tyson

Life Meaning of Patients with End-Stage Primary Liver Cancer
Dinah Hernandez, Sheryl Tyson

Reducing Family Stress in the Intensive Care Unit Using a Focused Information Packet
Douglas McCallum, Diana Woods

Improving Tz2DM Control in African American Older Adults
Using Education and a Pillbox
Bernadeth Osuji, Diana Woods

Fetal Alcohol Spectrum Disorders: Examining the Nursing Role
Anne E. Lama, Teresa Dodd-Butera, Carolyn Shaputnic

Elderly Partners' Experience of Colorectal Cancer, Surgery, and Ostomy
Dinah Herrick, Cheryl Westlake

Self-Reported Competencies and Standardized Exam Scores on BSN Students' Readiness
Evangeline Gagalang, Lina Badr

BETTY IRENE MOORE SCHOOL OF NURSING AT UC DAVIS
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Military Culture and Health Care
Augustina Mushale

Technology-Enabled Performance Monitoring and Feedback in ICU
Jacqueline DeMellow, Tae Youn Kim

Cancer Survivor Information-Seeking Experiences
*Adebola Olarewaju, Cynthia G. Matsumoto, Janice F. Bell,
Gennifer A. Holt, William A. Randall*

An Educational Needs Assessment:
Nursing Comfort in Describing Magnet Components
Erin Kozlowski, Kupiri W. Ackerman-Barger

Exploring the Experiences and Patterns of Alcohol Consumption in Hmong-Americans
Marlene Her, Susan L. Adams

Misconceptions among Rural Residents with Diabetes: A Pilot Study
Jennifer Edwards, Jeri L. Bigbee

Efficacy of Low Carbohydrate Ketogenic Diets on Glycemic Control
*Volodymyr Ryzhuk, Julie Cortes, Yanyan Hollingsworth, Patrick Nguyen,
Cheyenne Rogers, Brian Speh, Judy Wong*

Evaluation of Access to Healthcare in Underserved Diabetic Patients
*Sofia Robles Castillo, Dragana Cooper, Jennifer Popovich, Linh Nguyen,
Mallory Holland, Navjit Shelly, Philip White*

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When Disaster Strikes
Taylor Beckman, Alanna Belz, Sarah Lew, Catherine Ostrem, Cara Gallegos

Fall Prevention in the Community: Older Adults and Fall Risks in the Home
Christine Shives, Lucy Zhao

The Undergraduate Research Assistant Experience
Kelsy Mitchell, Julie Rekiere, Jane Grassley

Virtual Reality Gaming: Reducing Student Anxiety and Increasing Skill Mastery

Kimberly Brown, Karen Breitzkreuz

Targeted Education of Evidence-Based IM Injections Is Needed
among Final Semester Nursing Students and Healthcare Preceptors
Chelsea Tindell, Pamela Strohfus

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Brandon Lewis, Neil Peterson

Preoperative Physical Activity Level and Outcomes in Geriatric Cardiac Surgery Patients:
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Adverse Health Effects of Electronic Cigarettes in Adult Users: A Systematic Review
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Caregiving Challenges and Rewards of Nursing Students and Faculty Family Caregivers
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Family Caregiving and Work Performance of Nursing Student
and Faculty Family Caregiver
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Recommendations for Academic Institutions in Support of Family Caregivers
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Is Predictive Examination Reflective of Passing the NP Board Certification Examination?
Ma Recanita Jhocson

Do Childhood Traumatic Experiences Affect Adult Health?
*Juana Ferrerosa, Sharon Sylvers-Sidney, Juliana Aguayo, Angela Arebamen,
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Music Therapy to Control Agitation in Elderly Dementia Patients: A Systematic Review
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Cancer Survivorship and Caregiving
Ebere Ume

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Evaluation of a Chronic Disease Self-Management Program
Melissa Claflin-Hubbard, Nadira Dhanaswar

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Effects of Online Course Length on Student Self-Efficacy, Satisfaction and Engagement
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Improving Knowledge Retention in Patients with COPD
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Assessing Emergency Nurses' Knowledge of the CIWA-AR
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Transforming Healthcare by Delivering High Quality, Patient-Centered Care
to Reduce Breast Cancer through Risk-Based Screening
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Measuring the Impact of RN Interventions on Outcomes for the Diabetic Population
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Testing Variables on a Bypass Readmission Measure to Direct Care
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Comparing Outcomes of Patients with Irritable Bowel Syndrome Treated within
the Functional Medicine Model Verses a Standard Primary Care Setting
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A Multi-Modal Approach to Addressing the Opioid Epidemic in Washington State
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Increasing Health Literacy of College Students
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Build a Unit, Build a Nurse: The Oncology Version
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Chemotherapy Toxicity Risk among Older Ambulatory Cancer Patients

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Long Term Adherence Outcomes in Children Using Enemas for Bowel Management
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Health Care Needs, Access to Resources and Awareness of Disparities
Arylis Scates

Nursaugergut Ayagniutiit: A Camp for Future Nurses in Rural Alaska
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Symptoms of Older Adults with Type 2 Diabetes and Diabetics Distress
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Systematic Review of Insulin Pump Discontinuation in Pediatric T1D Patients
Hyojin Min, Y. Fukuoka

Health and Safety Quality in California Licensed Family Child Care Homes
Alicia Swartz

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Designing Visual Displays for Multiple Competing Risks in Hospitals
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Theory of Planned Behavior and Physical Activity in High School Students
Kimberly R. Hartson, Melody M. Avila, Paul F. Cook

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WIN HONORS

The Western Institute of Nursing proudly recognized outstanding Western members and friends with the following awards and honors in 2018.

DISTINGUISHED RESEARCH LECTURESHIP AWARD

The Distinguished Research Lectureship recognizes a senior researcher whose research efforts have made significant and sustained contributions to nursing. The 2018 award recipient was:

Patricia Butterfield, PhD, RN, FAAN, Professor and Associate Dean for Research, Elson S. Floyd College of Medicine, Washington State University, Spokane, WA.

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 2018 award recipient was:

Daniel T. Linnen, MS, RN-BC, PhD Candidate, UCSF School of Nursing, San Francisco, CA; Predoctoral Research Fellow, Nurse Scholars Academy & Division of Research, Kaiser Permanente Northern California, Oakland, CA.

REGIONAL GERIATRIC NURSING RESEARCH AWARD

The Western Institute of Nursing makes annual awards to a senior nurse researcher and a new nurse researcher to recognize outstanding nurse researchers and to foster and showcase geriatric nursing research. Recipient of the new researcher award in 2018 was:

Roschelle Fritz, PhD, RN, Assistant Professor, College of Nursing, Washington State University, Vancouver, WA.

REGIONAL GERIATRIC NURSING EDUCATION AWARD

The Western Institute of Nursing makes an annual Regional Geriatric Nursing Education Award to recognize evidence of excellence and/or innovation in gerontological nursing education. The 2018 award recipient was:

Valerie Flattes, MS, APRN, ANP-BC, Assistant Professor and Specialty Track Director, Adult/Gerontology Primary Care DNP Program, College of Nursing, University of Utah, Salt Lake City, UT.

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 2018 award recipient was:

Judith A. Berg, PhD, RN, WHNP-BC, FAAN, FAANP, Clinical Professor, College of Nursing, University of Arizona, Tucson, AZ.

JO ELEANOR ELLIOTT LEADERSHIP AWARD

In 1988, Jeanne Kearns, formerly Executive Director of WIN, established the Jo Eleanor Elliott Leadership Award. This award honors Jo Eleanor Elliott for outstanding leadership while serving as the Director of Nursing Programs at WICHE and the Executive Secretary of WCHEN from 1957-1980. The 2018 Award recipient was:

Martha Lentz, PhD, RN, Research Professor Emerita, School of Nursing, University of Washington, Seattle, WA.

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 2018 award recipient was:

Melody M. Hoffman, AAS Student, School of Nursing, University of Alaska Anchorage, Anchorage, AK.

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 2018 were:

Marie Lobo, PhD, RN, FAAN, Professor Emeritus, College of Nursing, University of New Mexico, Albuquerque, NM.

Paula A. McNeil, RN, MS, Executive Director, Western Institute of Nursing, Portland, OR.

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 2018 were:

Kim Jones, PhD, RN, FNP-BC, Professor, School of Nursing, Oregon Health & Science University, Portland, OR.

Pauline Komnenich, PhD, RN, Professor and Director of Nursing Education Programs, College of Nursing and Health Innovation, Arizona State University, Phoenix, AZ.

Kathryn A. Lee, PhD, RN, CBSM, Professor Emerita, School of Nursing, University of California, San Francisco, CA.

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FRIENDS OF WIN AWARD

In 2010, the Western Institute of Nursing Board of Governors established the Friends of WIN Award. The award is given for stellar individuals or organizations that have made outstanding contributions to the Western Institute of Nursing (WIN). The intent of this award is to recognize these individuals or organizations and to thank them for their contributions. The 2018 award recipient was:

Race Cowgill, Principal, Zenith Management Consulting, LLC, Albuquerque, NM.

**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 2017 award recipient was:

Deborah Kenny, PhD, RN, FAAN, Associate Professor, Helen & Arthur E. Johnson Beth-El College of Nursing and Health Sciences, University of Colorado, Colorado Springs, CO.

**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 2018 grant recipient was:

Teresa Serratt, PhD, Associate Professor, School of Nursing, Boise State University, Boise, ID.

**WESTERN INSTITUTE OF NURSING / COUNCIL FOR THE ADVANCEMENT
OF NURSING SCIENCE DOCTORAL DISSERTATION GRANT.**

The purpose of the WIN/CANS dissertation grant is to foster doctoral student dissertation research. Preference is given to biobehavioral studies in recognition of the additional expense of such studies. The first grant was awarded in 2018. The recipient was:

Dorothy E. Forde, PhD(c), RNC-NIC, CNS, Hahn School of Nursing & Health Science and Beyster Institute of Nursing Research, University of San Diego, San Diego, CA.

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