COMMUNICATING NURSING RESEARCH

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WESTERN INSTITUTE OF NURSING

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

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

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

COMMUNICATING NURSING RESEARCH
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Volume 2: Problem Identification and the Research Design
Volume 3: Methodological Issues in Research
Volume 4: Is the Gap Being Bridged?
Volume 5: The Many Sources of Nursing Knowledge
Volume 6: Collaboration and Competition in Nursing Research
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Volume 48: Equity and Access: Nursing Research, Practice, and Education
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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 abstracts of papers presented at the annual Communicating Nursing Research Conference.

PREFACE

The 54th Annual Communicating Nursing Research Conference, "Better Together: Integration of Nursing Research, Practice, and Education," was held virtually from April 14-16, 2021.

The keynote address was delivered by **Pamela F. Cipriano**, PhD, RN, NEA-BC, FAAN, Sadie Heath Cabaniss Professor and Dean, School of Nursing, University of Virginia, Charlottesville, VA. State of the Science presentations were delivered by: **Jean Giddens**, PhD, RN, FAAN, Dean and Professor, Doris B. Yingling Endowed Chair, School of Nursing, Virginia Commonwealth University, Richmond, VA; **Jack Needleman**, PhD, FAAN, Fred W. and Pamela K. Wasserman Professor and Chair of the Department of Health Policy and Management, Fielding School of Public Health, University of California, Los Angeles, CA; and **Beth Taylor**, DHA, RN, NEA-BC, Assistant Under Secretary for Health for Patient Care Services/Chief Nursing Officer, Veterans Health Administration, Washington, DC.

Two award papers were presented:
Distinguished Research Lectureship Award: Lorraine S. Evangelista, PhD, RN, FAHA, FAAN, Associate Dean for Research & Scholarship and Professor, Lena Finke Distinguished Chair for Nursing Arts, School of Nursing, University of Texas Medical Branch, Galveston, TX

Carol A. Lindeman Award for a New Researcher: Shumenghui Zhai, BSN, MPH, PhD Candidate, School of Nursing, University of Washington, Seattle, WA

The Proceedings include the abstracts of symposium, podium, and poster presentations. One hundred and eighteen papers were presented in podium sessions on a wide variety of topics. Thirty-two papers were presented in seven symposia, and eighty-six papers were organized in sixteen other podium sessions. Two hundred and sixty-eight posters were presented, representing projects and research, completed or in-progress. A total of one hundred and forty-five posters were submitted from member institutions for the Research & Information Exchange.

The conference was planned and organized by the WIN Program Committee, and we extend our gratitude to the Program Committee members: Judy Liesveld, Chair, NM; Linda Edelman, UT; Bronwyn Fields, CA; Leah Fitzgerald, CA; Cara Gallegos, ID; Seiko Izumi, OR; Hannah Jang, CA; Kathryn Lee, CA; Paula Meek, UT; Katreena Merrill, UT; Annette Nasr, CA; Austin Nation, CA; Ann Nielsen, OR; Kristine Qureshi, HI; Anjanette Raber, OR; and Krista Scorsone, CO.

We extend our gratitude to all those who submitted papers and participated in the 2021 conference.

Jane H. Lassetter, PhD, RN, FAAN
President, Western Institute of Nursing

Judy Liesveld, PhD, RN, PPCNP-BC, CNE
Chair, Program Committee, Western Institute of Nursing

CURRENT AND FUTURE TRENDS TO INFORM NURSING EDUCATION RESEARCH

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Introduction and Background

Contemporary academic nursing has been at the forefront of scientific inquiry and knowledge development within healthcare for the last several decades. Specifically, nursing research has evolved over the years with numerous examples of nurse-led studies leading to breakthroughs in clinical care and changes in clinical practice.

Research in the nursing discipline can be traced back to Nightingale's work in the 1850s. Her studies on environmental and patient factors such as sanitation, nutrition, and hydration led to improvements in hospital safety and mortality rates. She applied robust methodologies and pioneered the application of statistics to inform care practices; her work influenced the path for the expansion of nursing research 100 years later. During the first half of the 20th century, very little nursing research was conducted – in part because there were very few nurses prepared to conduct research during that time. The focus of inquiry was primarily in the areas of nursing administration, characteristics of nurses, care organization, and the education of nurses; in other words, the research emphasis centered around understanding nursing as a discipline. This important work was a reflection of the evolution of professional identity at that time and provided an impetus for differentiating nursing as a distinct and unique healthcare discipline. The emergence of nursing theory in the 1950s and 1960s contributed further to the development of nursing as a unique profession; these theories initially guided nursing education, and over time formed the foundation for knowledge development within nursing.

Research within the nursing discipline began to flourish with the passage of federal legislation to support the National Center for Nursing Research in 1985, which was later redesignated as the National Institute of Nursing Research (NINR). The emphasis of nursing research shifted toward clinical-based studies focused on the improvement of patient care and health outcomes. The availability of federal funding had a synergistic effect for nursing research in the decades that followed. The number of research-focused nursing doctoral programs nearly tripled between 1993 and 2017, leading to a sharp rise in the number of nurse scientists (Kiely, & Wysocki, 2020). Meanwhile, interest in nursing education research waned due to few funding opportunities, a lack of support for this work in many nursing schools, and the perception of nursing education as a less appealing area of inquiry.

The emergence of neuroscience and brain-based research at the turn of the 21st century fueled interest in educational research within many disciplines, which led to a greater understanding of how people learn. Although the emphasis of nursing research continues to be linked to clinical care outcomes, renewed interest in educational research and scholarship within nursing exists, as evidenced by an increase in nursing journals publishing studies involving nursing education, an increase in funding for projects involving educational training and outcomes, the creation of research priorities for nursing education research (National League for Nursing, n.d.) and the inclusion of exemplars for scholarship of teaching in the recent position paper published by the American Association of Colleges of Nursing (AACN), *Defining Scholarship for Academic Nursing* (AACN, 2018).

Many contemporary and future trends are currently affecting (or will affect) nursing education and health care thus, these represent important considerations for inquiry. Maybe it's about framing; ultimately nursing education research should generate and translate evidence leading to best practices in teaching and learning as a foundation to prepare the future workforce and improve practice. This paper presents some of the most important trends and offers general principles that are needed for robust scholarly inquiry within nursing education.

Trends in Nursing Education

Learners

Nursing students represent a diverse group of learners in terms of age, race, cultural background, gender and gender identity. As one example, the AACN reported that 35.3% of students enrolled in undergraduate programs in Fall 2019 were racially diverse (AACN, 2020a), up from 25.8% reported in Fall 2009 (AACN, 2010). Understanding variables and best practices associated with recruitment and retention strategies are needed. As another example, today there are four distinct generations of learners in our classrooms; each of these groups have unique characteristics that influence learning preferences and expectations regarding how they are taught (Panopto, 2018). Considerations of student attributes must be considered when designing studies involving students and student learning.

Nursing Faculty

An aging nursing faculty workforce has contributed to the ongoing shortage of faculty in nursing education. According to AACN data, the mean age of full-time nursing faculty is 51.9 with an estimated 20% of over the age of 60. These data suggest the continuation of a large number of retirements within the next few years (AACN, 2020b). The "aging out" of faculty has led to a growing number of younger faculty under age 45 which is driving a rapid increase in technologic expertise among faculty. A shift is also occurring in the academic preparation of full-time faculty. Over the last decade the percentage of faculty prepared with a Doctor of Nursing Practice degree has risen from 3.8% in 2010 to 22.7% in 2019 (AACN, 2020b). Additionally the majority of faculty entering academia or serving in adjunct teaching roles have limited experience in teaching and learning. The relatively significant changes in faculty demographics and academic preparation gives rise to many considerations for scholarly inquiry, including what changes have occurred in nursing education as a result in the shift in degree preparation? What are the best ways to scale up expertise in teaching and learning? What are the best ways to prepare nurse clinicians to teach?

Enrollment Trends

Another important trend within nursing education is student enrollment, as this reflects future nursing workforce preparation. Over the past several years, growth in prelicensure baccalaureate nursing has outpaced the growth in associate degree program enrollment; in fact in 2019 the number graduates from baccalaureate and associate degree nursing programs taking the NCLEX-RN for the first time was nearly the same (National Council of State Boards of Nursing, 2019). Other significant growth trends include enrollment in DNP programs and nurse practitioner programs, and enrollment drops in RN to baccalaureate and PhD nursing programs (AACN, 2020). The changing student demographics represent opportunities for inquiry. How are these trends meeting and or changing nursing workforce needs? How are enrollment trends driving changes to healthcare delivery?

Competency-based education

The emergence of the competency-based education in higher education has been in response to the growing criticisms of education and training (Nodine, 2016, Task Force on AACN's Vision for Nursing Education, 2019). This movement has occurred in many disciplines, including the health professions (Englander, Cameron, Ballard, Dodge, Bull, & Aschenbrener, 2013). Medicine, dentistry, and physical therapy have already developed national competencies for entry into the discipline, and AACN is currently shifting to a competency-based approach as the foundation for the *Essentials* document. This is an area well-positioned for future inquiry in a number of areas including faculty development, curriculum evaluation, competency measurement and evaluation, fiscal impact, readiness for practice, and patient care outcomes.

Micro-credentials

A growing trend in higher education is the development of micro-credentials or badges as a representation of an accomplishment, skill, or achievement. Micro-credentials are used within many industries as a mechanism to provide recognition of incremental learning for career development, and in many cases are valued in favor of an academic degree or academic certificate. This trend will likely gain momentum in the health care disciplines, representing an opportunity for inquiry. How will micro-credentials be used in nursing? How might these influence qualifications for certain areas of practice? Will such changes affect health care delivery and patient outcomes? How do micro-credentials interface with competency-based education?

Changes in teaching and learning

There is a growing recognition of the benefit of team-based approaches to course development and delivery. Within a course development team the nursing faculty member is recognized as the content/clinical expert, the instructional designer provides course development/design expertise, and a course builder co-designs engaging learning activities. Brain-based research has led to a greater understanding of how the people learn, thus cutting edge course design and instruction capitalizes on these concepts to support active learning and personalized-paced learning. In addition, learning technologies are transforming the education experience across higher education. Technologies have generated an endless array of new possibilities for online learning, collaborative assignments, virtual simulation, clinical decision making, and student focused experiential learning within the classroom. Augmented reality and adaptive learning (which incorporate artificial intelligence) are fundamentally changing learning experiences. Increasingly, faculty will need to adapt their current approaches to teaching and learning with the incorporation of evolving learning technologies.

HealthCare and Workforce Trends

Workforce Trends

Maintaining an awareness of trends in the nursing workforce represents another important opportunity for inquiry. The nursing workforce is estimated to be 3.27 million full-time equivalents (FTEs), with a projected need for 3.9 million FTEs by 2030. The average age of a registered nurse is 50; 91% of the workforce are women; 73% are white (U.S. Department of Health and Human Services, 2018). The nursing workforce is gradually becoming more diverse however, with a workforce of over 3 million it takes decades for diversity efforts to become visible within aggregate workforce demographics. An estimated 83% of nurses who graduated and entered the nursing workforce between 1978 and 1987 were white. Comparatively, 68.8% of nurses who graduated and entered the workforce in 2013 and after were white (U.S. Department of Health and Human Services, 2018). Thus, workforce diversity will become more evident in the years to come with the retirement of the oldest segment of the nursing workforce.

Baccalaureate-prepared nurses make up nearly half of the nursing workforce. How are efforts in nursing education driving these changes and what additional changes need to occur? Another important workforce trend is the rapid growth in the nurse practitioner (NP) workforce. In just eight years there was a 109% growth in the NP workforce (from 91,000 FTE in 2010 to 190,000 FTE in 2017) which has negatively affected the size of the RN workforce (Auerbach, Buerhaus, & Staiger, 2020). Furthermore, the National Center for Health Workforce Analysis projects an excess of primary care NPs by 2025 (representing a 62% excess over demand), a trend that deserves attention (U.S. Department of Health and Human Services, 2016). What are the potential consequences for this growth? How do nursing programs balance consumer demand (as evidenced by strong enrollment) and workforce projections? What are the future economic impacts and potential policy impacts based on these future projections?

Health Care Trends

Rapid changes in healthcare delivery requires a nimble workforce and assurances that students in nursing education programs are being prepared for contemporary practice. According to Lipstein and colleagues, the current health care system is not well organized to serve populations in need of healthcare. They propose a paradigm shift whereby healthcare is organized around the health care needs within four broad segments of healthcare recipients based on need: disease prevention and wellness, chronic disease management, regenerative restorative care, hospice and palliative care (Lipstein, et al., 2016). Over time, this paradigm change will result in fewer, larger healthcare systems. Regional acute care facilities will specialize in care of the critically ill or injured while primary care will continue to shift to community-based options including traditional clinics, care in retail space, home-based care, and telehealth.

Nursing education curricula will need a greater emphasis on strategies to support patient-centered care, precision health, quality, safety, care coordination, systems-based approaches, population health, and team-based care to name a few. Students will also need to be prepared for a future with a continued and rapid evolution of healthcare technologies and informatics – which will fundamentally change the healthcare experience of the future. Examples include the expansion of wearable technologies, smart devices, artificial intelligence for clinical decision making, health care robots, and continually evolving use of smart devices to name a few. How is nursing education responding to these changes? How informed are faculty regarding these changes? How do we ensure our students are well prepared not only to enter practice, but to evolve with that practice?

COVID-19 Pandemic

One of the most universally disruptive events of our lifetime has been the COVID-19 pandemic, which has up-ended nearly every aspect of our lives across the globe. If there was one thing higher education and healthcare has learned as a result of the COVID-19 pandemic, was that change can be accomplished quickly. Nurse educators responded with creativity to conduct "virtual" clinical experiences. In many cases, the number of direct patient care hours gave way to other ways to demonstrate competence. Entire cohorts of nursing students entered into nursing school during the pandemic and their education was delivered in remote learning options. The COVID-19 experience will, no doubt, have lasting effects on healthcare delivery and higher education and it has already called into question the legitimacy of many long-standing policies and long-held beliefs. With such rapid and unplanned changes, what have been the short-term and long-term outcomes resulting from the disrupted educational process?

Suggestions to Enhance the Quality of Nursing Education Research

With the multitude of changes and trends in nursing education, it should be clear that the time is ripe for meaningful and robust inquiry. Although funding is limited for nursing education research, support for educational research is evident. However, there are relatively few nursing faculty with strong research skills who conduct research in the education arena. As a result, many nursing education research studies are weak in design and sometimes poor in quality. Academic nursing must get serious about the quality of nursing education research. This is done by asking compelling questions that matter and designing studies with robust, rigorous methods that ultimately link to improvements in clinical practice.

Quality studies start with an important and relevant research question. There are too many “so what” studies that investigate a faculty/student perception, preference, or attitude. A strong literature search is necessary to uncover what is known about the concept over time and across disciplines. Too many studies lack strong design and methodology, using single group and pre-post designs, that can’t establish causation. Intervention studies should have sound methodological process – through the use of control groups, multiple sites managing confounding variables, and introducing the concept of a “dose” to the intervention (who, dose, time, conditions). Outcome measurement must be more robust as well. An outcome implies a cause-and-effect measurement, so well-developed and tested instruments are needed. The design should also include a strong plan for data analysis which incorporate effect sizes and to measure of the relationship of variables and generalizability of findings.

Perhaps best advice for nursing faculty who wish to conduct nursing education research is to form and work within research teams. Research is not a solo sport; a strong team comprised of those who have strong research and evaluation expertise will lead to the development of stronger design and efficacy as the study is conducted. Additionally, faculty development and reward mechanisms should be offered and encouraged for faculty who wish to establish a program of research in nursing education. There will always be a place for nursing education research; our discipline would be wise to embrace this.

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TWO DECADES OF GROWTH AND TRANSFORMATION AS A NURSE RESEARCHER: MAKING A DIFFERENCE IN NURSING AND HEALTHCARE

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Thank you very much to the Western Institute of Nursing Board of Governors and Program Committee for this honor and recognition. I am immensely proud to be a recipient of the 2020 Distinguished Research Lectureship Award especially given the caliber of my fellow recipients of past and present. I would like to thank several individuals who are either in the audience or who are with us in spirit. First and foremost, I would like to offer a tribute to one of our former leaders, Dr. Marie Cowan, whose enduring legacy of scientific excellence and mentorship has supported many novice researchers like myself to become successful nurse scientists. Marie taught me how to find my way in the jungle they call academia and the importance of perseverance. I would like to thank my mentors who cheered me on, held my hand, and always encouraged me to be the best I could be, including Dr. Adey Nyamathi, my former dean at the University of California Irvine Sue & Bill Gross School of Nursing and my current dean at the University of Texas Medical Branch School of Nursing, Dr. Deborah Jones. To my colleagues and all the nurses here today, the nursing profession earns the respect that it does because of your hard work, and we should be proud. I understand that perfection is not within our reach, but I also know that to act in this world on behalf of compassion, love, tenderness, and dignity is why we are here. We are placed here to pursue excellence in those acts and those moments. However, there is more to high-quality care than knowing diseases; nurses also act as patient advocates. They can help patients make informed decisions regarding their health, including helping them navigate a complex medical system, translating medical terms, and helping patients make ethical decisions.

It took me days to ponder and reflect on what I wanted to communicate with everyone today. For over two weeks, my mind was filled with ideas and stories to share, with the end goal of keeping you captivated and inspired by my journey. I wanted everyone to understand that there will be challenges as we all strive to carry on with our quest for knowledge to help provide safer and better care for the individuals, families, and communities that we serve, but there will also be rewards and accolades for us to reap along the way. In 2019, I was very enthused with Dr. Meek's Distinguished Research Lecture, where she integrated the use of fables or simple, traditional tales with a moral or lesson to highlight her key points. I would like to follow her lead by sharing some lessons I learned from non-fictional books. This lecture will have actual stories about my journey interspersed with pearls of wisdom that helped me succeed.

"Who we are cannot be separated from where we are from" – Malcolm Gladwell

This famous quote supports the argument that we cannot separate ourselves from our life experiences. Humans learn from education, family, community, and interpreted stories that we claim for ourselves, what we believe to be true, or knowing what is true. Once you have learned a method of interacting with others, it is very difficult to change the way you interact...difficult, but not impossible. However, what you learn from birth is your background, and because of that background, you will perceive the world from that experience.

I was born as the second daughter of a physician and a laboratory technician. My family migrated to the United States when I was four years old. We ended up living on-site at the Cambridge Behavioral Hospital, where my father did his residency. Since we did not have the financial resources to attend pre-school, I often had to tag along with either my father when he did his rounds or with my mother while she spent long hours in the lab; I preferred the former. I was pleased to hear the nurses say that I made many of the patients happy, and I gloated with the thought that I made a difference in their day by singing and dancing. At a very young age, I learned three things from this experience. First, I realized that I wanted to be a nurse when I grew up. Second, I preferred applied science over basic science – human interaction and relationships were key to influencing others. Finally, I learned that happiness and contentment were associated with better outcomes, which urged me to make it my goal to make others happy.

Unfortunately, two major hurdles almost made it impossible to achieve my dreams. Before I finished grade school, my parents were divorced, and my sister and I went back home to the Philippines with our mother, where she could raise us with her family's support. Although I worked hard to excel in high school, I hesitated to enroll in a nursing program after graduation because of a big scandal in Ann Arbor, Michigan, where two Filipino nurses were found guilty of administering paralyzing drug injections to poison and kill five patients. The Filipino nurses' prosecution for the murders became a focal point for many protest groups, and Filipinos, who united in their condemnation of the handling of the case, expressed support for the two nurses. It became an atrocity to become a nurse, which led to significant drops in enrollment rates in nursing programs across the country even after the guilty verdicts were set aside due to claims that the case was marred with racism. I was faced with the dilemma of wanting to be a nurse and considered how this would affect my financial viability after graduation. However, I readily accepted my fate on the premise that there is a reason to pursue something despite the odds where there are passion and a sense of purpose.

My Humble Beginnings

After graduating from the University of the Philippines College of Nursing, my family migrated back to the U.S., and I started to carry out my lifelong dream. However, there was very little time for any research activities because most of my time was spent mastering nursing skills and competencies. After a few years at the bedside, I finally got involved in quality improvement, a continuous process involving all organization levels working together across departmental lines to produce better services for healthcare clients. I collected data on rotating IV sites, changing IV dressings, documenting the need for physical restraints, and timely removal of foley catheters and central lines to prevent urinary tract and bloodstream infections. I knew how to prepare our monthly reports, yet I seemed, at that time, to be missing the purpose of the entire process, which was to find common barriers to achieving good clinical practice and identify solutions to address them using evidence-based practice. Based on this premise, the staff nurse--who is at the heart of the system--is the best person to assess healthcare services' status and work toward improving the processes by which these services are provided to clients in the healthcare setting. The nurse manager must structure the work setting to facilitate the staff nurse's ability to undertake constructive action for improving care. Quality improvement is a quality management process that encourages all healthcare team members to ask the questions, "How are we doing?" and "Can we do it better?" The use of quality circles, quality councils, or quality improvement forums to facilitate quality improvement efforts is an effective way to achieve success. The nurse executive provides the vision and secures the necessary resources to ensure that its quality improvement efforts are successful. By inspiring and empowering the nursing staff to improve the process by which healthcare is provided, nurse managers participate in reshaping the healthcare environment.

Taking on the Role of a Mentor

By 1992, our critical care unit participated in the American Association of Critical Nurses' Thunder Project to evaluate the effects of heparinized and nonheparinized flush solutions on the patency of arterial pressure monitoring lines. I was in the Clinical Nurse Specialist Program at the time and had just taken an advanced graduate-level course in research, so I volunteered to take the lead in coordinating the study at our hospital. It was my first time engaging in research utilization (i.e., the process of synthesizing, disseminating, and using research-generated knowledge to impact or change the existing nursing practice). However, it eventually was the force for becoming actively engaged in other research utilization projects, and later, evidence-based practice. Compared to research utilization, evidence-based practice goes beyond research use and includes clinical expertise as well as patient preferences and values. I also chaired the Nursing Research Council of the organization, where I played an instrumental role in supporting innovation to find and translate the best evidence into clinical practice. I also started to build my collaborative skills by participating in hospital networks to promote evidence-based practice.

I have been a unique and important role model to novice and seasoned nurses and serve as a living example of dedication and commitment to true patient advocacy, delivering personalized care to all patients and in all circumstances, and enabling others to do the same. I have served as a research consultant to several local hospitals in California and the Philippines to support evidence-based practice and research. I help facilitate the organizations' magnet programs by promoting clinical inquiry among nurses and utilizing the best evidence to make nursing care more efficient while also maintaining and improving patient care. I help nurses to develop a working knowledge of evidence-based practice and research as it pertains to effectively managing a change in practice to promote positive patient outcomes and guide them through formulating clinical questions, to appraising available evidence, to adopting a clinical practice guideline or innovation, and to the evaluation of empirical outcomes.

My favorite story that I loved to share with nurses who asked me why evidence-based practice was so important was "*Who Moved My Cheese,*" which tells a parable about four characters who live in a maze, and they all love cheese. When the cheese disappears, Scurry and Sniff enthusiastically head out into the maze to find new cheese. On the other hand, Hem and Hall feel betrayed and complain. They waste their time and energy, hoping the old cheese will return. Hall realizes the old cheese will not return, so he sets out into the maze searching for new cheese. He writes what he learns on the walls hoping that Hem will follow him. Eventually, he discovers new cheese and sees that Scurry and Sniff were already there. Cheese is a metaphor for what you want to have in life. It could be a good job, loving relationship, money, or health. The same core message of the book is this: things constantly change, so we must adapt. The quicker we adapt to change, the more satisfied we will be with it. So why is it important to transform nursing practice to improve care? With changes in healthcare delivery, technological advances, and increased patient expectations, nurses' role as healthcare professionals is growing and evolving. This trend requires nurses to have the latest information at their disposal to assess and treat their patients effectively.

Research Endeavors as an Advanced Practice Nurse

As soon as I graduated from the master's program at UCLA, my research passion led me to take a position as a clinical research coordinator for a group of nine cardiologists in downtown Los Angeles who were pioneers in their field. Clinical research is vital for finding new treatments and improving patient care. Research nurses are at the forefront of this process. In this new role, I developed a thorough understanding of the research process and terminology and good clinical practice guidelines, and human subject's protection, including the need to obtain Institutional Review Board approval to carry out each clinical trial. I was responsible for recruiting and coordinating all activities outlined in the study protocol, as appropriate, and served as the project's principal administrative liaison. I also oversaw and coordinated the provision of administrative and staff services to support the investigators. I understood that I had to play a key role as a patient advocate, ensuring patients' safety and protection and that patients were well supported throughout the research study.

Nurses at the National Institutes of Health Clinical Center represent the largest critical mass of nurses engaged in research support and coordination. In 2007, nurses at the Clinical Center embarked on a project to systematically document and described nurses' clinical research roles. An expert committee of clinical research nurses identified and validated five dimensions that constitute the domain of clinical research nursing practice: (a) clinical practice, (b) care coordination and continuity, (c) study management, (d) human subject protection, and (e) contributing to the science.

Obtaining My Doctoral Degree – the Learning Process Never Ends

With the experience, knowledge, and skillset I obtained from my role as a clinical research coordinator, I finally decided to take another very important step in my education by enrolling in the UCLA doctoral program. I was very lucky to meet great mentors who provided me with support and guidance to succeed in my dissertation. My dissertation, which I completed in two and a half years, ended up being a compilation of five published papers, following the European model of being granted a Ph.D. in nursing. It focused on attaining a better understanding of adherence behaviors, symptom clusters and co-morbidities, and psychological well-being (e.g., health-related quality of life, depression, anxiety) of adults suffering from chronic heart failure. This population represents the highest number of hospital admissions among Medicare beneficiaries. Thus, the economic consequences of my research findings are highly significant. Moreover, our findings have been on the cutting edge of cardiovascular science. First, I was the first to document the time that elapsed from the onset of heart failure symptoms and presentation to the emergency room in a large cohort of patients. This information changed how we taught patients to manage their symptoms and has decreased the incidence of hospital readmission. My work is now frequently cited by experts in the field. Next, our unique findings of the differences among and between various under-represented minorities have shed important light on their problems with adherence and emotional responses to heart failure. We also investigated other timely issues, such as behavioral predictors of readmission in heart failure patients, gender differences in health perceptions among heart failure patients, and the relationship of psychosocial variables to adherence behaviors in this vulnerable population. I was among the first researchers to extend knowledge of adherence in heart failure patients to include risk factors in vulnerable groups, such as racial minorities, women, and the elderly.

In addition to studying biobehavioral issues among patients with heart failure, we were also intrigued by patient adherence issues following heart transplantation. This phenomenon has remained elusive because of difficulties in measurement. Self-report is inadequate and has been demonstrated in many studies to underrepresent the degree of nonadherence. The number of changes required of patients both before and following a heart transplant is many. Adherence measures must be able to quantify the many changes accurately. The areas measured span medications (on average >20 doses per day), exercise, diet, alcohol use, tobacco, and medical appointments.

Dissemination of a student's dissertation findings is always a goal of doctoral (Ph.D.) students and their faculty committees. In most cases, the dissertation culminated in an average of four years engaging in an in-depth study of an important research problem. Graduates who choose the traditional dissertation format must then decide how they will distill the findings from the dissertation into publishable papers, which is always a challenge. An alternative format for reporting dissertation findings, most commonly called the "manuscript option dissertation," or the "three manuscript option," has both advantages and disadvantages for the Ph.D. student/candidate/graduate. The manuscript option format for a dissertation is not new. Other disciplines, such as geography, sociology, and some sciences, have been using the format for many years. The primary rationale for many schools of nursing who have chosen to use the manuscript option was the recognition that publishing scholarly papers is a lifelong skill for doctorally prepared nurses who assume academic positions and those who work in magnet designated health systems. Graduates who publish while in their Ph.D. program and have manuscripts either "ready to go" or under review are more competitive for assistant professorships or post-doctoral fellowships. In other words, they are ready to hit the ground running.

At this point, I want us all to reflect on Malcolm Gladwell's number one bestseller in the New York Times, "*Outliers: The Story of Success."* The author examines the factors that contribute to success because it was at this time in my career that I felt less stressed about excelling in my research and being recognized in my field. Gladwell defined outliers as exceptional people that do not fit into our normal understanding of achievement. These are smart, rich, and successful people who operate beyond the statistical norm. Throughout Outliers, the main theme is the "10,000-hour rule," which says that you need 10,000 hours of study (which equates to roughly five years if you spend 40 hours per work on just the one skill you seek to master). However, Gladwell later debunks his theory by saying that "the outlier, in the end, is not an outlier at all." To be successful, one must have had others to help guide them, an opportunity to succeed, and the willingness to practice. Moreover, for most areas in our lives, a baseline level of skill is enough. However, if we want to excel truly, we must push past this complacency and out of our comfort zone. People who continually improve never slump into autopilot. Instead, they keep taking apart the pieces of their skill and putting them back together to create something *better*. Rather than treading water, they take their practice to the edge of their ability and then step (or leap) beyond it.

Deliberate practice makes perfect. So, deliberate practice is not just about continued repetition. It is structured. It is thoughtful. It is strategic. You are not just mindlessly practicing. You are intensely engaged. You are teetering on the edge of what you are and can do. *It should not feel comfortable.* Like a rubber band, you are constantly stretching yourself to your outer limits. There needs to be constant pressure and drive for change. And if you are not moving forward with one technique, you go back to the drawing board. In other words, if you achieved something yesterday, you must do more than achieve it again today. There is no standstill. Still, to push through these feelings, day in, day out, you will need to build smart systems to support you. 1) Set small goals. You need to keep your eyes firmly on the prize to keep up the momentum. This means distilling your general, long-term goal – improvement - into a series of concrete building blocks. Identify the main areas for change. Write them down. Make a checklist. Rooting goals in specificity will encourage action. Once you have a clear system in place, everything else will slot into place. 2) Be consistent. Prolonged, sustained effort is often uncomfortable or frustrating. And that is the whole point. Deliberate practice is not necessarily enjoyable: you will need to sacrifice short-term pleasure for long-term success. 3) Track and measure. To progress in any area, you need to pinpoint your strengths and weaknesses to identify problems and solutions. It is also crucial to seek out regular feedback: from existing experts and peers as well as through self-assessment. An honest perspective is essential for gaining a realistic view of your progress. Write it down. Record it. Measure it. Repeat. 4) Recharge. Deliberate practice requires your full, undivided, 100% attention. That is why it can only be sustained for short periods. Extreme focus is a tough mental workout, and you will only feel its benefits if you give yourself time to recover. Counteract the intensity of deliberate practice by doing nothing at all. Your body and your brain will thank you.

On the Path to Becoming an Independent Researcher – Peaks and Valleys

Caring for the population who are most likely to return to the hospital and emergency rooms numerous times each year is a critical area of focus. After completing my doctorate, I immediately shifted my research focus to designing and testing age- and culturally appropriate innovations to promote self-care (e.g., educational and motivational interventions) and refine existing tools to validate self-care behaviors. This makes my work of maximum scientific impact as I am focused on empowering patients with heart failure to take control of their health by engaging in health-promoting behaviors despite adverse living conditions. Over the years, whether focused on the dyads in terms of designing and evaluating web-based education and counseling programs, promoting a home-based exercise program, or assessing the role of a high protein diet in delaying the progression of heart failure, findings from my research, have demonstrated significantly lower readmission rates for patients who follow the exercise regimen or in the case of a high protein diet, a significant decrease in A1C levels, cholesterol, triglycerides, and systolic and diastolic blood pressure, compared with the standard protein diet. This work represents distinguished on many levels.

My work on nutrition will provide evidence for rational recommendations for nutritional management that can be integrated into heart failure management and treatment guidelines to refine existing interventions or develop new multidisciplinary approaches for promoting better health in this patient population. I have been invited by the American Heart Association Nutrition, Physical Activity, and Metabolism Council to develop the guidelines for nutritional recommendations for patients with cardiovascular disease. My work with wireless health is one of the first experimental studies to evaluate a remote monitoring intervention that combines several biometric monitoring devices and provides real-time preemptive data in elderly patients with chronic heart failure. The proposed study may lower the cost of care for heart failure by potentially decreasing readmissions in elderly patients and ethnic minorities. Thus, reports of our preliminary work have attracted several investigators from different disciplines (i.e., medicine, engineering, computer science, nursing) who have invited me to collaborate with them on similar projects that aim to increase wireless health in the nation. As a researcher, I have reviewed grants for the American Heart Association and the National Institute of Health. I believe that science should be supported because it will be the basis of quality and safe patient care.

Peaks and Valleys Along the Journey

Thus far, the journey has not been an easy one, and I have learned to appreciate the peaks and valleys along the way. *"Peaks and Valleys*" is a compelling story that shows a philosophy on dealing with ups and downs in life. The story starts with a young man who lived in a valley. The man was dissatisfied with everything in life, feeling as if his job and personal life were never secure. On several occasions, he would look up and see the tall, magnificent peaks above him. One day, the man began to set out for one of the peaks. At the top, he meets an older man who lived on the mountain. The older man asked him why he looked so dissatisfied, so the young man told him about himself. The older man asked him if he wanted to learn a philosophy that could make him better in his life and at work. The older man began by telling him what peaks and valleys were. Peaks are moments when you appreciate what you have; valleys are moments when you long for what is missing. The older man said that it is natural for everyone to have peaks and valleys to have a healthy life. The older man continued by saying that to obtain more peaks, he must manage his valleys well. The wise things you do in bad times shape good times; the errors you do in good times shape bad times. The older man now said that there are two ways to change a valley into a peak – change the situation itself or change how you feel about the situation and react to it. He also said that to find a way out of a valley, you must choose to see things differently, learn from the situation, and use that knowledge to make the situation better.

Extending My Work to Low-Income Countries

In 2017, I completed a Fulbright Award in the Philippines to conduct an exploratory study entitled, "Building Infra-structures for Health Education and Learning Programs to Promote Healthy FILIPINO Societies (I-HELP-FILIPINOS)." The study was based on a U.S. Department of Health and Human Services report describing efforts to build partnerships within Filipino communities and focus local community action on creating heart disease prevention activities in San Francisco. Results from this study indicate that Filipinos in the U.S. were concerned about their overall health. There was highly consistent and convergent evidence that this population was at high risk of developing cardiovascular disease. Filipinos, particularly new immigrants, were susceptible to stress from work and family issues. Some of their coping strategies included unhealthy eating and smoking. Outreach and education interventions for this population must address dietary habits, blood pressure and blood cholesterol control, tobacco use, physical activity, stress, and socioeconomic concerns. I took the opportunity to explore whether these findings were consistent in Filipinos in low-income communities in the Philippines.

The methodological approach, including the interview and survey guides developed for the original study, was replicated as part of the proposed research award. The study's overall goal was to examine perceptions and knowledge of heart disease and motivation to make lifestyle changes in Filipino communities in the Philippines. The proposed mixed-method project aims were to a) characterize determinants, coping, stress, quality of life, self-care behaviors, and cardiovascular risk factors; b) describe relationships between determinants, coping, stress, quality of life, self-care behaviors, and cardiovascular risk factors; and c) explore perceptions of facilitators and barriers to the use of healthy lifestyle behaviors and cardiovascular risk prevention. During the span of this Fulbright award (January 14, 2017 – June 14, 2017), our research team collected data from 1203 Filipinos primarily living in low-income communities from the National Capital Region, Cordillera Administrative Region, I locos Region (Region 1), Central Luzon (Region 3), Western Visayas (Region 6) and Central Visayas (Region 7) to explore whether findings among Filipinos in the U.S. were consistent in Filipinos in low-income communities in the Philippines. The proposed study was relevant because very few studies have examined Filipinos' health status and their perceptions related to illness and actual healthcare practices.

There is still a vast amount of data from the database that was collected during the Fulbright award. This data has been made available to all graduate students from the University of the Philippines College of Nursing to allow them the opportunity to analyze and publish new and noteworthy findings from the database that will further our understanding of health status and health practices among Filipinos. Our first two papers that were published to date support the fact that Filipinos were concerned about their overall health. There was highly consistent and convergent evidence that, like their counterparts in the U.S., Filipinos living in the Philippines were at high risk of developing cardiovascular disease. Moreover, the need for environmental health education related to air, water, and waste management; water quality and availability; toilet sanitation; and disease prevention is warranted. Outreach and education interventions for this population must address dietary habits, blood pressure and blood cholesterol control, tobacco use, physical activity, stress, and socioeconomic concerns.

Additional work is needed to better understand the health status and health practices in Filipinos in the Philippines. Consonant with the goal of *Healthy People 2020* to eliminate health disparities, results from the proposed study will inform the development of culturally tailored programs, outreach, and health education to improve health status and health promotion behaviors in Filipinos, which could lead to decreased cardiovascular mortality and morbidity in this ethnic/cultural group. Results from this study could be useful for nurses, healthcare providers, educators, and policymakers as they work to construct programs and policies for healthcare access and health promotion programs that target low-income Filipino communities.

Future Research Interests

The Precision Medicine Initiative was announced by President Obama in 2015 to enroll one million participants in a longitudinal cohort study, named the All of Us Research Program, to examine the effects of genetics, environment, and behavior on health. This program's key goal is to personalize medicine to individuals based on their unique genetic makeup, lifestyle, and environments, with an emphasis on recruiting a diverse cohort to examine health disparities within a representative population in the U.S. This precision medicine approach goes beyond traditional genetics to include -omics, defined as fields of study ending in -ome/-omics: genomics, epigenomics, proteomics, metabolomics, etc. Genetics study single genes, variation, and heredity, and genomics is the study of interrelationships of all genes. Further, epigenomics study how the environment affects gene expression, and other fields such as proteomics and metabolomics examine how proteins and metabolites affect gene expression.

I have had the honor to serve as a nurse research consultant for the All of Us Research Program at the Scripps Research Translational Institute in 2019. The nursing perspective is integral to precision health, as it is informed by experiences working with patients in the clinic and includes the fundamental nursing approach of the holistic view of the patient and community. This understanding incorporates the interaction of genetic-genomic and psychosocial mechanisms that contribute to disease development and prevent optimal health achievement. At this interface, nurses and nurse scientists can be instrumental in advancing science and promoting responsible bioethical approaches to genetics research carried out with minority populations. All too frequently, researchers in -omics fields self-restrict to their silos of expertise. This compartmentalization of knowledge limits understanding of -omics-based research and contributions to the study of health disparities, including bioethics, sociocultural, psychological, and environmental risk factors. All of these areas listed above, and more are considered in nursing science. The intramural program at the National Institute of Nursing Research (NINR) uses a disease agnostic approach to conduct behavioral and omics studies to elucidate mechanistic pathways and identify biomarkers associated with symptoms to design interventions that will manage, treat, and improve symptoms.

Since joining the University of Texas Medical Branch last summer, I have had the opportunity to build relationships with investigators in the Department of Population Health and Pharmacology and Toxicology. We recently submitted a grant entitled "*Unraveling the Role of Host Microbiome Interaction and Genetic Predisposition in Heart Failure and Noncardiac Comorbidities"* to the National Institute of Heart, Lung, and Blood Institute. The specific aims of this exploratory, descriptive study with a longitudinal and repeated measures design are to 1) assess the dynamics of the host microbiome, including pathogenic species and microbial biomarkers linked to heart failure at baseline, six months, and 12 months. This aim will focus on: a) the investigation of oral and gut bacteria compositions to monitor changes due to diet and physical activity; b) the association of the changes in microbiome with patients' electronic health record data and lab results; and c) the development of a test panel for oral and gut biomarkers associated with the risk of heart failure; 2) assess the association between genetic predisposition, medical history, diet and physical activity, metabolic and inflammatory biomarkers, and heart failure diagnosis and prognostic outcomes. Risk assessment based on a person's genotype obtained by non-invasive saliva collection has become widespread in clinical and research settings. These tests rely on a limited, curated set of known pathogenic biomarkers. This aim will focus on a) patient recruitment and screening for genetic heart failure predisposition; b) association of the complete set of genetic variants to patients' electronic medical record; and c) assessment of the effects of diet and physical activity on metabolic and inflammatory pathogenic biomarkers; and 3) evaluate the relationships between the oral and gut microbiome, and host biomarkers of hormonal, metabolic, and immunological derangements with heart failure and implications for disease management and progression. We will develop a multi-omics approach to assess genetic predisposition associations, electronic health record data, and microbiome dynamics. By improving our understanding of these biological processes, we ultimately hope to identify pathways for innovative interventions that can be used to improve prognostic, diagnostic, and treatment purposes in this population. Our findings will also pave the way to utilize a combination of the individual's genotype, host microbiota, and microbial biomarkers as part of a clinical decision support system to promote guideline-based management for heart failure.

A major challenge for the future is how to use emerging information from multiple levels - from reductionist molecular markers (genomics, omics, etc.) to holistic macro-level risk factors (behavior, environment, policies) - to develop a better understanding of determinants of health. Precision public health relies on evidence that links population data to measurable outcomes in subpopulations, stratified by persons, place, and time, capitalizing on emerging data and new technologies. Even with millions of points of biological data collected from individuals, it may well be that population-level interventions affecting housing, nutrition, poverty, access to resources, and education may have more benefits on health than individualized interventions. It is more likely that a combination of approaches - ranging from population-wide interventions to specific interventions tailored to higher-risk groups - will be needed to improve population health and narrow health disparities efficiently.

Summary of My Experiences and Final Pearls of Wisdom

Nurse researchers pursue research that spans molecular biology, physiology, medical imaging, and public health and policy. Nurses who want to engage in research will need to identify a relevant Ph.D. program and determine how best to balance nursing practice with their studies. Postdoctoral-research experience is not required for many nurse-researcher careers, but it is necessary for nurse researchers who want to run their research groups at research-intensive universities. Some nurse researchers find it difficult to continue seeing patients in the clinic, whereas others manage to make it work synergistically. Rapid translation and adoption of nursing-research findings can quickly change bedside practice and bring nurse researchers immense gratification. With various career options from which to choose, the common thread that bonds nurse researchers focus on studies that improve patient care and, ultimately, quality of life.

Grady says that the NINR's vision for nursing science is to generate a knowledge base that will improve clinical patient care and shape U.S. healthcare policy. Although many nursing interventions might seem obvious in hindsight, these care procedures must still be tested under rigorous conditions to prove that they lead to better patient outcomes than current care standards. In some ways, nursing science is playing catch-up as researchers race to fill in holes left in the scientific literature - for instance, how transport by helicopter might alter a trauma patient's physiology. The field is also poised to determine how nursing care might be delivered to patients now - and in the future - through smartphones and other forms of digital technology.

For me, there have been many personal and professional benefits of being a nurse researcher. It has allowed me to develop my research and focus on what I believe is important. Most of us work specifically in one topic area – mine is chronic disease management in community settings. Professionally, the researcher's role can be varied from day-to-day with some days full of meetings and other days spent analyzing data on the computer. The most rewarding part for me is disseminating the research findings by writing up the results and having a paper accepted for publication. Once the study has been completed and analyzed, it can be very satisfying to be invited to speak at a conference and be asked questions about the findings. Sometimes, a chance encounter with someone at one of these conferences can lead to meeting someone with similar interests and the opportunity to work collaboratively on a research project. Often issues that we witness with patients, such as medication nonadherence, is a problem experienced by others, and working together allows discussion of the issues and trying to work together to come up with a solution.

In summary, I would like to share a part of a commencement speech given by Bryan Dyson, then the President and CEO of Coca-Cola Enterprises at Georgia Tech. In it, he discussed the difference between glass and rubber balls. His insight is as valuable today as it was then.

"Imagine life as a game in which you are juggling some five balls in the air. You name them - work, family, health, friends, and spirit - and you are keeping all of these in the air. You will soon understand that work is a rubber ball. If you drop it, it will bounce back. However, the other four balls - family, health, friends, and spirit - are made of glass. If you drop one of these,

they will be irrevocably scuffed, marked, nicked, damaged, or even shattered. They will never be the same. You must understand that and strive for balance in your life."

We spend a great deal of our time involved in working in our lives. It is not something we should drop easily, and given the change and uncertainty in the world today, it does not always bounce back. We are well-served to look at work and the other aspects of our life as something important and worthy of protecting. I love Dyson's message because it lays out those important attributes in our life: family, spirit, health, friends, and work. Treat all of them with the care and respect they deserve. Treat them like delicate glass balls and focus on achieving a state of mind and activity where they all feel right and proper. You can call it a balance if you will but strive to get there.

ASIAN OLDER ADULTS PERCEPTIONS AND KNOWLEDGE ABOUT BRAIN HEALTH

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Introduction

The rising number of older adults with dementia due to global aging is a looming public health crisis. In the United States, Alzheimer's is estimated to affect 5.8 million people age 65 and older in 2020. This number is projected to reach 13.8 million by 2050 (Alzheimer's Association, 2020). Asian immigrants (AI), age 65 and older, have become the second most rapidly growing racial population of older Americans (Federal Interagency Forum on Aging-Related Statistics, 2016). Although Asian older adults living in the U.S are the largest group of immigrants (Lopez et al., 2017), there are limited studies on dementia among AI (Mehta and Yeo, 2017). AI are often underrepresented in dementia-related research due to barriers including mistrust and fear of research, language and financial challenges, limited knowledge about research, and the stigma around health-related topics (Chao *et al.*, 2011; George et al., 2014; Gilmore-Bykovskyi et al., 2019).

Previous studies have described inadequate knowledge on brain health and memory problems among AI the U.S. (Zheng et al., 2016; Parket al., 2018; Woo, 2017). In addition, the stigma and culturally associated beliefs about dementia may result in delays in seeking health care services for dementia diagnosis and management among Asian Americans. Factors related to diagnostic delays among Asian Americans included: 1) lack of culturally sensitive services and support; 2) beliefs or stigma about dementia, and 3) barriers to accessing the healthcare system (Sayegh and Knight, 2013).

The aims of this study were to: 1) explore concerns, perceptions, and cultural beliefs related to memory loss and dementia among Cambodian, Chinese, Korean, and Samoan older adults living in the U.S., and 2) identify culturally relevant factors that facilitate or prevent participation in brain health programs.

Methods

Study design We conducted a qualitative study with content analysis methodology under an interpretive paradigm via focus group discussion. This study was approved by the University of Washington Institutional Review Board. Informed consent was obtained from all participants. ***Participants*** A maximum variation purposive sampling was used to recruit participants. We purposefully selected diverse cultural groups, including Cambodian, Chinese, Korean, and Samoan, to include various perspectives and compare findings cross-culturally from the Asian Counseling and Referral Service (ACRS) in Seattle, an organization that primarily serve community-based multilingual. N=62 participants were recruited. Inclusion criteria were aged 50 or older and self-identified as a Cambodian, Chinese, Korean, or Samoan immigrant regardless of their service use at ACRS. We held one to two focus groups for each cultural group. ***Data Collection*** Training for moderators was conducted to assure consistency across focus groups. Moderator spoke the participants' native language except the Samoan group, which was held in English because English is the second official language in

Samoa, and most islanders can speak English. All study materials (recruitment flyer, consent, interview guide, and survey) were developed in English and then translated into Chinese, Korean, and Khmer (the official language of Cambodia). The interview guide was regarding 1) perception and concerns of memory loss, 2) interests and preferences for a healthy brain program, and 3) understanding of healthy behaviors related to brain health. A total of seven focus group sessions were conducted between December 2019 and February 2020 at ACRS. ***Analysis*** inductive content analysis was used for data analysis (Elo and Kyngäs, 2008). All focus groups were audio recorded and transcribed verbatim in participants' indigenous language except the Samoan group. Indigenous language was kept during data analysis. The translation was delayed until the very last step to minimize the loss of meaning during translation (Smith et al., 2008; van Nes *et al*., 2010). Two coders in each cultural group who were fluent in reading and writing in indigenous language and English analyzed the data. Two coders independently conducted initial open coding and developed a coding workbook in each cultural group using the indigenous languages. Interrater reliability between coders in each cultural group was checked using Krippendorff's alpha coefficients for each semantic domain. We considered 0.8 to be the reliable indicator for all data. (Landis and Koch, 1977). ATLAS.ti 8 was use for data analysis (ATLAS.ti Scientific Software Development GmbH, Berlin, Germany). ***Results*** N=62 participants participated (21 Chinese, 14 Cambodian, 14 Korean, and 13 Samoan). The characteristics of participants are presented in Table 1. Similar perceptions and experiences related to memory loss were shared across the four cultural groups, but each group revealed unique perspectives toward their understanding of memory loss.

Perception and knowledge about memory loss and dementia

Meaning of memory loss: Participants in four culture groups perceived memory loss as slowed thinking, loss of short-term memory, poor judgment, and decreased ability to learn and think. Words to describe poor memory and memory loss included muddled, ignorant, absent-minded, forgetful, foolish, stupid, and mentally retarded. Participants perceived that memory loss would progress to dementia as a normal aging process. Some of the indigenous words associated with memory loss did not have an exact word in English. For example, in Khmer វិកលចរិក - "vikalcharik" implies a psychosis which carries others judgement. In Chinese, "失智" indicates totally lost one's intelligence; as well as "Lemautonu" in Samoan and "노망" in Korean.

Unique perspectives on memory loss were found. Korean participants viewed memory loss as an extremely negative experience: "[losing memory is] loss of dignity as a human being," and "dementia was…the worst hell". Samoan participants perceived that memory loss and dementia were closely related to family and God: "…Everything is fine because God is gonna help us." Chinese participants saw memory loss as related to one's learning ability: "The [memory loss] decreases [ones] ability to learn and think. Not like before, it was so easy to learn new things. Now, I feel confused even when I understand."

Manifestation of memory loss and its consequences

The perceived consequence of memory loss that all cultural groups had in common was forgetfulness. Forgetfulness included forgetting to turn off the stove (which triggered the fire alarm), to take the keys when leaving the house (resulting in waiting outside for a long time), and to take prescription medications (due to progression of the disease). Other common consequences included getting lost and not finding one's home, being expelled from residing in senior housing because of frequent fire alarms, and/or overdosing or missing medications. Most participants were anxious related to their family: "My friend was diagnosed with dementia. She hated one person and liked another person. She did not know who she was and was not able to recognize her family. She called her son her husband or father." Another perspective was about loneliness and depression "These days, I can't think of the word that I want to say. I suddenly forgot the word, so I couldn't speak."

Korean participants thought personality changes were a key issue due to dementia: "some are very violent, some are gentle, and the others are eccentric. It varies. Their personality changes to the opposite of their previous one." And "…losing all human dignity". For Samoan groups, they were more concerned about financial difficulties. "If you don't have enough money [because you have a memory issue], it is a lot of a problem." They also emphasized the concept of "burden": "becoming a burden to others" when they started losing memory and ability to care for themselves. Chinese participants perceived the consequences of dementia as inappropriate appearance and being overly cautious when doing anything: "the bad or inappropriate appearance can tell people that you have dementia." and: "I'm really cautious and careful, but I still forget and make mistakes."

Perceived contributors to memory loss

The commonalities in perceived contributors to memory loss across all groups including negative mood (anxiety, stress, and depression), narrow-mindedness, falls, unhealthy lifestyle, social isolation, and underlying health conditions such as stroke and vascular disease. Most participants thought that the normal ageing process was accompanied by memory loss. Several participants offered the following wisdom, "Don't get angry or get mad, every time that happens, the brain cells die."

Korean participants noted that genetics and pollution were strongly associated with dementia: "I think dementia is most likely to be genetic" and "I think it's [getting dementia is] because of the pollution. Foods are all contaminated. So, I am very careful about foods." Samoan participants thought that abusive behavior by family members and lack of family support were contributing factors. For Chinese participants, they believe that side effects of depression medications and long-term use of electrical devices, such as an iPad or smartphone, were contributing to memory loss and dementia: "memory is closely related with the medication that you took, especially anti-depression medication. I also got dry mouth when I am taking this kind of medication." Another participant said: "Right, this stuff (points to his iPad) is the worst. It is toxic. I use it a lot and my brain stop working." Additionally, Chinese groups also considered the effect of marriage a critical factor, where good marriage delays memory loss, and bad marriage leads to memory loss. Cambodian participants agreed that they were traumatized by having experienced the Khmer Rouge Regime: "Having gone through the Khmer Rouge regime increases the vulnerability [of losing memory and poor brain health]."

Strategies to maintain and improve memory

All cultural groups agreed that the best strategy to maintain and improve memory was to keep a positive attitude: "If you are in a good mood, you live longer." Maintaining a healthy lifestyle was also a consensus of all participants, including regular group exercise, healthy eating, and getting quality sleep. Participants noted the importance of activities that engaged their brain, such as knitting, playing chess, cards, puzzles, reading books, and playing the piano. Popular tips for remembering things were frequent use of calendars for planning and keeping a daily journal of what happened on that day. A few participants noted the importance of regularly consulting with a health care provider and taking medications as prescribed.

Korean participants believed in using folk remedies to improve their health conditions, including palm massaging and connecting with the soil. They thought that older adults would be benefited from "carrying walnuts to massage their palm's as massaging one's hand with walnuts would stimulate brain function." Another Korean participant offered: "Humans should be directly connected with the soil [for better health]." For Samoan group, participants believed that pets were therapeutic and helped in improving their health.

Immigration, acculturation, and stigma

Being older immigrants in the U.S. was never easy. Participants reported facing language barriers, conflicts with different social systems compared to their country of origin, and financial stability concerns. Without any money or social networks when they first arrived in the U.S., they started from scratch. Language barriers reduced their opportunities for employment, while the difficulty with acculturation placed a strain on their brain: "Living in a foreign country and in a new language environment, my brain cannot handle this."

Cultural stigma existed in all groups- they wanted to hide from seeing anyone or even commit suicide if they had dementia someday. The concern of how others perceived people with dementia haunted them. In their culture, having dementia was associated with high levels of shame for both themselves and their families. One Chinese participant shared, "[I told my husband that if I have dementia one day] don't tell anyone about my situation and my illness. They will treat me as an idiot" and "In our culture, it is shameful to being labeled with dementia. Chinese language does not describe it well." One Korean participant shared: "I think dementia is very scary disease. I think it is pathetic, and . . .the worst hell."

Components of a future healthy brain program

Participants from all cultural groups were highly enthusiastic about participating in a healthy brain program. They hoped a healthy brain program could provide knowledge about memory loss and dementia, exercise, and nutrition. Most importantly, they wanted to learn how to prevent dementia. The main concern they had for the program was whether the program was free and if transportation would be provided.

Knowledge about memory loss and dementia

Participants were interested in learning about the root cause(s) of memory loss and dementia, the diagnostic criteria, and tests (e.g., MRI for dementia), impacts of anti-depressant and antipsychotic medications on memory, and evidence-based practices. Participants requested that learning materials be in their native languages and be culturally competent. They also raised concerns on the safety of the brain CT and taking medication.

Exercise

Exercise was considered an essential factor in maintaining a balanced life and a healthy brain. Participants were interested in joining in aerobic exercise, square dancing, ping-pong, swimming, Qigong, and Tai-Chi. They noted that a healthy brain program could include any of these forms of exercise, incorporating music and field trips. For the exercise format, participants preferred to join an in-person group exercise class taught by a trainer versus an online class. As to the exercise location, participants preferred exercising outside when the weather was nice, and exercising inside when the weather was cold and wet.

However, participants had many concerns about exercise. Some participants were cautious about exercising due to underlying health conditions, some reported having poor balance, were afraid of falling: “terrible falls can kill you.” Participants believed that a fall could lead to a brain injury and subsequent memory loss.

Discussion

This study describes common and unique perceptions, experiences, and cultural beliefs related to memory loss and dementia in Asian older adult groups including Cambodian, Chinese, Korean, and Samoan. The study also presents potentially relevant barriers and facilitators as well as interest in a brain health program. First, a dominant belief was that stigma and shame were associated with dementia. Additionally, dementia was perceived as a type of mental illness. Second, participants’ perception regarding dementia were overwhelmingly negative. They also perceived strong shame and embarrassment associated with memory loss and dementia for them and their families. And third, participants were enthusiastic to join a brain health program.

Dividing Asian ethnicities into sub-groups provided an opportunity to better understand their unique needs and perceptions. Integrating these differences has the potential to make a more targeted intervention program. Moreover, low participation rates and poor engagement in community programs are barriers that we need to address and solve. Participants provided detailed information on their preferences for the content and frequency of a brain health program. They also noted their concerns for intervention programs that hindered participation, which included lack of accessibility, affordability, and customization. Moreover, addition, this study revealed that loneliness and a lack of communication channels among Asian older adults living in the U.S. As researchers, clinicians, and caregivers, we need to act on engaging AI to reduce social isolation. Although memory loss is highly stigmatized, older AI are resilient. They want to get involved in multiple activities to reduce the impact of memory loss on themselves and their families.

This study had several limitations. First, although all the focus groups were held in the indigenous language of the participant, it is possible that some of the nuances of language were lost during the translation process. As a research team we attempted to minimize this by ensuring those doing the translation were bilingual. Second, we recruited participants from a community-based service provider using a purposive sampling method. As such, findings may not be generalizable to other populations who do not use community-service providers.

We need to do better in addressing the cognitive health needs of AI communities. We need culturally tailored programs and resources that are easily accessible at low or no cost and have teachers who speak the indigenous language and understand the culture of the participants. We need to address stigma associated with memory loss early and often in cognitive health programs. The programs and resources need to include content that reassures AAPI communities that dementia is not a normal part of aging. And we need to collaborate with public health partners and our AAPI service providers to develop and disseminate brain health communication strategies to AAPI communities.

Given the projected increase in persons with dementia globally, research needs to identify and measure stigma and test new approaches to reduce stigmatizing attitudes in the AAPI community (Hermann *et al.*, 2018). More translated and validated instruments in AAPI languages are needed. Additional research among other ethnic minorities, such as Hmong and Vietnamese are needed to conduct further cross-cultural comparisons.

Table 1. Participant Characteristics (M, mean; SD, standard deviation.)

	Cambodian (n = 14)	**Chinese** (n = 21)	**Korean** (n = 14)	**Samoan** (n = 13)
Age, mean (SD)	66.5 (4.6)	78.7 (7.7)	75.0 (7.8)	62.5 (7.1)
Formal Education in year, mean (SD)	4.67 (4.4)	10.9 (4.9)	13.0 (3.4)	12.0 (3.2)
Gender, n (%)				
Female	9 (64.3)	13 (61.9)	12 (85.7)	8 (66.7)
Male	5 (35.7)	8 (38.1)	2 (14.3)	4 (33.3)
Language use at home, n (%)				
English	2 (14.3)	0 (0)	1 (7.1)	2 (15.4)
Native language	12 (85.7)	21 (100)	13 (92.9)	11 (84.6)
Living status, n (%)				
Alone	2 (28.6)	11 (52.4)	6 (42.9)	0 (0)
With partner	2 (28.6)	0 (0)	2 (14.3)	2 (15.4)
With partner and children	1 (14.3)	8 (38.1)	3 (21.4)	1 (7.7)
With children	2 (28.6)	1 (4.8)	2 (14.3)	9 (69.2)
Other	0 (0)	1 (4.8)	1 (7.1)	1 (7.7)
Memory concern, n (%)				
Yes	14 (100)	14 (66.7)	9 (64.3)	9 (69.2)
No	0 (0)	7 (33.3)	5 (35.7)	4 (30.8)

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ABSTRACTS OF SYMPOSIUM PRESENTATIONS

Innovation in Online Nursing Education: Symposium Overview

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Faculty and staff in an online baccalaureate completion program (RNBS) implemented a process improvement project in response to dynamic and diverse needs of our students and communities. External drivers for program change were multifaceted and included; shortages in clinical sites, especially in rural areas, limited time of RN's returning for their bachelor's degree and balancing work and family responsibilities, and a recent proliferation of online RNBS programs following national calls to increase the numbers of bachelor prepared nurses. Internal drivers for change included; our school's commitment to accessible quality education for nurses across our region with a resulting decision to decrease tuition for the RNBS online program, student feedback regarding high number of required onsite clinical hours, difficulty navigating course work, and gaps in the relevance of assignments to practice. Additionally, both students and faculty expressed concern over current course credit size and corresponding workloads. To improve access and better meet the needs of working and rural nurses our RNBS online program faculty and staff embarked on a process improvement project aimed at enhancing student experience and success.

Not surprisingly, second to cost, convenience is the most cited reason for students to select an online program. The factors our team addressed related to enhancing student convenience included; organization and consistency in course credits and design, working RN's schedules conflicting with onsite clinical hours; and relevancy of learning activities. By enhancing convenience and quality in our online RNBS program our long term goal is to improve student access and success in completion of their bachelor's degree while staying in their home communities.

This symposium includes three project-related papers, each presenting a particular approach to meeting our goal of enhancing student success while maintaining program integrity and quality. In the first paper, we describe the method and framework for development of a faculty-driven vision and approach to program improvement. The second paper presents how faculty, working in collaboration with an instructional designer, developed a set of strategies for standardizing and applying best practices in course design and delivery. The third outlines technology-based enhancements aimed at increasing relevance of an online virtual leadership clinical simulation.

Together, these papers demonstrate the value of using a student and faculty collaborative approach to process improvement in order to adapt to changing learning needs and environments, all while maintaining the core concepts, program quality and philosophy of our university.

SYMPOSIUM: INNOVATION IN ONLINE NURSING EDUCATION

Vision for Innovation: Constructing a Network Learning Framework

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Purpose/Aims: The purpose of this session is to present the process used to develop the Oregon Health & Science University (OHSU) RNBS Online Baccalaureate Completion Program Vision for Innovation. The session will describe the application of a strengths-based positive change framework for curriculum delivery transformation and course redesign.

Rationale/Background: This project aimed to further expand the Oregon Consortium for Nursing Education (OCNE) vision for creating a baccalaureate- prepared workforce. The cost of tuition and inconvenient course delivery model were identified as significant barriers for OCNE community college students to complete the shared baccalaureate curriculum.

Our intent was to improve access and convenience through two inter-related strategies: reducing students' financial commitment through tuition decrease and creating a convenient learning-centered delivery model. Assuring preparation of quality graduates remained as a driving value of our strategic approach.

Undertaking/Process: We engaged in an Appreciative Inquiry (AI) strategic planning process focusing on the current Strengths, Opportunities, Aspirations, and Results (SOAR) to discover and design strategies that resulted in desired program innovation.

Building on the strengths of the OCNE Curriculum, our aim was to amplify those successes, and through our innovative visioning process co-create a new framework for online curriculum delivery. Our learning management system course designer was an integral part of the team, emphasizing the disruptive innovation aspects of the curriculum revision; integrating technology with pedagogy for more active and meaningful learning experiences.

Outcomes: RNBS Curriculum Vision Priorities were identified resulting in a new learning framework. The emergent design led to the next iteration of our curricular model, from reliance on the constructivist approach of scaffolding and spiraling to utilizing a network learning framework.

With the implementation of a strengths-based positive change model, a new design emerged, that of a network, where each concept, course, activity, and outcome were intrinsically connected to the overall program design. The amalgamation of students to students and faculty to students provided an interconnection to the communities we serve through technology and online course design.

Conclusions: Faculty that are innovative, creative, and willing to take risks have a higher likelihood of creating a nursing education program for optimal student success. To engage in a major program redesign bringing all the collaborators together and using a positive methodology ensures a cohesive process that transforms vision to reality.

SYMPOSIUM: INNOVATION IN ONLINE NURSING EDUCATION

Designing for Improved Teaching and Learning in an Online RNBS Program

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Purposes/Aim: Enhancing student engagement and success by providing a high-quality learning experience was the desired outcome for this online course re-design project. The aim was to make the online learning platform more accessible to students by standardizing the course design across the RNBS Program. Using a format consistent with best practices provided a more collaborative learning environment and addressed student perspectives and feedback.

Rationale/ Background: Prior to this redesign effort, online courses were developed more independently by lead faculty resulting in inconsistencies that lead to challenges in understanding course expectations. This was evidenced by different templates, timelines, and rubrics for multiple courses. Student feedback from surveys and course evaluations motivated the need for change. Students reported that the lack of consistency between courses, challenging navigation, and content overload were barriers to learning. Standardizing the technological design of the courses supports students through ease of navigation in finding the resources needed to complete assignments, engaging in forums more fully, and becoming familiar with the assessment tools (rubrics). Having common templates and course calendars supports ease of access and promotes student success.

Approach/Process: The re-design project reduces student cognitive load by standardizing the layout of all RNBS courses while adhering to evidence-based, online education, design standards. A phased and iterative process was established for the re-design based on faculty and student feedback. The re-design team met weekly over three months to complete three initial courses. Working collaboratively with an instructional designer, two models of content organization were evaluated: Introduction, Connect, Apply, Reflect and Extent (ICARE) and the Community of Inquiry (CoI). Both models were integrated into the final course design. Standardized sub-pages were added along with compatible templates for learning activities. A consistent file naming convention was agreed upon and implemented. Each course was aligned, from curricular benchmarks, course learning outcomes, and weekly learning objectives to the assessment tools.

Outcomes Achieved: Based on the evidenced-based framework, a template guided the re-design of the course home page, course introduction, course calendar, and weekly lessons, with particular attention paid to accessibility. The layout developed by faculty and the instructional designer was based on quality standards, student experience, two theoretical models, and inter-professional teamwork. Design of the template was also dependent on the functionality of our learning management system. Evaluation metrics were considered in the planning. Based upon student initial feedback, navigation and cognitive load concerns have decreased as a result of the re-design process. Consistency and standardization across courses within the RNBS program has been achieved.

Conclusions: All faculty were engaged in the collaborative approach to improving and aligning all courses. Intentional inclusion of an online educational consultant and instructional designer as well as a willingness to consider alternative design approaches was key. The project resulted in a standardized course design with improved navigation, reduction in cognitive load, and consistency between courses. Next steps in the process will include ongoing identification and resolution of gaps. Obtaining additional feedback through student course evaluations and faculty surveys will assist in determining further re-design and improvement efforts.

SYMPOSIUM: INNOVATION IN ONLINE NURSING EDUCATION

Program Innovation: Virtual Clinical in an Online Course

***Michael Todd Coriasco**, MNE, RN, Online Baccalaureate Completion Program, Oregon Health & Science University School of Nursing, Portland, OR*

Purposes/Aims: Addressing equitability between students via a virtual clinical experience which focuses on collaborative learning and improving consistency in student clinical experiences.
Rationale/Background: Virtual clinical scenarios provide a basis for student learning on critical topics in the senior year of an RNBS program, and helps to create consistency in online teaching across multiple faculty. In response to national trends, drivers for RNBS program change, and to address the needs of our working nurses, nurses with children, nurses living with disabilities, and nurses who live in rural areas, further innovations to the virtual clinical course have aimed at increasing student engagement through “real life” application relevant to concepts for leadership, teamwork and quality improvement. Additionally, virtual clinical experiences are more resistant to unexpected events, illustrated this year with COVID.
Approach: The virtual clinical experience emphasizes the realities of practice, reinforces the importance of continuous quality improvement, and provides exposure to the language and processes of quality improvement. Recently, faculty re-designed the course to improve convenience and to enhance engagement. A shift was made from intensive theory seminar with on-site placements to a virtual clinical focus on quality improvement. This focus provided application to practice emphasizing the nurse’s role in promoting safe and quality patient care. Faculty moved from “actors” in the virtual scenarios, to “guides” creating details about the virtual clinical setting and practice problem, to becoming “consultants” working with fully developed course scenarios. The virtual clinical project requires small student teams to investigate a virtual setting, identify a practice problem, and construct a quality improvement project around addressing said practice problem. They engage in formal, persuasive, communication, and create deliverables to educate, and generate buy-in, from the virtual staff. This project mimics how quality improvement involves staff and stakeholders, and engages students in project teams as both leaders and followers.
Outcomes Achieved: Three settings and six interactive scenarios were designed and implemented for the clinical course. Course evaluations reflect student satisfaction. Inclusion of quality matters standards in the design of the course support consistency of student learning. These virtual clinical scenarios maintain currency in practice problem identification, support for student solutions based on best practice guidelines, and address faculty workload and consistency in teaching to meet course outcomes. They have been constructed in such a way that they can be expanded upon in the future.
Conclusions: Development of virtual clinical scenarios using Storyboard software to support student learning was a critical innovation in the online clinical course. Virtual clinical simulations are designed to provide consistency in faculty workload and engagement with students to enhance teamwork and leadership development. The virtual clinical supports critical learning about basic quality improvement processes without the need for onsite clinical placement. Educational research into the impact of a virtual clinical experience supporting student skill development as nurse leaders and team members with direct application to nursing practice is important to address.

SYMPOSIUM: INNOVATIVE BRAIN INJURY RESEARCH AT THE BENCH AND BEDSIDE

Overview: Innovative Brain Injury Research at the Bench and Bedside

***Helena Morrison**, PhD, RN, University of Arizona, Tucson, AZ*

Purpose: The purpose of this symposium is to present current brain injury research carried out by nurse scientists and their interdisciplinary teams at the bench and bedside that reveal pathomechanisms of brain injury, innovative assessment tools, markers of disease progression versus recovery, and potential therapeutics for improved patient outcomes. In addition, we highlight innovative approaches useful in brain discovery research.

Background: Brain injuries and diseases such traumatic brain injury (TBI), Parkinson's disease and subarachnoid hemorrhage challenge individual, family, and societal wellbeing and constitute a large economic burden. While ongoing brain research continues to reveal the profound complexity of the brain, what is known to guide the assessment, treatment and management of brain injuries and corresponding symptoms are few. Bench to bedside approaches are needed to meet the challenge set forth by the Brain Initiative in 2013, to develop effective therapeutics for those with neurological disorders. Nurse scientists play a unique role in this activity.

Methods: Papers presented in this symposium will illustrate cutting-edge research that impacts the assessment and treatment of individuals with brain injuries and diseases. Together, the symposium serves to illuminate novel approaches being taken by nurse scientists, highlighting the role of immune function in functional outcomes across disease states. First, Dr. Thompson will illustrate the use of neuronal-enriched exosomes, extracted from blood, to distinguish between neuronal and systemic inflammation after TBI. This technique is important as measuring neuroinflammation from blood samples of patients with TBI is confounded by the presence of systemic inflammation. Second, mild TBI is difficult to assess with accuracy and sensitivity. As a potential assessment tool, Dr. Lee will present novel data on the association between blood DNA methylation and cognitive or functional outcomes in patients with mild TBI. Dr. Byun will provide insight into possible pathomechanisms of sleep disturbance among subarachnoid hemorrhage survivors by presenting data on the associations between messenger RNA expression, systemic concentrations of inflammatory proteins, and sleep symptoms. Finally, while Levodopa is the golden standard to improve Parkinson's disease motor disorder, Levodopa-induced dyskinesia is an equally devastating side effect. Dr. Morrison will discuss the promising effect of sub-anesthetic ketamine treatments to improve dyskinesia while examining microglia phagocytosis as a possible mechanism of this improvement.

Results: Symposium attendees will understand the current approaches and advances in brain injury research, as well as methodologic considerations when using these techniques. We show that nurse scientists meet the challenges inherent to brain discovery research at both the bench and bedside by employing innovative methodologies and exploring novel therapeutics within the theme of inflammation and outcomes.

Implications: The devastating effects of brain injuries and neurological disorders greatly impact health and well-being. Current approaches taken by nurse scientists to address the complexities of brain research will impact the future clinical care of neurological patients. Innovative biological methodologies are necessary to elucidate meaningful connections between the immune responses, mechanisms of injury, symptomology, and outcomes—knowledge that will guide future clinical care. Additionally, these methodologies may apply to diverse programs of research carried out by attendees.

SYMPOSIUM: INNOVATIVE BRAIN INJURY RESEARCH AT THE BENCH AND BEDSIDE

Exploration of Exosome Cytokine Concentrations in Mild Traumatic Brain Injury

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Purpose: To explore the potential of neuronal-derived exosomes to reflect central inflammatory processes following mild traumatic brain injury (mTBI).

Background: Blood-based biomarkers may be useful in precision health care in order to direct clinical care and symptom management. While blood is feasible to obtain, in the context of brain injury, a limitation is that it may reflect peripheral processes versus central nervous system pathophysiology. New laboratory techniques have allowed for isolation of exosomes, which are released by all cells in order to examine their role in pathophysiology across multiple disease states.

Methods: This cohort study included plasma samples obtained with 24 hours of injury from individuals 21-54 years of age with clinically diagnosed mTBI who presented to the ED for treatment and age-matched (+/- 3 years) non-injured controls. All blood samples were drawn into EDTA polypropylene tubes using standard aseptic technique, processed and stored at -80°C until analysis. Briefly, plasma samples were thawed on ice. Total exosomes (TE) were isolated using ExoQuick, and neuronal-enriched exosomes (NE) were immunoprecipitated using mouse anti-human CD171 antibody. To quantify plasma, TE and NE cytokine concentrations, we used the SIMOA assay (Quanterix 3-plex for Interleukin [IL]-6, IL-10 and tumor necrosis factor-alpha [TNFa]). All assays were conducted in duplicate. Any individual assay with CV% >20% was excluded from analysis. Descriptive statistics and Mann-Whitney U tests were performed. Due to the exploratory nature of the study, an alpha of 0.1 was set.

Results: The mean age of the mTBI sample (n=6) was 34.5 years (SD 9.7) and the mean age of controls was 33.0 years (SD 9.0). The initial pilot study established our ability to use the assay to isolate TE and NE from plasma. The pro-inflammatory cytokine IL-6 was elevated in the TBI group compared to non-injured controls in plasma (5.94 vs.0.46 pg/mL) and TE (0.39 vs. 0.05 pg/mL) assays but equivalent in the NE (0.01 pg/mL). Similar direction of results were seen for the anti-inflammatory cytokine IL-10 in plasma and TE samples, but NE concentrations in the TBI group were slightly lower than controls (0.006 vs. 0.009 pg/mL). At 24 hours post-injury, NE concentrations of TNFa, were below the limit of detection, while mTBI and control groups had similar concentrations in plasma and TE.

Implications: While plasma and TE cytokine concentrations differed for IL-6, IL-10 and TNFa, we did not see differences in NE. This may be because of relatively low starting sample volumes resulted in lower yield of NE for analysis. Other cell types such as glia may be involved in the early response to injury. Further exploration is warranted, including larger sample volumes and sample size and examining glial-derived exosomes. Additionally, it is important to examine the relationship of these biomarkers to the development of symptoms and later functional outcome for them to be useful in clinical management of the patient with mTBI.

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SYMPOSIUM: INNOVATIVE BRAIN INJURY RESEARCH AT THE BENCH AND BEDSIDE

Persistent Functional Deficits and Altered Blood Methylation after Mild TBI

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Purpose: To identify long-term or persistent impairments in cognitive, psychosocial, oculomotor, and balance performances following mild traumatic brain injury (mTBI) as well as to investigate peripheral blood DNA methylation markers associated with such functional impairment.

Background: The lack of accurate and sensitive measures to assess mTBI, which does not necessarily involve detectable changes in the brain cells, may increase the risk of repetitive head injuries and persistent functional impairments. We proposed to use post-mTBI peripheral DNA methylation markers as well as objective cognitive and sensorimotor functional measures based on the integrative and multidisciplinary bioengineering approach.

Methods: Young male and female adult participants were recruited from the Las Vegas community for 2 separate studies, Study A and Study B. Overall, the participants were assessed for cognitive (by NIH toolbox or CNS-Vital Signs [CNS-VS]), psychological (by PROMIS), visual function (by King-Devick or EyeLink eye-tracking systems), and postural balance performance (by mobile health system or a force plate). Blood DNA methylations markers post-mTBI—global DNA methylation ratio (5-mC%) or whole-genome blood DNA methylation—were also examined.

Results: In Study A on *multiple persistent functional impairments post-mTBI*, 35 volunteers participated and provided informed consents based on procedures approved by the UNLV Institutional Review Board. mTBI cases consisted of 21 individuals (65% males; age, 26.8±5.04 years of age) with a self-reported history of single or multiple injuries (75% multiple), including sports-related activities and military operations. Controls consisted of 14 individuals (36% males; 22.0±4.13 years old). Only age was statistically different between the 2 groups (p=.006) among all demographic variables. mTBI cases reported significantly poorer episodic memory, severer anxiety, more sleep disturbance problems, less accurate fast eye movements, wider range of body movements during walking, and higher blood global methylation ratio (5-mC%) (all p's<.05). From Study B on *persistent cognitive declines post-injury*, based on CNS-VS—processing speed scores at the baseline and the next 1 or up to 3 years, 4 professional fighters with cognitive declines ('decliners') and 5 without ('non-decliners') were selected for whole-genome methylation analysis using methylation sequencing. Mean age was 32.4 (±6.41) years old and professional fighting experience ranged from 0 to 14 (6.2±5.26) years. No significant differences were found in demographic and fighting variables between the 2 groups. Compared to non-decliners, decliners had significantly hypermethylated (i.e., dysregulated) genes of axonal dysfunction signaling (e.g., ADAM17, GRB10, PRKD1, and FGFR2) and neurological disorder (e.g., Pka, PI3K, LDL, LDLR, and Pkc(s)) at the baseline.

Implications: We observed persistent cognitive, psychosocial, and sensorimotor functional impairments, even long after mTBI, along with altered (higher) peripheral global methylation ratio and hypermethylated axonal degeneration genes associated with the subsequent cognitive declines in next 1 to 3 years. Our findings provide evidence to use peripheral methylation markers, in particular, of axonal degeneration-related genes, and clinically sensitive and more objective screening tools of post-mTBI persistent status. This will contribute to (1) a change in the clinical paradigm of mTBI screening and treatments, and (2) an advancement of the scientific model to understand the underlying mechanisms and heterogeneous trajectories of mTBI progress.

Funding: Funded by 2016 Sigma Theta Tau International (STTI) Small Grants ($5,000.00), 2017 Asian American Pacific Islander Nurses Association (AAPINA) Research Grant ($5,000.00), and 2017 Nevada Institute of Personalized Medicine (NIPM) Next-generation sequencing (NGS) Awards. Also supported by University of Nevada, Las Vegas (UNLV), School of Nursing (SoN) and 2017-2020 UNLV Top Tier Doctoral Graduate Research Assistant (TTDGRA) Program

SYMPOSIUM: INNOVATIVE BRAIN INJURY RESEARCH AT THE BENCH AND BEDSIDE

Toll-Like Receptor 4, Cytokines, and Sleep in Subarachnoid Hemorrhage

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Purpose: The purpose of this study was to examine associations of Toll-Like Receptor 4 (TLR4) messenger RNA (mRNA) expression and Tumor Necrosis Factor-alpha (TNFα) and Interleukins (IL1β and IL6) plasma concentrations with sleep disturbance and daytime sleepiness in Subarachnoid Hemorrhage (SAH) survivors.

Background: SAH survivors often suffer sleep disturbances including difficulty initiating or maintaining sleep, with excessive daytime sleepiness. Underlying mechanisms of sleep disturbance and daytime sleepiness post-SAH are not well known. SAH triggers immune responses and inflammation in the brain. The initiation of the inflammatory response may result from TLR4 activation and subsequent release of pro-inflammatory cytokines, TNFα, IL1β, and IL6. Overproduction of pro-inflammatory immune mediators may be linked to severe neuronal damage by microglia. TLR4 expression and pro-inflammatory cytokines may have a role in biologic pathways for inflammation and development of sleep disturbance after SAH.

Methods: We employed a 6-month prospective longitudinal study with a convenience sample of 23 SAH survivors recruited from a university hospital. Blood samples were collected on days 2, 3, and 7 and at months 2, 3, and 6 post-SAH to assess TLR4 mRNA expression and TNF-α, IL1β, and IL6 plasma concentrations. Sleep disturbance using the Pittsburgh Sleep Quality Index (PSQI) and daytime sleepiness using the Epworth Sleepiness Scale (ESS) were assessed at months 2, 3, and 6 post-SAH. Mann-Whitney U tests were conducted to examine associations of TLR4 mRNA expression and cytokine concentrations with sleep disturbance and daytime sleepiness.

Results: Over the first 6 months post-SAH, between 76% and 82% of SAH survivors experienced sleep disturbance (PSQI > 5), and 19% reported excessive daytime sleepiness (ESS > 10). Higher TLR4 gene expression and TNFα, IL1β, and IL6 plasma concentrations were associated with sleep disturbance and daytime sleepiness. Compared to the group that had less daytime sleepiness, the group with ESS > 10 at months 2 ($p = .016$), 3 ($p = .009$) and 6 ($p = .004$) had significantly higher plasma concentrations of TNFα on day 2. A positive association between higher TLR4 expressions on day 7 and PSQI > 5 at month 6 ($p = .04$) was revealed. In addition, higher cytokine concentrations of TNFα, IL1β, and IL6 at months 2, 3 and 6 were associated with sleep disturbance and daytime sleepiness at those times.

Implications: TLR4 gene expression and pro-inflammatory cytokines may play a role in developing sleep disturbance and daytime sleepiness post-SAH. Our results are preliminary and based on a small sample size. Further research is warranted to confirm these relationships, controlling for important covariates (e.g., severity of SAH). An intervention targeting TLR4 and pro-inflammatory cytokines may be useful in improving neurologic recovery and sleep in SAH survivors.

Funding: This work was funded by NIH/NINR K23NR017404.

SYMPOSIUM: INNOVATIVE BRAIN INJURY RESEARCH AT THE BENCH AND BEDSIDE

Ketamine's Effects to Improve Dyskinesia in a Model of Parkinson's Disease

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Purpose: To examine the therapeutic effect of sub-anesthetic ketamine treatment to increase microglia phagocytosis of aberrant neuronal spines and prevent levodopa-induced dyskinesia in a rodent model of Parkinson's disease (PD).

Background: PD is a neurodegenerative disease caused by the death of dopaminergic neurons in the substantia nigra pars compacta (SNpc) and is characterized by motor dysfunction. While PD has no cure, symptoms can be treated with levodopa. Unfortunately, continuous long-term levodopa treatment use can cause levodopa-induced dyskinesia (LID)—an equally devastating side-effect. Sub-anesthetic ketamine has been shown to reduce LID in a preclinical model, as measured by abnormal involuntary movements (AIMs). As a possible mechanism, ketamine treatment leads to changes in striatal dendritic spines, reducing a maladaptive spine type correlated with LID, and we hypothesize that microglia have a role in phagocytosing these aberrant neuronal spines for improved behavioral outcomes. Elucidating the effects and mechanisms of ketamine to improve LID will significantly impact the clinical care of PD patients.

Methods: We used the well-established unilateral rat 6-hydroxydopamine (6-OHDA) model of PD. 6-OHDA selectively kills dopaminergic neurons in the SNpc, resulting in a stable lesion and subsequent development of PD motor symptoms that were confirmed using amphetamine-induced ipsiversion rotation test. Parkinsonian rats were randomized to two treatment groups: levodopa+vehicle (N = 6) and levodopa+ketamine (N = 12). Treatments were administered over a 15-day period and limb, axial, and orolingual AIMs were scored every 3-4 days by an individual blind to the treatment groups; tissue was collected at day 15. Caudal sections were fixed, cryoprotected, and prepared for immunohistochemistry. Fixed free-floating sections containing the SNpc and striatum were processed for immunohistochemistry to identify microglia and dopaminergic neurons using anti-IBA-1 and anti-tyrosine hydroxylase antibodies, respectively. Confocal images of microglia in the SNpc and striatum in injured and un-injured hemispheres were acquired using a 40x objective (2-3 images/region). Microglia phagocytosis was operationalized by morphologic changes (endpoints and process length/cell) and analyzed using an ImageJ skeleton analysis method. Kruss-Wallis analysis with Dunn's post hoc was used to analyze differences in animal behavior due to ketamine treatment; microglia parameters were analyzed using two-way ANOVA.

Results: Abnormal involuntary movements were present in levodopa treated rats throughout the 15-day assessment period. On day 14, levodopa-induced AIMs were reduced in ketamine-treated rats compared to vehicle treated controls ($p = 0.04$). The number of microglia process endpoints/cell and process length/cell was significantly reduced in SNpc and striatum of the lesioned hemisphere ($p < 0.05$); however, ketamine treatment had no effect on morphology.

Implications: We demonstrate a clear effect of sub-anesthetic doses of ketamine to reduce development of LID in a rodent model of PD. However, the role of microglia phagocytosis of aberrant neuronal spines has yet to be established; a next step will be to examine additional phagocytosis markers. Based on these and other data, a clinical trial to examine the therapeutic effects of ketamine to reduce dyskinesia in a human PD population is underway. These data are a promising future for the clinical care of PD patients with LID.

Funding: NIH R56-NS109608, Arizona Biomedical Research Commission Grant ADHS18-198846

SYMPOSIUM: LESSONS LEARNED FROM CONDUCTING BEHAVIOR CHANGE STUDIES IN REAL-WORLD SETTINGS

Overview: Lessons Learned from Conducting Behavior Change Studies in Real-World Settings

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Aim: We will present four papers sharing our research experiences focusing on behavior changes in real-world settings. The specific aims are to 1) describe challenges encountered in our behavior change research and 2) discuss strategies to design and conduct successful interventional behavior change studies

Rationale/Background: As the focus of healthcare interventions expands from medical treatment to human behavior changes, research methods that examine human behavior changes in real-world context are urgently needed. However, protocols to test efficacy of behavioral interventions are not well established. Testing behavioral interventions in diverse and often uncontrolled real-world environment poses many challenges for researchers. Learning from successes and failures of past studies are essential to improve the design and approach for future behavior change studies.

Brief Description of the Projects: Each presenter will describe studies they conducted, and discuss challenges and lessons learned from their experiences.

- ***Utilizing a Commercial Weight-Loss Program as the Intervention for Obesity Research.*** This presentation will describe the experience of partnering with a private sector weight-loss program to conduct two studies to evaluate the impact of the intervention. Insights gained from partnering with a pre-existing, private sector entity to conduct research will be shared.
- ***Fall Prevention Care Management in Assisted Living (AL) Facilities.*** This study aimed to reduce fall risks for residents in AL through student-led care management. This session will discuss challenges related to structure and patient characteristics at the study site, and balancing research rigor with site partners' organizational priorities.
- ***Weight Sensitivity Training with Nursing Students.*** This project explored a weight sensitivity training intervention with nursing students. Challenges in designing and conducting interventional study that deemed as controversial or sensitive will be discussed in this session.
- ***System wide implementation of Advance Care Planning (ACP).*** The aim of this intervention was to train clinicians to facilitate ACP conversations with their patients. Due to the conflicting priority and practice variation in each setting, the intervention had to be modified to fit their existing practice and workflow posing a question of fidelity and rigor of the intervention.

Outcomes Achieved/Documented: Lessons learned for future successful behavioral interventional study include the following.

- Early and full engagement of all stakeholders (e.g., patients/families, clinicians, administrators, commercial venders)
- Alignment of study goals with needs and interest of study sites
- Set criteria as to what interventions must be adapted to the sites, but maintain the fidelity of the intervention
- Identify core outcome measures that are specific and sensitive to capture the impact of intervention in the real-world

Lesson Learned/Conclusions: Rigorous studies to test the efficacy of interventions for behavior changes are critically needed in various areas of nursing research. Sharing and accumulating lessons learned from our experiences are the first steps to formulate strategies to guide successful future interventional studies for behavior changes.

SYMPOSIUM: LESSONS LEARNED FROM CONDUCTING BEHAVIOR CHANGE STUDIES IN REAL-WORLD SETTINGS

Utilizing a Commercial Weight Loss Program as the Intervention for Obesity Research

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Purposes: Based on our experiences in the studies we conducted, we will 1) describe lessons learned from partnering with a pre-existing, private sector entity to deliver our intervention; 2) discuss strategies for we implemented for building a successful research collaboration with a private sector partner.
Background: Adult caregivers' enrollment in commercial weight loss programs may have significant but heretofore largely unrecognized indirect benefits for the children of the enrollees. Given that the commercial weight loss program market in the U.S. in 2018 was $72.7 billion, and is forecast to continue growing 2.6% annually through 2023, such indirect effects would potentially have a significant public health impact.
Brief Descriptions of Project: To study for the effect of interest, we partnered with one of the most popular commercial weight loss programs in the United States and conducted two studies. In these studies, we showed that improvements in children's body mass index and weight-related health behaviors (e.g., physical activity, sedentary time, and dietary behaviors) occurred after their adult caregivers were enrolled in a commercial weight-loss program for 8 weeks.
Assessment of Findings: Lessons learned from these experiences include: 1) The need to carefully assess whether the goal of our study aligns well with the goal of the private sector entity. In this case, we selected Weight Watchers because of a close alignment: our study focuses on behavior changes and Weight Watchers also focuses on behavior changes. Many other weight loss programs tend to focus on meal replacement as a means of weight-control. This close alignment helped sustain the collaboration; 2) The need to find a 'gatekeeper or decision-maker' within the collaboration partner to help consider how the collaboration will be mutually beneficial. Establishing someone with that role helped to create a greater investment in the project on both sides of the collaboration; 3) The need to communicate clearly with the partner in a timely manner to build trust and maintain the relationship during/even after the study is completed; 4) The need to proactively assess the expectations of your partner with respect to the study procedures and the dissemination of your findings; 5) Periodically revisit the plan and assess the match with the goals of the research partner, to ensure that the goals remain realistic and whether the research partners sees the collaboration making progress to achieve their goals.
Conclusions: In an era of increased focus on implementing trials in real-world settings through private/public sector collaborations, our study utilizing a pre-existing commercial weight loss program as an intervention vehicle to address childhood obesity epidemic was promising. The insights we gained will be generalizable for informing future research partnering with other pre-existing private sector entities when conducting intervention-based research.

Funding: OHSU School of Nursing, Innovation Grant 2015-2016 and Hartford Award for Research and Practice Grant 2017-2018

SYMPOSIUM: LESSONS LEARNED FROM CONDUCTING BEHAVIOR CHANGE STUDIES IN REAL-WORLD SETTINGS

Lessons Learned from Fall Prevention Care Management in Assisted Living Facilities

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Purpose: Describe challenges and lessons learned from conducting a student-led care management to reduce falls in assisted living facilities (ALs).

Background: It is reported that a third of residents in ALs have experienced a fall in the past 90 days, which is higher than community-dwelling older adults. Yet, the impact of effective strategies to prevent falls for AL residents are unknown. Care management has a potential to facilitate residents' behavior change to reduce fall risks.

Brief Description of the Project: We provided student-led care management focused on fall prevention. Students facilitated older adults' behavior change to reduce risks of falls. We recruited ALs that frequently called EMS for fall-related events. Residents who had a fall in the past year or were considered high risk for falling were enrolled in the study. We included cognitively oriented older adults because interventions were conversation-based, and outcomes were assessed by self-report. 114 care management visits were conducted with 19 residents across 2 sites. Despite the intervention benefit (i.e., increased residents' confidence about preventing falls and decreased fear of falling), we faced real-world challenges to conduct the study. Challenges included: limited access to demographic and fall outcome data from the facility; older adults' views on fall prevention; the balance between research rigor and sites' organizational priorities; and students' clinical rotation schedules and sense of client accountability.

Assessment of Findings: There were two major lessons 1) expect challenges from organizational and participant stakeholders and 2) be flexible to adapt to real-world settings without losing study rigor. A major challenge was access to demographic and outcome data. Changes in personnel at the fire station made EMS fall data less obtainable. Access to electronic records at an AL was not granted due to security concerns. Fall data were not readily available at ALs and had to be hand tallied. At the participant-level, high fall risk residents often refused to take part in the study because they used walkers. Residents were hesitant to disclose their fall experiences. Many residents had moved to AL because of a fall and were fearful that falls could lead to a move to a higher-care facility. Study inclusion had to be adjusted to balance rigor and site priorities. Because the study relied on conversation-based approaches and self-report measures, we could not include residents with moderate or severe cognitive impairment. However, these residents would have benefited from care management. Students felt conflicted to not care for these individuals. We broadened inclusion criteria to include individuals with mild cognitive impairment who could reliably self-report, and students cared for these residents outside of the research. We reduced the enrollment target from 4 to 2 residents per student each term. Students rotated through the site every 11 weeks, and there was a steep learning curve. Study procedures were modified as challenges arose.

Conclusions: Successful strategies for real-world behavior change studies would include: 1) early engagement with stakeholders (i.e., study sites, participants) to identify potential areas of challenge; 2) identifying core study elements to maintain fidelity and study rigor.

SYMPOSIUM: LESSONS LEARNED FROM CONDUCTING BEHAVIOR CHANGE STUDIES IN REAL-WORLD SETTINGS

Challenges of a Behavior Change Intervention: Weight Sensitivity Training

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Purpose:

1. To describe lessons learned from two projects (1 quality improvement project; 1 control effectiveness research) implementing interventions to train clinicians to have advance care planning (ACP) conversations with their patients
2. To discuss strategies for successful implementation of the interventions to achieve the research and project goals.

Background: Society and healthcare organizations are increasingly aware of importance of ACP to ensure that patients receive care that aligns with their values. Several tools and programs to support clinicians to have ACP conversations have been developed. Many organizations are testing the effectiveness and/or feasibility of these interventions in clinical settings. Due to the diversity and complexity of real-world clinical settings where the ACP interventions are implemented, deviation from original intervention protocols may be inevitable. However, lack of fidelity of the intervention threatens the validity of the study findings. Strategies to balance adaptability and fidelity of intervention are needed.

Brief Descriptions of Projects: The author was involved in two large-scale projects implementing ACP training: 1) organization-wide quality improvement (QI) project to implement ACP across a large healthcare system; and 2) a PCORI supported comparative effectiveness study (PLC-1609-32677) to implement ACP in primary care clinics across the nation. In the QI project we assisted various clinical sites (from outpatient clinics to ICU) to implement ACP training for their clinicians. Because the type of clinician who has ACP conversations with patients and the nature of ACP conversations varies by site, the interventions we used for each site varied. For the PCORI study, we used a Serious Illness Care Program as an intervention, but each site had to modify its procedures to identify patients and to set-up, conduct, and document the ACP conversations to fit the intervention into their local practice workflow.

Assessment of Findings: Lessons learned from these experiences include: 1) fit interventions to the needs and existing workflow of sites, otherwise the intervention will not happen; 2) clarify which part of an intervention is modifiable (peripheral) and which cannot be modified (core), and communicate this information when recruiting study sites; and 3) use outcome variables that measure the impact of the core parts of the intervention, not the impact of the peripheral parts of the intervention that could vary by sites or interventionists.

Conclusions: Adaptation of an intervention for different sites is inevitable. To conduct successful behavioral intervention studies in real-world settings, we recommend close collaboration with site stakeholders from the early stages of research planning and setting realistic and clear expectations about what is and what is not core to the intervention to be studied.

SYMPOSIUM: LESSONS LEARNED FROM CONDUCTING BEHAVIOR CHANGE STUDIES IN REAL-WORLD SETTINGS

Lessons Learned from Implementations of Advance Care Planning Intervention

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Purpose:

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Conclusions: Adaptation of an intervention for different sites is inevitable. To conduct successful behavioral intervention studies in real-world settings, we recommend close collaboration with site stakeholders from the early stages of research planning and setting realistic and clear expectations about what is and what is not core to the intervention to be studied.

Funding: PCORI (PLC-1609-32677); Cambia Health Foundation Sojourns Palliative Care Leadership Scholar

SYMPOSIUM: NEOECHO TO DISSEMINATE NEC-ZERO INITIATIVES TO SOUTHWESTERN U.S. NEONATAL ICUs

Overview NeoECHO to Disseminate NEC-Zero Initiatives to Southwestern US Neonatal ICUs

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Purpose: This paper provides an overview of the symposium comprised of five papers, each presenting a unique aspect of a research pilot project. This symposium, *NeoECHO to Disseminate NEC-Zero Initiatives to Southwestern U.S. Neonatal ICUs* offers five evaluations of different sets of data collected about six remote educational sessions delivered to Neonatal ICU (NICU) teams from Southwestern U.S.

Rationale: Necrotizing enterocolitis (NEC) is a devastating diagnosis that premature neonates are at risk for developing. Disseminating best practices saves lives. Project ECHO, an acronym for Extension for Community Healthcare Outcomes., utilizes the internet, webcams and a video conferencing platform with a hub-spoke model. Project ECHO is a burgeoning strategy for disseminating education to remote healthcare providers nationally and internationally. Project ECHO's intent is to educate and provide best practice information to primary care healthcare providers. NeoECHO applied the hub-spoke strategy to quality improvement efforts in NICUs. The hub is the center where experts and facilitators present a case study and didactic with information for the spokes. The spokes are NICUs teams who attend the presentation from remote locations via the videoconferencing platform. Project ECHO is guided by Moore's framework that provides seven levels of evaluation for continuing education. Our pilot study utilized the same framework for evaluations of case studies and didactic presentations from the hub. However, our goal was not to educate only individual practitioners but to improve the quality of care for neonates at risk for and diagnosed with NEC. Other alterations used in the NeoECHO application were the use of interdisciplinary teams and Internal Facilitators.

Methods: The symposium presents five papers that use quantitative and qualitative methods to evaluate data collected from 208 participants and six Internal Facilitators. Data was collected through surveys, interviews and text-based feedback.

Results: The first paper, *NEC-Zero Initiatives as a Foundation for NeoECHO*, describes the etiology and disease process of NEC and the development of the NEC-Zero toolkit, which provided the content for didactic components of each session. The second paper, *NeoECHO as a Dissemination Strategy for the NEC-Zero Toolkit,* describes the NeoECHO dissemination strategy for motivating behavior changes in the NICU interdisciplinary team members and study outcomes indicating a change in practice. The third paper, *Quantitative Evaluation of NeoECHO, an Evidence-Based Intervention to Reduce NEC*, presents outcomes from NeoECHO feasibility and acceptability measures. The fourth paper*, Uncovering Clinical Controversies of Necrotolizing Enterocolitis during NeoECHO*, presents the case-based approach and an evaluation of the open discussions about the case presentations. The final paper, *Internal Facilitator Perspectives,* describes the role of the Internal Facilitator and qualitatively evaluates the transcripts of their interviews at the completion of the study.

Implications: The papers present a well-rounded perspective of the findings from the NeoECHO study and have served as a foundation for the application of an R01 to the National Institutes of Health.

SYMPOSIUM: NEOECHO TO DISSEMINATE NEC-ZERO INITIATIVES TO SOUTHWESTERN U.S. NEONATAL ICUs

NEC-Zero Initiatives as a Foundation for NeoECHO

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Purpose/Aims: Recently our team developed and shared evidence-based prevention via a comprehensive toolkit called "NEC-Zero" to neonatal intensive care units (NICUs) using a telehealth delivered intervention (i.e., Neonatal Project ECHO, "NeoECHO") to spread this information and facilitate implementation across seven NICUs in the Southwest. The purpose of this paper is to present the background of the evidence-based toolkit, NEC-Zero. The aims are to discuss NeoECHO's implementation of the toolkit and provide collaborative care intention data.

Rationale/Conceptual Basis/Background: Although necrotizing enterocolitis (NEC) is one of the chief causes of emergency surgery and death among premature infants, prevention practices like promoting exclusive breast milk feeding are low-cost and widely available. Variability of adoption across NICUs foster disparities and affect NEC rates across NICUs. Some NICUs have implemented NEC prevention as quality improvement initiatives to systematically reduce their rates. The gap between the highest performing NICUs with the highest rates of NEC (i.e., > 12% of infants born < 1500 grams) and the lowest rates (i.e., <2%) is demonstrating the degree to which NEC can be prevented for most babies- if not all.

In 2016, a national team convened and identified implementation strategies from the research evidence that could be adopted into practice. These components became essential to the NEC prevention and timely recognition toolkit and included family engagement and inclusion strategies. Also in 2016, the U.S. Legislature signed into law the "Expanding Capacity for Health Outcomes (ECHO) Act" to spur "*technology-enabled collaborative learning and capacity building models*" and speed their impact to prevent disease and improve public health outcomes among under-served groups. The ECHO model has been shown to be effective, but in an exhaustive search, we found no examples of its application to high risk, premature neonates or to the inpatient care setting in general and have thus titled our approach, "NeoECHO".

Methods: Content from the NEC-Zero toolkit provided the foundation for the six NeoECHO sessions; 1) Prioritizing human milk use, 2) parents as partners, 3) standardized feeding protocols, 4) evidence-based practice–feeding tubes, residuals, and fortification, 5) timely recognition and treatment strategies, and 6) medication stewardship–antibiotics and antacids. Using two existing conceptual models to guide the planning, measurement, and facilitation of NeoECHO, we connected specialists to diverse NICUs using simultaneous interactive video conferences centered around case presentation, didactic presentations, discussion, and recommendations for NEC quality improvement.

Results: Core teams from each NICU attended all six sessions and provided feedback that was quite positive, although overall attendance decreased over the series. Collaborative care intention data offered by participants suggest that this model is scalable. Examples include, "*As a result of the last session, we were able to have a healthy discussion with nursing administrators about how checking residuals may do more harm than good." "Having multidisciplinary people from different facilities present via video conferencing is incredibly helpful*." "*We have changed many policies in our unit because of this series."*

Implications: This study confirmed that NEC-Zero tools could address NEC through dissemination using NeoECHO to reach Southwestern U.S. NICUs.

Funding: NeoECHO supported by Laurence B. Emmons Award - University of Arizona, College of Nursing NEC-Zero supported by Agency for Healthcare Research and Quality (K08HS022908), Robert Wood Johnson Foundation (72114) and the National Library of Medicine (NLM)/ National Institutes of Health (NIH) (UG4LM012341)

SYMPOSIUM: NEOECHO TO DISSEMINATE NEC-ZERO INITIATIVES TO SOUTHWESTERN U.S. NEONATAL ICUs

NeoECHO as a Strategy for Disseminating the NEC-Zero Toolkit to Improve Best Practices

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Purpose: The aim of this paper is to describe NeoECHO as a NEC-Zero toolkit dissemination strategy and provide evidence of efficiency in intention to improve best practices through quality improvement initiatives on NICUs in Southwestern U.S.

Rationale: Internet-based continuing education has been used for almost two decades. There are many benefits for dissemination; however, there are challenges with engaging participants. Engagement in knowledge acquisition changes attitudes, which then can lead to behavior changes or adoption of new behaviors. The Extension for Community Healthcare Outcomes (ECHO) is a collaboration project with a successful strategy that engages individual remote national and international healthcare providers in knowledge acquisition on how to apply best practices in primary care or specialties. Caring for neonates at risk for or diagnosed with necrotizing enterocolitis (NEC), a devastating complication of prematurity, requires a unique set of best practices from the interdisciplinary team in the Neonatal Intensive Care Unit (NICU). However, *the team*, not an individual, must engage in quality care using best practices. NeoECHO was developed using Project ECHO strategies to affect the entire NICU team to apply evidence-based practices that are contained in the NEC-Zero toolkit.

Methods: Six 1-hour sessions (over 12 weeks) each contained a didactic and case presentation with strategies for engaging the attendees from seven remote NICUs using web cameras and a Zoom videoconferencing platform. Facilitation strategies promoted engagement. Project ECHO is founded in Moore's Framework that contains seven levels for evaluating continuing education. Six post-session REDcap surveys collected data consistent with Moore's levels and is presented elsewhere in this collection of papers. However, a single open-ended statement in the survey that demonstrated intention to change practice will be discussed here. The statement is: "As a result of what I learned from my participation in this activity, I intend to make the following practice/performance changes that I believe will result in more positive patient outcomes." A content analysis of the responses resulted in themes to indicate behavior change intention in practice.

Results: There were 204 total responses to this statement, with an average of 34 responses per NeoECHO session. Team members represented in the statements included physician, nurse practitioner, nurse, manager, dietician, lactation specialist and others. The following intention themes were identified: 1) use of a NEC risk assessment tool on NICU; 2) change in individual practice; 3) create a practice change initiative on unit; and 4) further investigate details of information. All responses applied a sessions' didactic or case presentation information to improving the quality of care that will reduce the potential or prevalence of NEC on their NICU.

Implications: Project ECHO can be used as a strategy for disseminating quality improvement to hospital units to promote best practices. Further investigation into exploring possible NICU challenges for transforming intentions into actual implementation is needed. An R01 for a study that will apply findings from this pilot study to a nation-wide audience and collect data on hospital outcomes reflecting reduction in NEC occurrences has been submitted to National Institutes of Health.

Funding: Laurence B Emmons Award, University of Arizona, College of Nursing

SYMPOSIUM: NEOECHO TO DISSEMINATE NEC-ZERO INITIATIVES TO SOUTHWESTERN U.S. NEONATAL ICUs

Quantitative Evaluation of NeoECHO, an Evidence-Based Intervention to Reduce NEC

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Purpose/Aims: NeoECHO is an evidence-based educational quality improvement intervention with the intent of reducing necrotizing enterocolitis (NEC) in fragile infants. The purpose of this paper is to describe quantitative outcomes for the feasibility and acceptability of delivering NeoECHO to NICUs.

Rationale/Background: Despite significant advances in neonatal care, NEC is a potentially fatal complication of premature birth. One aspect of the NEC-Zero initiative is the development of NeoECHO to enable collaboration within NICUs interested in quality improvement through virtual learning communities. The intent of NeoECHO was to emphasize risk reduction and timely recognition of NEC. Designed using a case-based approach steeped in evidence, six bi-weekly, one-hour interventions were delivered over a three-month period using the HIPPA compliant Zoom videoconferencing platform so NICUs over Southwestern US could attend. Modeled after Project ECHO, each session included a didactic and a case presentation.

Methods: Moore's framework provided the evaluation structure for measuring and appraising NeoECHO delivery. After each NeoECHO session concluded, participants were requested to evaluate how well NeoECHO session objectives were met; the degree to which the NeoECHO delivered balanced, unbiased, evidence-based content; opportunities to ask questions; the pace of the session; the presenter's ability to clearly communicate the material; what they liked most or least about the session; and if case-based learning and discussion is effective and relevant to their practice, etc. Aggregated, de-identified data was reported. Open-ended comments were solicited as feedback from evaluations. Quantitative data collected included demographics and measurement of the effectiveness and utility of NeoECHO, levels of participation, satisfaction, competence, and performance. Involvement in the study was voluntary.

Results: Of the 7 participating NICU sites, a sample of 90 unique NICU participants attended at least one NeoECHO session with many attending more. A total of 261 signed into the six NeoECHO sessions, with 208 evaluations completed. Of those who completed evaluations, 29 unique participants completed 3 or more. Quantitative evaluations for the standard CME questions showed that on a 1-4 scale [i.e., 1= strongly disagree, 2= disagree, 3= agree, and 4= strongly agree] overall mean scores were strong for 1) meeting objectives (M= 3.59), 2) organization (M=3.54), 3) clear communication of content (M=3.58), 4) ability to ask and receive answers for questions (M=3.59, 3.60), and 5) intention to attend the next session (M=3.59). When asked about NeoECHO specific content and their intention to apply what they learned, participants were very positive and consistent in their responses across the 6 sessions. These questions were asked on a 1-5 scale. Overall ratings of session quality were enthusiastic (M=4.58), and participants felt it helped them identify prevention evidence (M=4.19), apply evidence-based implementation strategies (M=4.25), and examine practice changes to improve quality (M=4.24). Participants agreed that the NeoECHO format gave them information that would help them reduce NEC (M=4.42). Responses across the 6 sessions showed minimal variation (SDs 0.06-0.20).

Implications: The results from this study suggest that NeoECHO is a feasible and acceptable intervention for delivering information on NEC and will be used to guide and scale for a nationwide clinical trial.

Funding: This study was supported by the Lawrence B. Emmons Award - University of Arizona, College of Nursing.

SYMPOSIUM: NEOECHO TO DISSEMINATE NEC-ZERO INITIATIVES TO SOUTHWESTERN U.S. NEONATAL ICUs

Uncovering Clinical Controversies of Necrotolizing Enterocolitis during NeoECHO

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Purpose: Supported by the Promoting Action on Research Implementation in Health Services (iPARHIS) framework, project NeoECHO provided a virtual platform to disseminate current evidence as a method to support practice change and reduce the risk of necrotizing enterocolitis (NEC) in the preterm population.

Aim: Active facilitation via NeoECHO will boost implementation of evidence-based NEC prevention practices by local clinicians to mitigate disparities in neonatal outcomes.

Rationale/Background: Necrotizing enterocolitis (NEC) is a severe intestinal infection and remains a chief cause of emergency surgery and death among premature infants despite the availability of low-cost prevention practices. Prevention practices include the availability and consistent use of human milk in the fragile neonate, standard feeding guidelines, antibiotic stewardship and parental engagement. Neonatal Intensive Care Units (NICU's) that have demonstrated adoption of evidence-based prevention practices have significantly reduced the incidence of NEC while others report consistently elevated NEC rates. Outcome disparities among NICU's may be related to contextual differences including the lack of resources which could benefit from active facilitation within a learning community to foster implementation of NEC preventing evidence-based practice (EBP). To support this gap, the multidisciplinary learning community, NeoECHO was used as a novel method to identify effective strategies to improve knowledge and practice changes supported by current evidence.

Methods: Multidisciplinary teams from seven NICU's across the southwest United States were recruited for participation in NeoECHO. The University of Arizona telehealth center hosted the NeoECHO team for six virtual sessions over 12 weeks. The bi-weekly curriculum focused on clinical evidence which aligned with **GutCheck$^{\text{NEC}}$,** a validated NEC risk reduction tool. Case forms were developed to organize pertinent information presented by internal facilitators from each NICU site. Case presentations were used as a data source for the virtual learning community. Nationally recognized speakers presented topical information to the learning community which aligned with both the curriculum and case presentation. Following the case-based approach, the NeoECHO team members facilitated discussion among the virtual community, providing rationale based on current evidence.

Results: Open discussion among all participants provided a venue for engagement. Clinical controversies emerged when clinical evidence and practice was inconsistent or when evidence to support practice was lacking. The topics raised by the learning community included neonatal feeding practices, use of donor human milk, resource diversity among NICU's, NEC risk tool implementation, treatment decisions based on risk assessment tool, parental engagement, breastfeeding resources and promotion were key issues raised by the NeoECHO learning community. One unexpected outcome of NeoECHO was open discussion about NEC risk, barriers and facilitators to practice change and identification of several clinical controversies supporting future research based on identified gaps in the evidence.

Implications: Understanding NEC in the preterm infant is a complex issue, hampered by contextual factors that may not be well controlled. Disparities among clinical practices and resource availability added to the clinical controversies, for example those NICU's without access to human milk fortification. The NeoECHO learning community supported needed research in the area of NEC risk identification, prevention and treatment to reduce disparities.

Funding: Lawrence B. Emmons Award

SYMPOSIUM: NEOECHO TO DISSEMINATE NEC-ZERO INITIATIVES TO SOUTHWESTERN U.S. NEONATAL ICUs

Internal Facilitator Perspectives

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Purpose/Aims: To promote adoption of best practice for necrotizing enterocolitis (NEC) prevention using NeoECHO. Specific aims were: 1) describe the internal facilitators' activities and experience leading their NICUs to participate in NeoECHO; and 2) identify the extent to which the facilitation activities and NeoECHO experience were consistent with constructs from the iPARHIS framework.

Rationale/Background: Necrotizing enterocolitis remains a major complication in the neonatal population. While exact pathways to NEC remain uncertain, common risk factors have been identified, some of which are modifiable. Standard practices regarding the care of premature infants and attitudes to preventing NEC, which vary across neonatal Intensive Care Units include human milk promotion, donor milk availability, antibiotic stewardship, anemia prevention and use of feeding protocols. To close gaps between evidence and practice a telehealth-delivered intervention (i.e. NeoECHO) was provided virtually to NICUs. Support from internal facilitators (IF) as an implementation strategy is a core component of the integrated Promoting Action on Research Implementation in Health Services (iPARHIS) framework, but it is unknown how well its constructs apply to NICU clinicians or the incidence of NEC. An IF works to help their team access information while simultaneously participating in the team activities. During this project, the IFs also assisted researchers through interviews to provide feedback on the process and learning in NeoECHO.

Methods: The study design was qualitative description. The setting included seven NICUs in the Southwest (Nevada, Texas, Arizona) with an IF recruited at each NICU. At the conclusion of six NeoECHO sessions over 3-months, individual interviews were conducted with each IF via zoom web-conferencing and transcribed verbatim. Content analysis techniques were applied. Two researchers open-coded the transcripts, codes were then discussed, informed by the iPARHIS framework and preliminary codes applied to remaining transcripts. iPARHIS constructs of interest were: 1) innovation, 2) recipient, 3) context, 4) facilitation, and 5) adoption. Internal facilitation was explored at the conclusion of NeoECHO as a process and as a role (i.e. their particular experience within their NICU).

Results: *Internal facilitator roles*: Six IFs roles included staff nurse, nurse manager, nurse practitioners, registered dietician and physician. *Major themes:* Categorized by the iPARHIS model. 1) Innovation themes were QI projects, Bundles of Care, and Huddle; 2) Recipient themes were Reluctant Stakeholders and Technical Modalities; 3) Context themes were Buy In, Timing, Resources and Blame; 4) Facilitation themes were Betterment, Buddy System, Passionate Care and Empowerment; 5) Adoption themes included Continuous Quality Improvement, Evidence Based Practice and Honest Discussions.

Implications: NeoECHO fostered a learning community to share current practices, policies, and strategies to implement prevention but the internal facilitators were essential to foster local participation and encourage continued quality improvement in the NICU. Teams were encouraged to adopt strategies for their individual units using CQI models in order to decrease their unit's NEC rates.

Funding: Laurence B Emmons Award

SYMPOSIUM: THE COMPLEX ROLE OF INCENTIVES, AND THE ENGAGEMENT OF NURSE PRACTITIONERS IN VALUE-BASED PAYMENT MODELS

Overview: Engagement of Nurse Practitioners in Value-Based Payment Incentive Models

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Background and Purpose: Despite spending more per capita on health care than any other industrialized county, the United States' population health indicators are poor. Value-based payment models, such as pay-for-performance (P4P), have proliferated as public and private payers have focused on shifting from fee-for-service (FFS) to a system that incentivizes value and quality outcomes. The empirical evidence in support of P4P programs is weak with mixed evidence that these payment models positively impact health outcomes. The complexity of the incentive structure as well as the lack of provider engagement have been cited as factors limiting the success of P4P programs. Much of the research on provider engagement in P4P has focused on physician engagement. There is a paucity of literature exploring: 1) the role of APRNs in value-based payment models, and 2) the impact that provider engagement and attitudes have on the effectiveness of P4P models. Therefore, a systematic review, exploratory cross-sectional study, and a qualitative analysis were completed.

Methods: The systematic review adhered to the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols. EBSCO, CINAHL, Cochrane, and grey literature was searched for any article that discussed individual provider salary in last five years. Second, an exploratory cross-sectional research design was used to assess NP practice setting, practice environment, and experience with P4P on attitudes about P4P and change in practice behavior in the setting of P4P. Finally, an exploratory descriptive qualitative analysis to explore the salient factors of intrinsic motivation within the context of NP perceptions of practice environment and value-based payment models.

Results: The systematic review yielded 30 articles. A narrative synthesis was conducted, which revealed four common topics: healthcare as an economic anomaly, provider motivation and the ability to incentivize value, ethics, and provider-employer-payer alignment. These themes were also relevant to the other two projects. In the cross-sectional study, NPs carrying a patient panel had a higher mean score on their total practice environment score, and were more likely to score higher on their perceived attitudes about P4P, specifically the P4P Awareness and Support subscale. Having a patient panel and Awareness and Support subscale score were predictive of likelihood to change practice behavior in the setting of financial incentives. In the qualitative arm, five themes emerged in the exploration of intrinsic motivation and practice environment in the setting of P4P: 1) Practice environment is foundational, 2) NP role defined by autonomy and support: I have a voice, 3) Intrinsic motivation driven by purpose and patients, 4) Quality is more than a number, and 5) Value-based payment does not impact day-to-day practice.

Conclusions: APRNs are Medicare Part B-eligible providers and, thus, subject to the Medicare P4P Program. Furthermore, APRNs serve 30% of Medicare beneficiaries. This exemplifies the increasing role of APRNs in health care delivery. Projects such as these are important to understanding APRNs' behavior in the setting of financial incentives and value-based payment. This has a significant policy implications.

SYMPOSIUM: THE COMPLEX ROLE OF INCENTIVES, AND THE ENGAGEMENT OF NURSE PRACTITIONERS IN VALUE-BASED PAYMENT MODELS

Examining Nurse Practitioner Attitudes about Pay-for-Performance Models

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Purpose: This study examined the relationship between nurse practitioner (APRN) practice setting, exposure to pay-for-performance (P4P) payment models, and practice environment on attitudes about P4P in Colorado.

Background: Pay-for-performance (P4P) payment models have proliferated in the last 20 years as a primary mechanism to incentivize provider behavior to improve quality of care and reduce cost of care. The literature on the effectiveness of P4P is mixed and provider engagement in the model development and implementation has been identified as a gap. There is limited research related to APRN engagement in P4P. APRNs serve an increasing number of Medicare and Medicaid beneficiaries and are well-poised to be effective leaders in P4P. The proposed theoretical framework, founded in economic literature and literature on practice environment and intrinsic motivation, was used to explore APRN engagement in the setting of P4P.

Methods: An exploratory cross-sectional research design was used to assess APRN practice setting, practice environment, and experience with P4P on attitudes about P4P and self-reported change in practice behavior in the setting of P4P. Practice environment was measured using the NP-PCOC instrument which measures four constructs: APRN professional visibility, APRN Administration relations, APRN-MD relations, and independence and support. The instrument used to measure APRN provider attitudes about P4P measured three constructs: clinically meaningful, awareness and support, and P4P rewards positive.

Results: Of the 2305 surveys mailed, 383 responses were received. APRNs in Colorado working in the outpatient ambulatory/primary care setting reported practicing autonomously with more than two-thirds reporting their own patient panel, 29% receiving a bonus for quality and 33.7% receiving a bonus for productivity. APRNs reported greater exposure to quality measures than P4P. APRNs who received a bonus for quality or productivity, or had their own patient panel, reported higher experience with P4P. Individuals reporting their own patient panel had a higher mean score on their total practice environment score. APRNs carrying a patient panel, or receiving a bonus for productivity or quality, were more likely to score higher on their perceived attitudes about P4P, specifically the Awareness and Support subscale within the setting of P4P. Both having a patient panel and Awareness and Support subscale score were predictive of likelihood to change practice behavior in the setting of financial incentives.

Conclusions: APRNs in Colorado have the opportunity to practice autonomously in supported environments where they serve as the primary care provider for a panel of patients. Positive attributes of practice environment and having a patient panel influenced their attitudes about P4P. Positive attitudes about P4P Awareness and Support and carrying a patient panel were predictive of the likelihood that APRNs would change their behavior in the setting of incentives. However, most APRNs have not changed their behavior. This provides an opportunity to mobilize this workforce in support of new models of care delivery and payment. This research builds on existing research about the value of APRN, engagement in P4P.

SYMPOSIUM: THE COMPLEX ROLE OF INCENTIVES, AND THE ENGAGEMENT OF NURSE PRACTITIONERS IN VALUE-BASED PAYMENT MODELS

Pay-for-Performance Payment Reform and the Unknown of Provider Behavior

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Purpose: Policymakers and healthcare leaders have searched for a payment model to balance provider, patient, and payer interests. Stakeholders have recently been interested in the pay-for-performance (P4P) model, which introduces incentives for meeting performance measures. The purpose of this systematic review was to explore what is known or postulated about clinicians' response to incentivization schemes and how that should inform nursing's payment reform advocacy efforts.

Background: Historically, payers have used the fee-for-service (FFS) model, which leads to service overuse. Healthcare reimbursement is demonstrative of the tenuous balance between ideological desires (i.e. providing the highest quality of care to every person no matter their socioeconomic status) and fiscal responsibility and reality (i.e. limited resources to provide that care). The United States (U.S.) has struggled to find that equilibrium, which has led these interest groups to P4P. Because of its logical appeal, P4P has garnered a lot of interest and ideological buy-in; in turn, that optimism has led U.S. payers—public and private—to start implementing P4P based compensation. There are methodological and philosophic considerations that needed to be considered as PFP reimbursement continues to grow. Specifically, payment reforms need to consider how providers respond to incentivization schemes.

Methods: The team performed a systematic review which adhered to the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols guidelines. EBSCO, CINAHL, Cochrane, and grey literature was searched for the last five years and included any article that discussed individual provider salary. The above protocol yielded thirty articles; the team then focused on handsearching the references of those 30 articles and current state and national P4P policy. The team discovered 22 more relevant references. A PRISMA flow-diagram was used to report the information. Given the lack of standardized methodologies and measurements, a narrative synthesis was conducted.

Results: The review revealed the following four common topics: healthcare as an economic anomaly, motivation and the ability to incentivize value, ethics, and provider-employer-payer alignment.

Outcomes: Healthcare represents an anomaly for economic models, and the uniqueness of transactions make it difficult to compare to non-healthcare industries. Healthcare providers and their behaviors are one of the main peculiarities and make payment reform efforts more difficult. Indeed, some research suggests that, while simple tasks respond to financial incentives, complex behaviors (i.e. providing quality care) are based on intrinsic motivators. Intrinsic qualities are harder to incentivize at the policy-wide level. Furthermore, policy is also bound to the conflicting goals of balanced budgets and quality care. Finally, there is an abundance of literature regarding the methodology in which insurance companies pay for healthcare related service; however, there is a paucity when it comes to how healthcare organizations reimburse their providers. Policy reform is currently focused more on payer-organization incentives, and should be broadened to the payer-provider level.

Conclusions: Research surrounding clinician behavior has serious implications for the current policy shift towards P4P. Payment reform needs to be comprehensive and include considerations of clinicians' motivation. If the focus remains solely on payer-organization relationships, future reforms will be severely limited.

SYMPOSIUM: THE COMPLEX ROLE OF INCENTIVES, AND THE ENGAGEMENT OF NURSE PRACTITIONERS IN VALUE-BASED PAYMENT MODELS

Perspectives on Practice Environment Motivation with Value-Based Payment Incentives

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Purpose: The aim of the study was to explore Nurse Practitioners' (APRNs') perceptions of their practice environment and intrinsic motivation in the setting of value-based incentive models. The specific objectives are to understand APRNs' perspectives on: 1) practice environment and the influence of practice environment on intrinsic motivation; 2) exposure to and experience with value-based incentive models; and, 3) perceptions on the value of incentives in influencing quality of care.

Background: Pay-for-performance (P4P) incentive models are specifically designed to influence provider behavior. The lack of provider awareness, engagement, and positive attitude about the P4P programs has been cited as key factors limiting the impact of P4P programs on patient outcomes. Additionally, P4P incentive models may negatively impact provider's intrinsic motivation as the incentive serves to crowd out the provider's individual drive. A conceptual framework and validated instrument developed to assess physician attitudes about P4P identified provider characteristics, practice environment, incentive program structural features and provider attitudes as important constructs within P4P. NPs increasing serve as the primary care provider for patients. APRNs are Medicare Part B-eligible providers and thus subject to the Medicare Quality Payment Program which incorporates P4P principles. There is a gap in our understanding of APRN engagement in P4P. Additionally, there is a gap in understanding the role of intrinsic motivation within the value-based practice environment. Because of this, it is important to assess these core constructs of P4P engagement in an NP population through qualitative exploration to guide future research.

Methods: An exploratory descriptive qualitative analysis of semi-structured interviews to explore the salient factors of intrinsic motivation within the context of APRN perceptions of practice environment and value-based payment models such as P4P. Semi-structured key-informant interviews carried out with 14 APRNs practicing in the ambulatory care setting.

Results: A total of five themes emerged in the exploration of intrinsic motivation and practice environment in the setting of P4P: 1) Practice environment is foundational, 2) APRN role defined by autonomy and support: I have a voice, 3) Intrinsic motivation driven by purpose and patients, 4) Quality is more than a number, and 5) Value-based payment does not impact day-to-day practice.

Conclusions: APRN participants felt supported in their practice environment and autonomous in their ability to serve as the primary provider for their patients. Many reflected on a strong intrinsic motivation; that motivation was driven by their purpose to serve their patients. Most APRNs respondents have experience with quality measurement and see themselves as key drivers of clinical quality. Within the setting of VBP and extrinsic incentives, the interviewees felt strongly that the incentive alone would not lead to change in practice behavior. Consideration of the patient and their goals, quality of care, and doing the right thing all serve to balance out the extrinsic factors. Taken together, this paints a picture of the potential for increasing APRN engagement in P4P and value-based payment and provides direction for administration and leadership on how to evaluate their current policies and inclusion of APRNs in leadership and engagement in P4P.

SYMPOSIUM: TRANSFORMING PRIMARY CARE NURSING ROLES THROUGH EDUCATION AND CLINICAL PRACTICE INITIATIVES: THE UNIVERSITY OF UTAH NURSE EDUCATION, PRACTICE, QUALITY AND RETENTION PROGRAM

Overview: Transforming Primary Care Nursing through Education and Practice Initiatives

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Purpose: The overarching purpose of the University of Utah College of Nursing Education, Practice, Quality and Retention Program (NEPQR) is to recruit and train nursing students and current registered nurses (RNs) from rural and underserved areas of Utah to practice primary care (PC) at the full scope of their licenses. To achieve this purpose, we have developed and implemented didactic and experiential educational programs for undergraduate nursing students and PC RNs working in rural and underserved areas.

Background: Since the 2016 Macy Foundation Report, "Registered Nurses: Partners in Transforming Primary Care", there has been increased acknowledgement of the need for enhanced training of RNs to address growing PC needs. Utah ranks 49th in ratio of population for PC physicians. Only 6% of RNs work in ambulatory care settings. Therefore, training RNs to work in PC as integrated interprofessional team members contributing to healthcare quality and value is essential to meet the health care needs of patients.

Undertaking: NEPQR funding has provided us the opportunity to implement training programs for undergraduate nursing students and working RNs in PC clinics in rural and underserved areas. This symposium highlights the development and implementation of programs during the first 18-months of funding. 1) Faculty experts developed "digital badges", asynchronous online modules, around the following PC emphasis areas: behavioral health, population health, chronic disease management, patient engagement, care management, end of life, and caregiving. 2) Undergraduate faculty identified courses within the prelicensure and RN-BS curricula to incorporate the digital badges. 3) Interprofessional clinical based opportunities in PC were made available to students. 4) The NEPQR clinical liaison completed needs assessments to identify rural health clinics ready to engage RNs in transformed roles, such as RN led annual wellness visits, and then implemented protocols and mentored nurses in their new roles.

Outcomes Achieved: Symposium abstracts highlight how our NEPQR programs are enhancing PC delivery to rural and underserved populations. We have successfully developed and integrated "digital badges" into the prelicensure and RN-BS curricula and students. Students have provided positive feedback to the need for PC content and satisfaction with badge content. However, further education about the purpose of the badges is needed. 2) Undergraduates nursing students are members of interprofessional student teams working with community partners to address challenges of individuals to better navigate complex health care needs. Rural clinics have developed and implemented nurse led protocols, such as annual wellness visits, and are exploring other protocolized nursing roles.

Conclusions: Our programs provide nursing students and working RNs with the skills needed to meet growing PC demands in rural and underserved areas of Utah through tailored curriculum and professional development opportunities. In addition to the programs highlighted in this symposium, we are developing preceptor training for primary care RNs in clinics who embrace the transformed nursing role. Partnering PC clinics will provide shadowing opportunities for undergraduate faculty, and longitudinal clinical experiences for students. In addition, these clinics serve as sites for NEPQR initiatives that demonstrate the value of PC RNs in providing cost-effective high-quality care.

Funding: This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under UK1HP31735, Nursing Education, Practice, Quality, and Retention – Registered Nurses in Primary Care Program.

SYMPOSIUM: TRANSFORMING PRIMARY CARE NURSING ROLES THROUGH EDUCATION AND CLINICAL PRACTICE INITIATIVES: THE UNIVERSITY OF UTAH NURSE EDUCATION, PRACTICE, QUALITY AND RETENTION PROGRAM

Digital Badges to Deliver Primary Care Content for Students and Nurses

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Purpose: An objective of the University of Utah Nurse Education, Practice, Quality and Retention project is to develop digital badges addressing primary care nursing roles and responsibilities. The aims of the primary care digital badges are to: 1) promote student learning and awareness of nursing roles and responsibilities related to primary care; 2) provide community healthcare partners the opportunity for professional development related to the RN roles and responsibilities in primary care; and 3) promote bachelors of nurses working to the top of their licensure in primary care nursing.

Background: To achieve the goals of value-based care, baccalaureate nursing education is challenged to prepare nurses for expanded roles in primary care. Rural and under-served populations continue to face increased healthcare disparities due to lack of basic primary care services - further supporting the need for RNs to be prepared as effective interdisciplinary team members in primary care. While primary care concepts are grounded in foundational nursing curriculum, they are often not comprehensively addressed. Practicing primary care RNs often lack formal training in the primary care nursing role and thus often do not work at the full scope of practice.

Digital badges are digital records of achievement, electronic ‘credentials’ which, when opened, display a set of objectives indicating the owner’s accomplishments. Digital badges can be a way for nursing students to earn competencies as they move towards degree completion. Further, students and practicing primary care nurses can obtain digital badges in primary care competencies that help them market their knowledge of enhanced roles of primary care for current and future employers.

Undertaking: Our approach was to develop 6 digital badges (population health, chronic illness prevention and management, end of life, care management and planning, patient engagement, and behavioral health) illustrating the enhanced primary care nursing role. The badges were developed with expert faculty and require approximately 5 to 9 hours of student time to complete. Each module contains video introduction, case studies, and readings. The fully online modules were developed to be: 1) integrated into current curriculum for the baccalaureate students, as well as, 2) offered to RNs in the community as stand-alone modules for continuing education credit.

Outcomes Achieved: The content was integrated into Fall 2019 baccalaureate curriculum. Students agree that the modules are interesting and provide important primary care nursing content. Continuing education credit is provided by UHealth Continuing Education department and the web-based delivery of the badges for licensed RNs was completed. In addition to the existing course evaluations, specific assessment of primary care skills are measured with the students and RNs.

Conclusions: Nurses have been called out to work to the fullest extent of their licensure as full partners within interprofessional primary care teams. These roles, while not new, have been enhanced and better defined. As healthcare faces the full implementation of value-driven payment structures, there will be more demand for primary care RNs. Therefore, it is imperative that innovative curricula teaching preparing RNs for these enhanced roles be made available for students and the licensed workforce.

Funding: This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under UK1HP31735, Nursing Education, Practice, Quality, and Retention – Registered Nurses in Primary Care Program.

SYMPOSIUM: TRANSFORMING PRIMARY CARE NURSING ROLES THROUGH EDUCATION AND CLINICAL PRACTICE INITIATIVES: THE UNIVERSITY OF UTAH NURSE EDUCATION, PRACTICE, QUALITY AND RETENTION PROGRAM

Integrating Primary Care Nursing throughout Undergraduate Nursing Curricula

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Purpose: A primary goal of the University of Utah Nurse Education, Practice, Quality and Retention (NEPQR) program is to increase primary care (PC) knowledge and competency by integration of content in the undergraduate curriculum through a rural health scholars program, integration of PC “digital badges” and longitudinal clinical experiences.

Background: Baccalaureate Nursing school curriculum has historically been designed around care of patients in acute settings. Health care reform aimed at decreasing costs, improving effectiveness and increasing accessibility supports evolving nursing roles in PC delivery. Evidence indicates that, although registered nurses (RNs) are well-positioned to provide primary care, their education generally does not adequately address primary care competencies. Therefore, there is a need to enhance undergraduate curricula with PC content and clinical experiences. Our current concept-based curriculum includes health promotion and illness prevention concepts making PC integration of primary care competencies an appropriate enhancement to existing content.

Undertaking: The ultimate goal was to appropriately integrate PC content within the existing curricula for the Nursing Early Assurance program (NEAP), prelicensure and RN-BS programs. NEAP students interested in PC become rural health scholars through the state Area Health Education Center (AHEC). We undertook a systematic curriculum assessment regarding relevant PC content in the prelicensure and RN-BS tracks. Because many undergraduate nursing faculty members have little experience in the PC RN role, education regarding the purpose, rationale, and description of enhanced PC content and potential RN roles was provided through expert consultation, webinars, visits to baccalaureate program meetings and face-to-face meetings with key faculty. PC content teams were identified to collaborate with faculty teaching in prelicensure and RN-BS courses where learning objectives aligned with specific PC “digital badges”. Faculty connected with clinical agencies already utilizing nurses in transformed PC roles to develop practice sites for longitudinal student clinical experiences.

Outcomes Achieved: One NEAP student is a 2019-2020 Rural Health Scholar. Twelve primary care content modules were developed and integrated into both the prelicensure and RN-BS curricula. All undergraduate students beginning in fall 2019 will complete the modules and earn “digital badges” identifying their achievement of specific PC competencies. PC clinical partners have been identified, and RNs are being trained, to precept students in community-based longitudinal PC clinical experiences. On-going assessment includes course evaluations, satisfaction surveys and clinical experience assessments. An expert consultation evaluation will occur in year 4 of the project.

Conclusions: Integration of PC content was challenging due to already full curricula. Online “digital badges” allowed faculty to assign PC content where most appropriate. “Digital badges” provide students with PC competencies prior to graduation that can be included on resumes. In addition to curricular enhancements, students will have the option to engaged in longitudinal clinical placements to develop interprofessional PC team skills. The NEPQR will begin marketing PC nursing early in all programs to increase interest in the Rural Health Scholars Program and PC clinical experiences. As healthcare trends continue to aim toward improved patient experiences, outcomes and population health, and cost reduction, further curricular assessment and revision may be necessary.

SYMPOSIUM: TRANSFORMING PRIMARY CARE NURSING ROLES THROUGH EDUCATION AND CLINICAL PRACTICE INITIATIVES: THE UNIVERSITY OF UTAH NURSE EDUCATION, PRACTICE, QUALITY AND RETENTION PROGRAM

Bridging Primary Care & Interprofessional Education in Community-Based Complex Care

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Purpose: A community-based, multi-sector primary care partnership is providing undergraduate nursing students with collaborative interprofessional experience in population health and social determinants of health. A student value-added framework guides the design, creating a program that addresses the needs of individuals with complex health and social needs while providing students with critical learning opportunities.

Background: Individuals with complex health and social needs are often not well served by traditional models of primary care (PC) and rely heavily on emergency services, a costly alternative to PC, both financially and in terms of health outcomes. Making positive change for these individuals requires careful consideration of social determinants of health and health equity and provides important opportunities for student value-added learning. Academic community partnerships can provide interprofessional student teams with PC experience and align patient needs with health care system needs and resources.

Undertaking: In 2016 faculty from nursing, social work, pharmacy, and medicine launched the Interprofessional Student Hotspotting Program in collaboration with the AAMC and the Camden Coalition for Health. Teams work collaboratively to identify and apply health and non-health sector interventions that address the unique circumstances of each patient and community. All participating students develop IPEC Competencies within the framework of systems-based practice. Annually, eight teams of 5-6 students work with trained faculty advisors and national experts to identify and discuss the complex economic, social and structural drivers of health, navigate our complicated systems of care, and develop skills to influence, educate, and advocate for care coordination.

Outcomes Achieved: The Interprofessional Student Hotspotting program has grown from one extracurricular pilot team to eight teams and is now a curriculum-integrated opportunity in six of our health professions programs. Over the course of four years, unique partnerships with payers (health plans), care management teams, and an intensive outpatient clinic have been formalized, and there has been an increase in the diversity of patients and populations served by the program. Participating patients report feeling that they have an advocate in the health care system and that they better understand how to navigate their own care. Participating students from sixteen different academic programs are demonstrating skill development in motivational interviewing, goal setting, harm reduction, health literacy, healthcare navigation, barrier reduction, and identification of points of destabilization.

Conclusions: This unique interprofessional education program has benefitted patients, health professions students, and our health system. It has expanded and formalized cross-sector partnerships, is now training other academic health science centers in the Hotspotting model and providing students with a curriculum-integrated, longitudinal experience in community-based complex care.

Funding: This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under UK1HP31735, Nursing Education, Practice, Quality, and Retention – Registered Nurses in Primary Care Program.

SYMPOSIUM: USING CREATIVE AND ART-BASED APPROACHES IN NURSING RESEARCH AMONG US LATINOS

Overview: Arts-Based Approaches in Nursing Research among Latinos in the US

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Purpose/Aims: The aim is to describe findings from three art-based methods, or community engagement strategies recently employed by nurse researchers among Latinos in the United States (US).

Background: In the US, Latinos are the largest ethnic or racial minority, comprising ~57.5 million people. US Latinos are disproportionately impacted by social determinates of health and illness disparities that reflect a constellation of issues. These include decreased access to and utilization of primary and mental health care, and reduced representation in academic research (less than 1% in studies funded by the National Institutes of Health) which might otherwise highlight adherence or treatment issues unique to this population. The creation of targeted interventions that successfully and sustainably engage US Latinos is critical. Art-based methods and community engagement strategies have emerged as a cost-effective, and culturally sensitive route to engaging US Latinos in nursing research. They also represent an opportunity for nurse researchers, educators and clinicians to address chronic illness and utilization disparities disproportionately impacting this growing and heterogenous minority group in the US.

Methods: Three art-based approaches to engage US Latinos in nursing research are described. First, findings from a mural-based intervention in two predominantly Latino community will be presented. This mural intervention identified sensitizing concepts informing the design of a subsequent qualitative study addressing type 2 diabetes and depression or anxiety among older Latina women. Next, development and focus group testing of a graphic-*novela* about a Mexican American caregiving family will be presented. This light-hearted, non-confrontational approach addressed US Latino under-utilization of long-term supportive services. Finally, results of a thematic analysis of a transmedia, web-app intervention among US Latinas will be presented. These web-based films told the story of a Latina main character with depression and anxiety who ultimately sought mental health services. This analysis sought to evaluate character and storyline elements to understand why Latina participants found them compelling, and why care-seeking behaviors increased after exposure.

Findings: Sensitizing concepts from the mural intervention included increased housing costs related to gentrification and decreased green space access due to rising homelessness. Access to safe public spaces for exercise and the impact of rent-related economic pressures emerged as critical factors impacting diabetes self-management in this group. Recruitment/retention barriers were addressed via the project being local, open to all ages, available outside of business hours and allowing for artistic expression not dependent on English language proficiency. The graphic novel(*a*) focus groups identified the need for diverse skin and hair colors, as well as recognition of the importance of character wardrobe choices, as ways to improve relatability. The transmedia analysis found four themes related to character or approach that supported efficacy of the intervention, including the character's ability to resolve a meaningful conflict and a preference for an interactive platform.

Conclusion: These art-based interventions contributed to our understanding of US Latino health experiences and sources of participation disparities in academic research. Art-based methods and community engagement strategies represent an opportunity for cultural-tailoring and improved efficacy of disparity-ameliorating health interventions among US Latinos.

SYMPOSIUM: USING CREATIVE AND ART-BASED APPROACHES IN NURSING RESEARCH AMONG US LATINOS

Mural Painting to Collect Sensitizing Data among US Latinos

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Purposes/Aims: To describe the process used to implement and facilitate two mural painting projects that collected sensitizing data in predominantly-Latino/a/x neighborhoods in Southern California; and, to describe how this methodological approach addressed the known barriers to recruitment/retention of US Latinos/as/x in scientific research.

Background: The National Institute of Health (NIH) has recognized that while Latinos/as/x comprise ~17% of the US population, and suffer disproportionately from several chronic, degenerative illnesses, they comprise only 1% of participants in NIH funded research. Researcher lack of access to critical sensitizing concepts in this heterogenous population inhibits the design of culturally-tailored studies and may further decrease research participation among US Latinos/as/x. Recruitment challenges have included: language and health-literacy barriers, transportation issues, socio-economic status necessitating the prioritizing of work or social obligations over involvement, and fear of deportation or impact on immigration status. Additionally, a legacy of ethical abuses visited upon US Latinos/as/x by the scientific community plays a lingering role in decreased willingness to participate. As a traditional art form in Latino/a/x culture, muralismo (mural painting) represents an answer to the multi-factorial recruitment challenges described in the literature by allowing for direct, informal interactions between a researcher and a targeted Latino/a/x population. These interactions allow for the exchange of sensitizing information that may improve both a researcher's ability to design a culturally-appropriate study and may positively impact US Latino/a/x willingness to join as participants.

Methods: Two mural projects, the *Aspire Mural Project* and the *Latina Diabetes Mural Project* were implemented in two, separate, predominantly-Latino/a/x neighborhoods in Southern California. Each project involved a windshield survey, community engagement meetings, and the development of a community-led collective that determined the mural content. At each site, health education and referrals were provided, sensitizing qualitative data was collected.

Results: Murals painting addresses many of the participation challenges often associated with underrepresentation of Latinos/as/x in academic research: it is not dependent on shared language/literacy, can be done locally, welcomes all ages, and can be incorporated into the social structure and daily activities of a Latino family, as well as being a historically culturally-accepted art form. Both mural painting projects described here allowed for sensitizing interviews with key informants surrounding the experience of type 2 diabetes and/or emotional wellbeing. In this setting, community members willing shared personal information about their health behaviors, challenges to adherence associated with the built environment and described cultural stigma surrounding mental illness. This disclosure ultimately impacted the design of a subsequent study addressing these topics.

Implications for Translation to Further Research/Practice/Policy: Research methods that acknowledge traditional art forms, such as mural painting, create a space for building trust, and combat traditionally low numbers of study participants among US Latino/a/x. Such projects spark interest in future participation and augment researchers' understanding of the phenomenon via access to sensitizing concepts that may improve the cultural-competence of future studies, projects and interventions.

Funding: Albert Schweitzer Program Fellowship: full financial support of community mural project as part of a 1-year, paid fellowship.

SYMPSOIUM: USING CREATIVE AND ART-BASED APPROACHES IN NURSING RESEARCH AMONG US LATINOS

Graphic-Novela Intervention for Mexican American Aging in Place: Pilot Study

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Purpose/Aims: The purpose of this pilot study was to develop a graphic-*novela* about a Mexican American (MA) caregiving family, depicting situations such as frequent falls, with decreased mobility and ADL ability, that challenge the capacity of the caregiving family to age in place without outside help from long term support services (LTSS). Specific aims were to develop and test a draft graphic-*novela* with MA caregiving families regarding the need for, acceptance of, and mechanisms to access (LTSS) to assist with aging in place.

Rationale/Conceptual Basis/Background: MA families are a close-knit unit and resist outside assistance, particularly when it comes to caring for older adult family members. MA caregiving families [defined as including older adults and family caregivers] frequently experience financial and health consequences rather than accept help from community agencies. This resistance to use of services can result in unexpected outcomes for families, including stress and conflict, chronic illness, or older adult-caregiver separation, e.g., with placement at nursing homes. Research has demonstrated that simple graphic *novelas*, such as *telenovelas* and *fotonovelas*, are effective in educating MAs about health promotion, health risks, and other related topics such as depression, immunizations, cancer screening, and use of LTSS. The narrative pedagogy theory and our local community advisory council of many years guided us in creating a cartoon type publication that could offer a humorous approach to normalizing a serious topic such as safety, falls, and healthcare decision-making, while appealing to the emotions under the surface, being culturally familiar, and offering a simple way to communicate with MA and/or low literacy adults.

Methods: A cartoon artist and writer, working with Latino health professionals, designed the graphic-*novela* in simple colors. We tested the English version in a focus group, with a select group of MA adults from a southwestern community, for their understanding and its appropriateness as well as effectiveness in conveying our message.

Results: Participants' responses included recommendations to use some "*dichos*" (idioms in Spanish), and particular appearance of the characters, e.g., skin color of the family members, the older adult's affect and hair color, the son's shoes.

Implications for Translation to Further Research/Practice/Policy: Clinicians can use the graphic-*novela's* light-hearted comic approach to a serious subject to provide a non-confrontational format to inform families about LTSS options and guide them in accessing LTSS. The cartoonist has modified the wording of the study and the cartoon characters. The refined graphic-*novela* will be used in a future larger study testing whether using a graphic-*novela* intervention with MA caregiving families results in hypothesized outcomes, i.e., increased knowledge and confidence in LTSS, increased use of LTSS, prevention of falls, reduced emergency room visits and hospitalizations, and averted caregiving crises. Healthcare professionals may incorporate the graphic-*novela* into their patient teaching and healthcare organizations may mandate its inclusion into case management. Public health and health policy officials can utilize the graphic-*novela* as a visual and culturally appropriate tool for communicating important messages to those with low literacy.

Funding: This study was supported in part by the Gerontological Advanced Practice Nurses Association Foundation, 2019 Virginia Lee Cora Research Award.

SYMPOSIUM: USING CREATIVE AND ART-BASED APPROACHES IN NURSING RESEARCH AMONG US LATINOS

Latinas' Perceptions of Key Elements of a Mental Health, Story-Based Transmedia Webapp

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Purpose: While it has been established that a relatable lead character is crucial for effective story-based health interventions, little is known about what other aspects of character-driven approaches are crucial to media based, mental health interventions with Latinas. We sought to identify elements perceived as key to effectiveness from a sample of symptomatic Latina adults who engaged in an evidence-based transmedia web-app intervention aimed at increasing mental health help-seeking, "Catalina: Confronting My Emotions." Our webapp featured data-informed characters portrayed in six inter-related videos and a webpage with links to symptom management resources tailored for Latinas in a particular geographic community in Southern California. The story's main characters included "Catalina" (a 28-year old Latina struggling with untreated depression and anxiety symptoms) and her nurse-therapist "Veronica."

Background: Guided by Bandura's Social Cognitive Theory, health messages have been integrated into media-for-health interventions among Latinos since the 1980s using photonovelas, webnovelas, and telenovelas. The expanding accessibility of the internet and growing popularity of smartphones are matched by the high demand for story-based media among Latinos. Transmedia for health is a dynamic, internet-accessible approach that involves a story accessible on digital platforms via computers, tablets, and smartphones. Starting with a tv-like episode, the story then extends to short bonus videos to heighten engagement including character-driven video-logs, missing scenes or, in the case of our "Catalina" webapp, character-driven psycho-educational and psycho-therapeutic videos.

Methods: Informed by evidence, our "Catalina" media was created in collaboration with a Latino script writer and Latinx actors from Hollywood and refined through multiple phases of feedback with Latinas from the target group and Latina therapists. After IRB approval, telephone interviews were conducted with 28 English-speaking adult Latinas (21-50 years) with elevated symptoms of depression (using PHQ8) or anxiety (using GAD7) 72 hours after participation in our "Catalina" transmedia story-based intervention. A thematic analysis was conducted based on the stepwise approach of Braun and Clark (2006); after de-identification of transcribed interview data, coding was done, themes were identified, reviewed, and developed.

Results: A total of four themes were identified as key elements of the "Catalina" transmedia webapp for mental health help-seeking from the perspective of symptomatic Latinas in our sample: (1) seeing the lead character ("Catalina") resolve a meaningful conflict was powerful and memorable; (2) being able to learn lessons while the character learned them was compelling and made sense; (3) the integration of the dramatic and the health-related content into the storyline was perceived as seamless (did not disrupt storyline or consistency of characters); (4) the interactive features were perceived as personalized and dynamic, making them more desirable.

Implications: For storytelling efforts to be effective in health interventions, collaboration with the target group is necessary. Latinx audiences are sophisticated media consumers, thus writing and production of the story and all media content must be of high quality and tailored to the audience. The risk is creation of webapps that no one will use. Collaboration with professional Latinx script writers, actors, and therapists are necessary to assure a consistent, personalized experience for users.

ABSTRACTS OF PODIUM PRESENTATIONS

BETTER TOGETHER: COMMUNITY PARTNERSHIPS

A University-Community Alliance for Health Equity: The Community's Voice

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Background: Standards for social justice, advocacy, and commitment to reducing healthcare disparities are explicitly addressed through the Accreditation of Baccalaureate and Graduate Nursing Programs standards for teaching the skills needed for culturally competent care (CCNE, 2013). Yet, for the majority of the 170,000 nursing students in the United States, nursing education remains steadfast to models used for decades (Robert Wood Johnson Foundation, 2014). Innovative programs of study that include cultural immersion service learning (CISL) experiences are the exception even though public policies encourage culturally competent care for vulnerable patient populations (Patient Protection and Affordable Care Act, 2010; AACN, 2008). For the past decade, a partnership between a state land-grant university and the Health Promotion and Disease Prevention program of an American Indian nation has resulted in improved the cultural consciousness of nursing students while improving the health of the community's children through increased access to healthcare. Typical literature on service learning are presented and published from the university's perspective. In fact, there is a dearth of information describing the community's perspective of alliances with universities.

Purpose: This study describes a university-community partnership from the community's perspective. Specifically, how do Elders of a Native American nation perceive the implementation of a university-community project to improve the cultural consciousness of nursing students while improving access of healthcare for children?

Methods: Using a phenomenological research design interpreted through the lens of Kirkness and Barnhardt's "4-Rs" framework, two sequential focus groups were held with 6 community Elders. Kirkness and Barnhardt (1991) identified four requirements for promoting more equitable relationships and interactions between Indigenous peoples and the academy--respect, relevance, reciprocity, and responsibility. The first meeting of the focus group focused on what the Elders perceived as the most important aspects of the university-community partnership. The second meeting focused on the interactions that the Elders had with the nursing students and their interpretations of how the nursing students responded. Transcripts of the conversations were analyzed using the constant-comparison method (Strauss, 1999).

Results: The Elders perceived the implementation of this university-community partnership as strongly contributing to the nation-rebuilding efforts of the community. While the nursing students provided much needed medical access to the community's children, the Elders saw their interactions with the nursing students as providing cultural access and more importantly providing the students with a different paradigm to broaden their worldview. As one Elder stated, "I wanted them to look at things differently because it's been too long that we've had to look at the world through other people's way of life."

Implications: The number of university-community alliances have increased over the past two decades propelled by the recognition by Nursing faculty that improving healthcare requires engagement at the community-level. The results of this study provide evidence that community members' perceptions can go beyond the proposed purpose of an alliance to achieve larger goals, such as nation-building, and expanding students' worldviews. Yet, these greater goals will not be understood until we ask and are able to listen.

Improving Breast Cancer Prevention Education for Latinas: A Community Partnership

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Purpose: The two aims of our study were 1) to educate and train a group of lay community health workers (CHWs) on the breast cancer continuum of care using the Breast Cancer Education (BCE) Toolkit for Hispanic/Latino Communities developed by the Susan G. Komen Breast Cancer Foundation and the Mexican Embassy and 2) to examine the feasibility and acceptability of community-based, group educational workshops taught by trained CHWs addressing the topics of breast cancer prevention and screening.

Background: According to a 2015 Komen Community Report, there are five counties in Utah that are in the highest priority concern category and not likely to meet either the death rate or late-stage incidence rate of the Healthy People 2020 goals. Adequate cancer education regarding the importance of early prevention and screening is critically needed to assist in reducing disparities and improving patient outcomes and quality of life among Hispanic women. CHW interventions have proven to increase education, screening rates, and empowerment among Hispanic populations. However, little is known about the effectiveness of group breast cancer educational interventions taught by trained lay community health workers specifically targeted toward immigrant Hispanic women in Utah.

Methods: Eight Hispanic women were recruited to work as CHWs for this study. They received 20 hours of training on presentation skills, learner styles, engaging participants, group dynamics, and the use of the Spanish version of the BCE toolkit for Hispanic/Latinos. They were trained by the bilingual PI and an experienced, Spanish-speaking, professional educator. Role-modeling and practice sessions for the CHW's were provided by experienced Hispanic breast cancer patient navigators. Workshop participants were recruited from community centers and local churches. All participants were consented per approved IRB institutional protocols. Members of the research team attended all workshops to ensure fidelity and provide assistance. Feasibility and acceptability measures were collected post workshops.

Results: Eight CHWs completed the training. A total of 16 group breast cancer educational workshops were held. A total of 80 women participated in these workshops. Participants provided positive feedback regarding the role of the CHWs in providing breast cancer prevention education. The group workshops were feasible to organize and conduct. The workshop participants reported increased motivation to adopt healthier lifestyle practices as instructed by the CHWs. The BCE Toolkit proved to be highly acceptable to the Hispanic women in our study. Both the CHWs and the workshop participants expressed high levels of satisfaction and acceptability with the culturally-appropriate education materials provided.

Implications for Further Research: Minority or underserved populations have special needs in regard to breast cancer education. The BCE Toolkit offers several of the key elements recommended by the US Preventive Services Task Force for developing effective interventions including group educational format, improving access to engaging media materials, and removing structural barriers. Further testing of community-based, group educational interventions with larger sample sizes and diverse populations is needed. Testing of the use of the BCE toolkit with larger samples is also recommended. Sustainability issues with new interventions in community settings should be further examined.

Funding: National Cancer Institute of the National Institutes of Health under Award Number P30CA042014

BETTER TOGETHER: COMMUNITY PARTNERSHIPS

The Nurse Family Partnership Nurse Residency Program: Outcomes from Three Cohorts

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Purpose: This presentation aim is to present program evaluation findings from a novel nurse residency program reaching new graduate Nurse Family Partnership (NFP) nurses.

Rationale: There has been 12-15% attrition in the first year among new graduate NFP nurses. The NFP Nurse Residency Program was developed to offer structured knowledge, skills, and attitudinal support in addition to on-the-job orientation and mentorship, while building social networks among new NFP nurses across Colorado and beyond. Such training program addresses public health workforce issues and public health nursing advanced education.

Methods: A structured 11-month program was developed in partnership with faculty from the University of Colorado's College of Nursing and Invest in Kids Colorado. A curricular overview includes motivational interview skill-building, child/youth development didactic content, and self-reflection of challenging client relationships. Participant surveys covered items from the Individual Workload Perception Scale (IWPS) and characteristics that described individual nurses' workforce history. Process evaluation feedback was collected at month 4 and outcomes compared baseline to final month. Three cohorts of data have been collected, representing program expansion beyond the Rocky Mountain region, now implemented nationally.

Results: 32 of 44 new NFP nurses completed the program; 27 completed final surveys (61% rate). There was modest program attrition with reasons mostly unrelated to the program's objectives of professional development. Process evaluation feedback led to content and delivery changes in that cohort they were given. 93% of participants agreed or strongly agreed that program objectives were met. There were no statistically significant differences across IWPS subscales or the "overall RN satisfaction" score.

Implications: The NFP Nurse Residency Program engaged and included nurses from local public health departments across Colorado and across the U.S., using innovative on-line learning methods to bridge public health practice. While participant burden was perceived as more than a typical job orientation, participants generally liked participating in the program and learned new things from program instructors. The program was a low-cost, feasible adjunct to traditional job orientation that may impact new NFP nurse retention and job satisfaction.

Foster Family Adaptive Theory (FFAT): A Mid-Range Approach to Complex Family Systems

***Christine Platt**, FNP-BC, School of Nursing, University of Arizona, Tucson, AZ; **Sheila Gephart**, PhD, RN, FAAN, College of Nursing, University of Arizona, Tucson, AZ*

Purposes/Aims: Children with disabilities in foster care (CDFC) are an extremely vulnerable population compounding adverse childhood events with long-term physical, mental, and developmental disabilities. This presentation aims to describe the Foster Family Adaptive Theory (FFAT), a mid-range approach to the complex adaptive system of foster families caring for children with disabilities. The FFAT can guide future development of nursing interventions, controlled trials, and best practice guidelines aimed at promoting resilient families and maintaining safe growth environments for children within foster care. The theoretical structure of the FFAT was influenced by Roy's Adaptation Model, Meleis' Transition Theory, Family Systems Theory, and Complex Systems Theory with a unique focus on the needs of children in protective custody and their needs for stability, a nurturing environment, and their long-term health.

Description of Theory/Definition of Concepts: The FFAT includes the key concepts of *member diversity*, *preparedness*, *hardiness,* and *relationship development*. This theoretical framework provides a guide and explanation of concepts integral to understanding factors underlying the foster family's complex decision processes to avoid placement disruption and provide a secure family environment.

Internal Consistency of the Theory Developed/Conceptual Approach: Phases of theory development included literature review, concept exploration, statement development, modeling the theory, and theory evaluation. Strategies of concept mapping, mining mid-range theories, and concept reformulation were employed to develop the concepts within the complex systems of the adapting family and the foster care system. Statement development resulted in formulation of the following relationships: 1) family hardiness is positively related to family preparedness; 2) member diversity (from the fluidity and variability of foster families) contributes to increases in hardiness and adaptability, and 3) relationship development is bidirectional and positively related to hardiness, allowing diverse members to create trusting bonds. The newly developed theory was then evaluated using the following criteria: content adequacy, philosophical congruence, process adequacy, pragmatic adequacy, and empirical adequacy. Evidence from quantitative, qualitative, and mixed-method studies investigating placement disruption and raising CDFC showed internal consistency of the concepts within the newly developed framework.

Logic Linking the Theory or Concept to Nursing Practice: Unlike a standard family structure, foster families have members that come in and out of a complex system quickly and frequently, at times with little preparation for their arrival. Foster families experience transitions in which they must recognize limits and weigh options in caring for children in a tenuous state. Providing a stable, nurturing, and skilled environment for children with special needs requires the assistance of educated nursing professionals. The constructs and relationships in this theory will help researchers, therapists, nurses, and child advocates as they support foster families in achieving healthy outcomes. Healthy adaptation can improve placement stability for this vulnerable population.

Conclusions/Statement about the Utility of the Theory for Nursing Practice: School nurses, government nurses, hospital nurses, nurse practitioners, and nurse researchers and benefit from the FFAT, helping them to frame interventions and trainings to support families as they care for vulnerable children.

In Their Voice: What Do Caregivers of Patients with Cancer Need?

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Purpose: To explore the experience of family caregivers' (FCGs) of patients with hematological cancers and explore their perceived needs at acute care settings.

Background: FCGs of patients with cancer experience high levels of strain and burden. Cancer caregiving is complex and can change dramatically in short periods depending on the cancer trajectory. Studies have shown that FCGs experience increased burden and likelihood to develop depression, and experience significant deterioration in their quality of life.

Methods: A pilot study with narrative analysis of seven adult family caregivers of patients with hematological cancers receiving care at a designated oncology unit in a community hospital. The study was approved by the IRB of a southern California public university. Eligibility criteria for caregivers included (1) age of 18 years or older, (2) ability to communicate in English, (3) and being free of cancer and any mental illness that interferes with one's ability to give consent. Narrative data were collected through face-to-face interviews guided by 6 structured open-ended questions. All interviews took place in a private office on the hospital campus, the interviews were audio-recorded and transcribed verbatim. A codebook was created by consensus of two researchers using the methods described by Saldaña (2016). The narrative analysis focused on extracting the common themes that captured FCGs' experience with the healthcare team members as they move into the caregiving role. The analysis was aided by using NVivo-12 software.

Results: A typical participant was a Caucasian female with an average age of 54 (SD=17) who was providing care to a spouse for an average of 6 months. Four themes emerged from the data. Family caregivers described their experience in the first theme, identity loss and identity redefinition, as process of transition with initial identity loss and redefinition of the new self. In the three remaining themes, family caregivers described how members of the healthcare team, especially nurses, shaped their new acquired role. In the second theme, family caregivers described healthcare members as 'unaware influencers' who fail to realize the full impact of their interactions on family caregivers' identification with their new role as caregivers. In the third and fourth themes, family caregivers characterized the actions and interactions of healthcare team members as 'beneficial and sympathetic' or 'beneficial and unsympathetic.'

Implications for Practice: Healthcare members should realize that caregiving is a unique experience and that they influence it. Nurses should be aware of their influence on the caregiving experience that family members or friends have as they master their new role. In addition to the routine needs that nurses might expect for caregiver (e.g. information, explanation...etc.), caregivers want their transition to be acknowledged, recognized, and supported.

Meta-Analysis of Quality of Life in Chronic Cancer

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Background: A new concept of chronic cancer is emerging in cancer survivorship. With more cancer survivors living longer, they are now facing the long-term consequences of cancer and its treatment. As people are living longer with cancer, QOL becomes a vital consideration in understanding cancer survivorship and the long-term impact of cancer and its treatment.
Purpose: The primary aims of this review is to describe QOL in cancer survivors two or more years from diagnosis.
Methods: A meta-analysis was completed of relevant studies assessing QOL in long-term cancer survivorship using PubMed, CINHAL, and PsychInfo. Inclusion criteria included: available in English, report primary data, participants diagnosed with cancer as an adult, and include a population of cancer survivors greater than two years post diagnosis. Only articles that used standard, global QOL measurement tools and reported the means and standard deviations (SD) of the QOL domains were included in order to compare study results as part of the meta-analysis. Study effect sizes were calculated by standardizing the mean differences between the subdomains of QOL of included studies and previously published thresholds for acceptable QOL.
Results: A total of 64 articles met inclusion criteria and were included for analysis. Fixed-effect or random-effects models were used based on the presence of significant heterogeneity of ≤0.10. Of the eight QOL subdomains assessed in this review, seven (88%) resulted in medium to large negative CES, signifying worse QOL compared with previously published thresholds for acceptable QOL. Physical health (Cumulative Effect Size (CES)= -0.894, CI: -1.472, -0.316), role-physical health (CES= -2.039, CI: -2.643, -1.435), and mental health (CES= -0.870, CI: -1.447, -0.292) had large, negative cumulative effect sizes signifying worse QOL compared with acceptable QOL rates. A medium, negative CES was seen in global health (CES= -0.650, CI: -1.198, -0.103) emotional health (CES= -0.685, CI: -1.271, -0.099), vitality (CES=-0.590, CI: -0.900, -0.281), and social health (CES= -0.677, CI: -1.272, -0.083). Tested moderators of, cancer type, average age, country of origin, time since diagnosis, or decade of diagnosis, were not significant to explain heterogeneity between included studies.
Implications: With the continued increase in early detection and cancer treatment options, the number of long-term cancer survivors will continue to increase worldwide. As the number of cancer survivors continues to grow, QOL will continue to be a key concern in understanding the long-term impact of cancer and its treatment on survivors. This analysis found that QOL is significantly impacted two to 26 years after cancer diagnosis. More research is needed to determine possible moderators of QOL in long-term cancer survivors.

Sleep Disturbances in Caregivers of Patients with End-Stage-Liver Disease

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Background: Although sleep disturbance is highly prevalent in caregivers of patients with chronic illnesses, it has not been examined in informal caregivers of patients with end-stage liver disease (ESLD). Sleep disturbances can contribute negatively to caregiver health and quality of life (QOL).

Purpose: The purpose of this study was to examine the relationship between sleep disturbance and depression, caregiver burden, and QOL amongst a cohort of informal caregivers of patients with ESLD.

Methods: Lenz's Theory of Unpleasant Symptoms was chosen as the guiding framework because of its interaction among symptoms. As part of a larger longitudinal study, primary informal caregivers ($\geq$18 years) of patients recruited from hepatology clinics within two health care systems were identified and enrolled. The informal caregiver could be a spouse or partner, parent, adult child or grandchild, sibling, identified significant other, or close friend. Caregivers completed the Pittsburgh Sleep Quality Index (PSQI), Multidimensional Care Index (MCSI), Patient Health Questionnaire (PHQ-9), and SF-36. Descriptive and inferential statistics were used to analyze these survey data.

Results: Baseline data from a total of 154 informal caregivers were included in the analysis; 112 were female and 42 were male. The majority were spouses/partners (57%), average age was 57 years (SD=13.1). Caregiver global PSQI score was 7.6 (SD=3.5). Sleep disturbance was significantly related to depression (r=.61, p<.05), caregiver physical and social strain (r=.36 and r=.28, p<.05), and mental and physical QOL (r= -.38 and r=-.21, p<.05).

Implications: Sleep disturbances in caregivers of patients with ESLD were found to relate to caregiver depression, burden, and QOL. These caregivers are at risk for negative health outcomes as indicated by a global *PSQI* score *>5.* Health care professionals and nurses in particular who interact with caregivers of patients with ESLD should assess these caregivers' sleep habits and related mental and physical symptoms and implement tailored pharmacological and/or non-pharmacological interventions. It is critical that caregivers practice good sleep behaviors and get the sleep they need to protect their own health and ability to continue in the caregiving role. Future cross-sectional and longitudinal research should include assessment of sleep in both patients with ESLD and their caregivers, as a dyad, to develop and test interventions that facilitate quality sleep in both members of the dyad.

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"GoFundMe Isn't a Medical Plan": A Study of Crowdfunding Insulin Success

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Purpose/Aims: This study aims to explore online crowdfunding requests to purchase insulin in the United States.

Rationale/Conceptual Basis/Background: Individuals in need of medical care are turning to crowdfunding websites to engage a 'crowd' or group for financial support. In the last decade, access to insulin has decreased considerably for several reasons, including the rising cost of insulin, high deductible insurance plans and increasing premiums. Many individuals are forced to ration or go without insulin, and/or turn to crowdfunding sites to seek financial donations to purchase insulin needed to reduce their potential for diminishing quality of living, health risks and mortality.

Methods: In this retrospective mixed method study, data from crowdsourcing campaigns relating to the purchase of insulin for human use in the United States were extracted between February 25, 2019 and April 15, 2019 from GoFundMe. Data was coded for: person requesting the funds and the state they reside in, amount requested and raised, viral measures (shares, hearts, comments), education level the post was written in (Flesch-Kincaid), insurance status and rationale for requests. Qualitative thematic analysis of campaign texts and associated comments was conducted.

Results: 205 GoFundMe campaigns were analyzed. Half of campaigns were initiated by the person with diabetes (55%) and originated in the South (48.8%). Rationale for campaign included insurance issues (N=125, 61%; uninsured, inadequate insurance), personal issues (N=11, 5.4%; job loss, emergency), both insurance and personal issues (N=20, 9.8%), and general fundraising (N=49, 23.9%). Though the median dollars requested was $1100 (range $50-$200,000), median dollars raised was only $65 (range $0-$6,920). Only 10.7% (N=22) of campaigns were fully funded and 37.6% (N=77) raised $0. There was no significant difference between the amount requested and the campaign funded status (fully funded or not fully funded; p=.194). The amount of dollars raised correlated with number of shares (r=.540, p<.001), number of hearts (r=.862, p<.001), and number of comments (r=.413, p<001); and education level in which the post was written (r=.214, p=.002).

Four themes emerged from the campaign text: 1) desire for self-management and survival (avoiding hospitalization or death), 2) diabetes management untenable given insulin access (competing financial demands), 3) the aftermath of insulin unaffordability (rationing, going to 'insulin dealers'), and 4) privacy issues with crowdfunding (embarrassment, publicly providing personal health and financial information about another person). Comments were both supportive (tangible, informational, emotional) and unsupportive (questioned need for campaign, crowdfunding deemed inappropriate).

Implications for Translations to Practice/Further Research: Despite crowdfunding websites being used to support the purchase of insulin, campaigns raise only a fraction of the money requested. Viral measures and education level influenced the number of funds raised, widening social determinants of health barriers. Healthcare providers should routinely assess access to insulin, have resources readily available, and educate patients on the poor successes of crowdfunding. Stakeholders, including pharmaceutical companies, pharmacy benefit managers, insurance companies, and policymakers need to make drastic changes to improve insulin accessibility. More research is needed to understand the consequences of poorly funded campaigns on health outcomes of individuals with diabetes struggling to afford insulin.

Validation of the Revised FIQ with Clinical-Evoked and Self-Reported Pain

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Purposes/Aims: The purpose of the study was to examine the construct validity of the Fibromyalgia Impact Questionnaire (FIQR/SIQR) using clinical examination of prominent features of FM in addition to patient self-report data. This aim is important because understanding the central features of FM and diagnosing the disorder early is critical in optimizing patient care and reducing unnecessary, even dangerous, subspecialty and surgical referrals.

Rationale/Background: The FIQR/SIQR was developed at Oregon Health & Science University and has been used for over a decade. It has been found to have strong psychometric results based on patients' subjective questionnaire data and correlations with other general measures of severity. The SIQR has identical questions as the FIQR with the exception that the word "fibromyalgia" is replaced by "medical problems." Thus the SIQR has been used to assess severity in multiple chronic pain disorders. However, the construct validity of the FIQR/SIQR in assessing the central features of FM have not been adequately tested, specifically with more objective measures. This study aims to fill this critical gap.

Methods: We sought to determine if FIQR/SIQR severity (mild, moderate, high severity) in 158 chronic pain patients (50 FM, 108 Pain/No FM) predicted four central features of FM tenderness and pain: digital palpation tenderness, blood pressure cuff evoked pain, widespread pain locations, and the question ,"I have a persistent deep aching over most of my body."

Results: Mild, moderate, and high severity groups showed on average greater tenderness in response to digital evoked palpation (F= 23.5; p<. 0000; η_p^2= .23; MR=.54), blood pressure cuff evoked pain (F=17.0; p.<.0000; η_p^2= .18; MR= .48) and pain location (F= 38.8.; p<.0000; η_p^2= .33; MR.59). Strongest differences in FIQR/SIQR severity were found in response to the question, "I have a persistent deep aching over most of my body"(F= 87.5; p. <.0000; η_p^2= .53; MR= .74). Pain/No FM patients predominated in the low severity category and FM among the high severity category (p.<.0000).

Implications for Further Research: FIQR/SIQR scale is strongly predictive of the central features of fibromyalgia tenderness and pain including its 'widespreadness' and its multifaceted character: We propose that tenderness, both locally and over most of the body, is the hallmark of the FM phenotype: it is focal, diffuse, deep, and superficial. Understanding and measuring the fibromyalgia phenotype is critical for nurse scientists studying symptom management.

Safeness for Older Adult Caregivers: Theoretical Model and Intervention Development

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Background: The population of older adults in the United States (U.S.) is growing disproportionately. As adults age, they face multiple challenges to health and wellness. Older adults prefer to age in place, creating a demand for loved ones, often family, to serve as informal caregivers. Sixty-five million adults serve as informal caregivers, many themselves suffering from chronic conditions. Older adult caregivers often feel unsafe, expressing discontinuity in sense of self, and disruption in social network and family roles.

Purpose: The purpose of the presentation is to describe a theory-driven approach cultivating safeness and social connection in older adult caregivers. We introduce the Legacy Intervention, specifying theoretical mechanisms linking nostalgic remembering to safeness and social connection among older adult informal caregivers. Intervention development reflects program theory as advanced by Lispey (1993): problem definition, critical inputs, mediating processes, expected outcomes, and implementation issues.

Description: Intervention research for caregivers has focused primarily on preventing or reducing negative caregiving outcomes including depressive symptoms and burden. Few interventions cultivate safeness and social connection in caregivers, which is essential to wellness. Feeling safe, securely attached, and affiliated with others offers protective benefits in physical and psychological health, consistent with wellness.

Internal Consistency: Synnes (2015) has advocated for nostalgic remembering, “a sentimental longing for the past” as an essential and unique resource for older adults. Nostalgic remembering: (1) Cultivates safeness and social connection, strengthening coherence, self-continuity, and belonging. (2) Fosters physiological calming and soothing, consistent with immune/cardiovascular response and autonomic function. (3) Enhances wellness as comfort and peacefulness.

Logic: The Legacy Intervention cultivates safeness and social connection, providing a novel basis for enhancing wellness in older adult caregivers. The Legacy Intervention extends the theoretical work of Brosschot and colleagues (2018), focusing on safety rather than threat, risk for compromised safeness and social connection, how feeling unsafe can damage physical health and wellness, and the psychological and physiological mechanisms through which safeness and connection may be cultivated.

Conclusions: Given the lack of effective intervention research in older adult informal caregivers, novel theory-based approaches are not only warranted, but essential to move the field forward. The Legacy Intervention addresses a critical need for safeness and social connection in older adult caregivers, challenging current intervention paradigms focused solely on reducing burden.

CONTEMPORARY ISSUES IN WOMEN'S HEALTH

Cortisol Response to MAMBRA by IPV Survivors in Women's Transitional Community Housing

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Background: Intimate partner violence (IPV) is a significant health issue and has been associated with an increased risk for depression, anxiety, addiction, suicide attempts, post-traumatic stress disorder (PTSD) and altered cortisol circadian rhythm. With a pattern of assaultive and coercive behaviors, IPV results in a complex and debilitating constellation of symptoms, indicating the need to understand IPV survivors' response to current treatment(s).
Purpose: The objective of this exploratory study was to determine if community-residing women survivors of IPV had a physiological response after participating in four sessions of the Music and Account-Making for Behavioral-Related Adaptation (MAMBRA) intervention, as measured by cortisol levels. The MAMBA intervention includes music, psychoeducation, and account making (*i.e.,* storytelling).
Methods: A single-group repeated measures designed exploratory study was used to pilot-test MAMBRA. A convenience sample (n = 11) was recruited from a Midwestern transitional community housing facility for women where 85 percent are rebuilding self-sufficiency after being involved in the criminal justice system. Serving as their own control, participants provided demographics and pre-/post-MAMBRA salivary samples while attending four MAMBRA sessions. Baseline data were compared to participants' data collected over the remaining three MAMBRA sessions. Data were analyzed with descriptive and univariate statistics with an alpha of .05 and post-hoc power of .65.
Results: Participants were predominantly White (91%), single (82%), and early middle-aged ($x_{\text{AGE}} = 44.6 \pm 10.6$), with a history of incarceration and physical/nonphysical spousal abuse. With these participants, the salivary cortisol significantly differed over the MAMBRA sessions ($\text{FT}\chi^2(\text{df}=7) = 24.5$, p = .00), indicating a physiological reaction to MAMBRA. The pre/postMAMBRA salivary cortisol levels were significantly different in all sessions with lower salivary cortisol levels in postMAMBRA (session 1: Z = -2.52, p = .01; session 2: Z = -2.20, p = .03; session 3: Z = -2.24, p = .03; session 4: Z = -2.37, p = .02). Across all MAMBRA sessions, the salivary cortisol level was significantly different and decreased between session 2 preMAMBRA and session 4 postMAMBRA (Z = -1.96, p = .05). For this sample, postMAMBRA salivary cortisol level was significantly lower than preMAMBRA, indicating a positive response to MAMBRA in each session.
Implications: Participants had a physiological response to the MAMBRA intervention as evidenced by the decreased salivary cortisol between the pre-/post-MAMBRA. This study is pivotal in examining MAMBRA's clinical utility as an intervention for female IPV survivors. It is particularly useful for women who are reentering community life post-incarceration. With MAMBRA, future nurse practitioners will be equipped to assess and treat both the short- and long-term effects of IPV within a milieu that is personalized and comfortable to women. MAMRA will (or can) change the reactionary treatment of IPV to a proactive one, significantly reduce the risk of undocumented and untreated symptoms. Future longitudinal studies will examine MAMBRA's effectiveness given this change in cortisol as well as the potential utility of MAMBRA.

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CONTEMPORARY ISSUES IN WOMEN'S HEALTH

Mental Health Correlates among Pregnant Women Who Use Cannabis in the United States

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Purposes/Aim: The purpose of the study is to examine cannabis use and mental health symptoms among a national sample of pregnant women.
Background: With the increase of state level marijuana legalization and corresponding decrease in perception of harm, marijuana use in pregnant women is rising. Between 2002 and 2017, the adjusted prevalence of self-reported past month cannabis use among pregnant women doubled from 3.4% to 7.0%. Antenatal cannabis use has been linked to low birthweight, preterm birth, and increased NICU admission in exposed neonates. Extant literature examining reasons for maternal use during pregnancy include managing nausea, as well as coping with anxiety and stress. Extant research that has examined associations between poor mental health and cannabis in pregnant women have been limited to associations between one mental health diagnosis (e.g. depression) in large national samples of American or Canadian women or multiple diagnoses (e.g. depression, anxiety and/ or trauma) in smaller samples with limited generalizability to the general population.
Conceptual Framework: This study is informed by the Mega Interactive Model of Substance Use Among Women (MIMSUAW). The MIMUSAW accounts for the complex and interweaving biological, psychological, and social factors that must be considered when examining the unique circumstances of substance use in women
Methods: We employed a cross-sectional correlational design using secondary analysis of existing data from the 2008- 2014 National Survey on Drug Use and Health (NSDUH). The sample was restricted to pregnant women ages 18-44 years old who identify as pregnant (n=5,520) and self- report marijuana use in the past 30 days (n=312). Bivariate analysis using Chi-square and t-test were calculated to examine the association and strength of the relationships between variables. Logistic regression was used to identify whether past month psychological distress, past year depression, past year anxiety increase the odds for past month cannabis use after adjusting for sociodemographic characteristics
Results: The sample was diverse: 55.9% identified as Non- Hispanic white, 16.0% as Non-Hispanic Black, 19.0% as Hispanic, 10% as Other. There were significant differences in sociodemographic, clinical, substance use and mental health characteristics between women who self-report versus denied cannabis use during pregnancy. The regression coefficients for psychological distress scores and past year anxiety were significant. The regression coefficient for psychological distress ($B = 0.079$, OR = 1.08, $p < .001$) indicated for a one unit increase in the psychological distress score, the odds of using cannabis during pregnancy would increase by approximately 8%. The regression coefficient for past year anxiety was significant ($B = 0.531$, OR = 1.70, $p < .001$).
Implications: Despite an increasing awareness of the impact of poor maternal mental health and substance use during pregnancy, universal screening protocols for substance use and mental health disorders remains an exception. This study points to a need to be especially sensitive to women with a past history of anxiety who are using cannabis to cope with distress during pregnancy.

#Menopause: Social Media Conversations about Menopause

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Purpose: To describe how the authors of social media posts about menopause feel, evaluate, and share their symptoms; to explore how social media platforms are being used to spread knowledge and other supportive messages about menopause.

Background: Menopause is a naturally occurring and unavoidable event for people with ovaries. Previous research has shown that women's experiences with menopause and menopause-related symptoms are highly individual. In addition, primarily negative social discourse on menopause and its relationship to aging as well as public stigmatization of individuals going through the menopausal transition (MT) have caused some women to feel shame. With the rise of the internet and social media sharing platforms, individuals experiencing the MT are using social media to document and share their experiences.

Methods: We performed a content analysis on 500 Instagram posts that had been flagged with #menopause in the post by the content creator. This data was gathered manually by collecting the URLs of the first 100 posts marked with #menopause at five randomly generated time intervals over a period of two weeks. Duplicates were omitted and posts were evaluated using content analysis.

Results: After removing duplicates, 483 posts were analyzed. There were 67 codes created to identify the main themes of the posts. These codes were based on the main content of each post. The three most common codes were weight loss/fitness (20%), hormones (18%), and selfies (18%). The 67 codes were divided into 9 broader themes with the most frequently occurring themes being advertisements (48%), self-care (47%), and physical health (44%). When omitting the advertising posts from the analysis, the top themes shifted to self-care (52%), physical health (30%), and social health (25%), with a resulting decline in the proportion of posts relating to physical health (14 percentage points) and mental health (5 percentage points) and an increase of in the percentage of posts about self-care (5 percentage points).

Implications: Advertisements made up almost half of the posts tagged with #menopause and were extensively used on Instagram to promote purchases by midlife women. These advertisements were most frequently focused on women's physical and mental health. When removing the advertisements from analysis, the Instagram posts by menopausal women about menopause are focused on self-care and overall wellbeing rather than specific conditions or symptoms of menopause.

The frequency of the most common codes identified in this study were compared with their frequency in menopause related research articles published across all indexed years in Medline. The most common themes identified on social media were less commonly found in published research articles. The one exception to this was the topic of hormones, which was identified in social media posts but was found more frequently in published studies. It appears that the research published on menopause was not well aligned with the topics frequently discussed by individuals using #menopause on Instagram.

Social Confinement Experienced by Women of Lesbian Orientation

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Purpose: The aim of this qualitative research was to explore the coming out process (COP) for women of lesbian orientation (LO) and to examine how this coming out process affects their health and well-being.

Background: It is common knowledge that the COP or phrases such as coming out, or to come out, or to come out-of-the-closet, has been linked to persons of lesbian, gay, bisexual, and transgender (LGBT) populations. The language and the act of coming out has been socially recycled for many decades thus becoming a requirement of passage for those persons who seek to affirm self, identity, equality, and freedom within society. Rather than receiving liberty, women of LO continue to face social imbalance, inequality, and health disparity. The recurring social phenomenon to come out has created misconceptions, stereotyping and profiling, prejudice and discrimination, injustice and persecution, with harm and injury toward women of LO. This social injustice has contributed to a life-long struggle of compromised health and lack of well-being for women of LO. Profiled women of LO remain marked, injured, scarred, and socially confined due to the constant presence of social aggression, social hatred, social harm, social violence that remains persistent in society. Women of LO have experienced social confinement.

Methods: A constructivist approach to grounded theory guided this social inquiry. Forty-eight women of LO were recruited. A total of 35 women, ranging in age from 37 to 79 years (M = 57 years, SD = 11.19), residing in California, and representing nearly all census regions and divisions of the United States completed the research. Convenience, purposive, and snowball sampling methods were used. Detailed life stories using a semi-structured guide and open-ended questions with probes, were received. Insider nurse researcher inductively analyzed transcripts line-by-line and by data segments using a constant comparison strategy and constructive mapping techniques. Initial and focused coding was conducted. Both manual and computer data analysis were performed.

Findings: These findings represent a small part of the completed research. The initial four central categories that emerged were: (a) inside a traditional family, (b) it is NOT a coming out process, (c) social confinement and, (d) anew language: coming forward. From the words and life stories of women of LO, anew language emerged, and a theoretical model was developed, a "Model of Coming Forward."

Nursing Implications: This research negates the coming out process. As first responders, registered nurses can assess social aggression, hatred, harm, and violence toward women of LO. Nurse first responders can intervene, advocate for, and begin to stop the recurrent cycles of social confinement, isolation, and exclusion of women of LO. Nurse researchers can test and validate this theoretical model with other persons and cultures seeking social equality and freedom of life.

Nurses' Experiences Working during Pregnancy: A Qualitative Descriptive Study

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Purpose: To describe registered nurses' experiences of working while pregnant and returning to work after pregnancy. Specifically, we aim to describe their experiences related to the work environment and work-related hazards.

Background: In the United States, the majority of the nursing workforce is females of childbearing age. Healthcare work environments are fraught with occupational hazards that can impact nurse health as well as patient care. Nurses can experience a variety of occupational hazards that have been associated with adverse health outcomes, including blood-borne pathogens, antineoplastic medication administration, musculoskeletal injuries, needlesticks, fatigue, and stress. However, little is known about the breadth of these hazards and their impact nurse health during pregnancy. The limited quantitative research on this topic has found that nursing workplace exposures are associated with increased risk for miscarriage, preterm birth, and spontaneous abortions. These studies have not asked nurses about the occupational hazards they perceive in their work environment and their experiences working during pregnancy and returning to work postpartum.

Methods: Twenty nurses working in direct patient care roles across the United States were recruited via social media for interviews. Participants were interviewed using a semi-structured question guide to explore nurse experiences, specifically occupational hazards, at work during pregnancy and upon returning postpartum. Interview transcripts were analyzed by two coders using content analysis. A qualitative descriptive design was utilized to describe nurse experiences at work and occupational hazards during pregnancy and experiences of returning to work after pregnancy.

Results: Occupational hazards described included exposure to infectious diseases, imaging, physical tasks (e.g., lifting and performing CPR), cleaning products, patient violence, and medication administration. A central theme for both barriers and facilitators to working while pregnant and returning to work was coworker and management support. Supportive coworkers and managers accommodated the participants during their pregnancies by assisting with physical tasks and patient assignments. Participants in unsupportive environments described having to advocate for the modifications required during pregnancy (e.g., patient assignments that did not include infectious disease patients). Universally, participants described not receiving official information about potential work environment hazards to pregnancy and potential modifications from their employers or obstetrical providers. They acquired informal information from the internet or recently pregnant coworkers. Modifications that participants sought included: changes in schedules, breaks, and patient assignments. Nurses described a conflict between nursing culture that places patients above self and their maternal instincts to protect their pregnancy (e.g., giving CPR to a patient even when it is contraindicated during the 3rd trimester of pregnancy). Nurses also described challenges for breastfeeding/pumping, and experiences with miscarriage and turning over from one position to another.

Implications: Occupational hazards experienced by nurses during pregnancy that may impact their health and that of their baby were broader than previously studied. Nurses did not receive educational information or modifications to avoid known occupational hazards. Future research should focus on assessing the prevalence of these hazards, the exposures that can lead to negative consequences for nurse and fetal health, and reducing the risk of exposure to these hazards for pregnant nurses.

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Enhancing Undergraduate Nursing Student Participation in Research

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Purpose: Describe strategies implemented at the University of Utah College of Nursing to increase undergraduate nursing students' participation in research.

Background: Participation in research allows undergraduate students the opportunity to collaborate with faculty and develop a scholarly approach to clinical inquiry which can shape their practice and career goals. Several formalized research opportunities are available to University of Utah students including completing an honors thesis under the supervision of a faculty mentor (available to students in the Honors College), participation in the Undergraduate Research Opportunity Program (UROP) which provides research training and funding, and the Undergraduate Research Scholar Designation (URSD) which is added to a student's transcript after completion of specific research-related activities. Despite these opportunities, undergraduate nursing students encounter barriers to research participation. Because students are not formally admitted to the College of Nursing until their junior year, the opportunity to identify a potential faculty mentor and research topic is limited. Students may feel unqualified and hesitant to approach faculty about research-related opportunities. Additionally, many students are unaware of opportunities to participate in research.

Process: Intensified efforts to increase undergraduate students' participation in research began in the fall of 2017 with the appointment of two faculty co-advisors for pre-nursing and nursing students admitted to the Honors College. Initial priorities included reaching out to incoming freshmen who were admitted to the Honors College as well as those admitted to the University of Utah's Nursing Early Assurance Program to inform them about opportunities for involvement in research. Students were encouraged to make individual advising appointments with the co-advisors, during which formal and informal research opportunities, requirements, and expectations were discussed. These advising appointments also provide time to learn about the student's individual research interests, discuss potential faculty mentors and projects, describe research ethics training requirements, and provide the student with a timeline. Faculty advisors contact potential faculty mentors, both within and outside of the College of Nursing, and provide electronic introductions. The advisors then follow up with the student and faculty mentor to ensure timely completion of research-related goals.

Outcomes: Key outcomes include increased numbers of undergraduate students, receiving advising and participating in research-related opportunities. During the 2015-16 and 2016-17 academic years, 7 nursing students participated in the UROP program. From the 2017-18 academic year–present, 17 nursing students have participated in the UROP program. Students receiving Honors degrees have also increased each semester. Other noted outcomes include nursing students receiving mentorship from faculty in other disciplines, including social work, health, and medicine. Student participation in the annual Undergraduate Research Symposium and publication of abstracts in the University of Utah's *Undergraduate Research Journal* is increasing. Other student outcomes include participation in research team meetings and presentations at national and international conferences. Many students report interest in doctoral programs after research exposure.

Conclusions: Increasing undergraduate students' participation in research requires intentional, collaborative efforts that extend across academic programs and disciplines. These efforts have resulted in increased numbers of undergraduate students completing Honors degrees as well as engaging in other aspects of research.

The OPACT Program: Integrating Nursing Science, Education, and Practice

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Purposes/Aims: The OPACT program integrates evidence-based primary care principles and concept-based learning practices to promote the role of registered nurses (RNs) as essential members and leaders within primary care teams.

Rationale/Conceptual Basis/Background: In order to address national public health concerns and nursing workforce needs, the Health Resources & Services Administration (HRSA) issued a call to expand the RN primary care workforce, especially in rural and underserved communities. In 2018, Oregon Health & Science University (OHSU), School of Nursing (SON), responded to the HRSA call and was awarded a $2.4 grant to fund the OPACT program. OPACT is a research-driven approach to practice transformation with 4-primary objectives, to: 1) support undergraduate primary care nursing education through curriculum modification, 2) develop primary care practice partnerships in rural and underserved communities, 3) recruit undergraduate nursing students for primary care clinical placements, and 4) collaborate with practice partners to support continuing primary care education for practicing RNs. In 2020, the OHSU SON OPACT program received supplemental funding from the HRSA CARES Act to support the integration of telehealth into the program in response to COVID-19. This presentation will give an overview of the program and highlight the progress to date.

Methods: A longitudinal, multi-methods approach was utilized to implement the program and assess progress towards meeting the primary objectives. Survey and interview data were collected from participating students, preceptors, and academic partners at specific time points during the year. Varied metrics/methods were used to assess educational strategies, student knowledge, skills, and attitude (KSA), student and preceptor satisfaction, and academic partner practice models. Data was analyzed using descriptive methods.

Results: Twelve primary care concept-based learning activities were developed and delivered in student seminars, totaling 54 additional educational hours. Most (78%) of the students endorsed an increase in understanding of primary care concepts with significant ($p < .05$) gain in KSA. 90% of OPACT students reported an increased interest in primary care nursing. Sixteen new academic-practice partnerships were developed across 11 Oregon counties. Thirty-five undergraduate nursing students received 9,450 hours of primary care clinical experience. Qualitative data suggests the need to better integrate the didactic seminars and clinical learning experience to enhance applied learning. The majority of students (90%) and preceptors (78%) rated their satisfaction with OPACT highly. Ten RN preceptors received continuing primary care education. An advisory panel comprised of practice partners was created.

Implications for Translation to Practice/Further Research/Policy: The transformation of nursing practice to support RNs as valued primary care team members and leaders requires the redesign of undergraduate nursing education and the reconfiguration of clinical practice sites and partners. Implications reach across pedagogy, curriculum development, RN scope of practice, and public health outcomes and policy.

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A Model to Improve Undergraduate and Graduate Nursing Student Diversity

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Purposes/Aims: The purpose of this presentation is to describe an evidence-based model for nursing programs to improve nursing workforce diversity focused on recruitment, enrollment, retention, and graduation strategies of underrepresented minority (URM) students historically underrepresented in nursing. The model has comprehensive, evidence-based strategies to improve nursing workforce diversity and build capacity to advance health equity focused on the factors contributing to student success: 1) educational opportunity; 2) economic stability; 3) socioeconomic opportunity; and 4) social inclusion. Opportunities for new strategies were created by moving to online environments.

Rationale/Background: Retaining and graduating URM students in nursing improves workforce diversity, culturally competent care, and health equity. While minority nurses are increasing in the nursing workforce, the distribution of nurses in the Western Institute of Nursing states is still not representative of most of the Western state populations. The Western states have the largest representation of Latinx and American Indian nurses and although progress has been made towards increasing workforce diversity, theses states continue to have gaps in nurse representation in the workforce in these populations.

Brief Description of the Undertaking/Best Practice: The purpose of the *Advancing Health Equity through Student Empowerment & Professional Success* (HealthE STEPS) program is to address social determinants of education (SDE) and employ strategies to empower, retain and graduate nursing students from disadvantaged backgrounds. Faculty Coordinators (FCs) are located on each campus of a statewide multi-campus university. FCs collaborate with the student support Diversity Coordinators on case management of scholars, outreach, and other grant activities. Case management includes individualized assessment, early identification of academic needs, and referrals for academic support. FCs also provide mentorship and career guidance. A Graduate School Exploration Workshop is held annually, and assistance with graduate school applications is provided. Moving to an online environment in Spring 2020 created opportunities for all HealthE STEPS scholars to meet virtually with the grant team and diversity officers in the school and university. A moving virtual Honoring ceremony was held for graduating undergraduate and graduate students with family and friends and school administrators attending. This ceremony provided an opportunity to hear students' stories and collectively celebrate their success.

Findings/Outcomes Achieved: In the last two years, 38 undergraduate and 8-9 graduate students each year were HealthE STEPS scholars, all who were Latinx and/or Native American. Most students are first in family to attend college and have past or current financial hardships. Student related outcomes include 100% retention of scholars for the last academic year, 100% of seniors graduated, and 8 of the 16 seniors received graduation awards. Seven were accepted into graduate programs. Since 2017, the percentage of undergraduate URM students enrolled across five campuses has exceeded the goal of 20% URM status.

Conclusions: This program can serve as a model for other schools of nursing to increase the enrollment, retention, and graduation of URM undergraduate and graduate nursing students and, through collective impact, contribute to health equity solutions in the Western states.

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Changing to a Concept-Based Curriculum: Outcomes Found

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Background: Concept-based curricula are gaining acceptance in nursing programs across the country. This approach to teaching creates opportunities for students to broadly understand nursing content and to apply this content across a wide variety of nursing care decisions. This approach is meant to address the problem of "content-creep" as identified Giddens and Brady (2007). Content creep results in academic overload as students are asked to incorporate additional information into their studies. A concept-based approach should allow a nursing student to reason broadly by applying a given concept to different situations.

Purpose: In this study, we examine HESI Exit Exam (E2) first attempt scores earned by cohorts of nursing students in a baccalaureate program. This program adopted a concept-based curriculum as part of a statewide move to a shared curriculum (New Mexico Nursing Education Consortium – NMNEC).

Method: We compared the first attempt E2 final composite scores among two groups, one group that were a part of the prior traditional, systems-based curriculum (n=1000+) and the other group was post- implementation (n=350+) of the concept-based curriculum. In addition, category and sub-category scores were compared across both groups. Categories that contained only a few questions in the E2 exam were excluded from this analysis.

Outcomes: The results were mixed. Composite scores were not statistically different, but category and subcategory scores did indicate differences between the pre/post groups. Category and sub-category scores in maternity and pathophysiology were significantly statically greater in the pre-NMNEC group but the Post-NMNEC group were found to be significantly statically greater in psychiatric-mental health, basic nursing skills, and intrapartum. Only seven of the 21 categories and sub-categories were found to in either pre or post NMNEC curriculum application.

Conclusions: As a program review project, this analysis is helpful for faculty in their efforts to ensure that students are using the concept-approach to decision-making in nursing practice. Additional analysis is planned to view trends in the scores based on the transition period reflected by a change from a traditional system-based curriculum to the concept-based NMNEC teaching approach.

Teaching Vulnerable Populations: A Capstone Project for Online RN-BS Students

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Purpose/Aims: A capstone project was developed for online RN to BS students allowing them to identify a teaching need for a vulnerable patient population in the student's area of practice. This report presents descriptive evidence about project outcomes.

Rationale/Background: Changing demographic trends and health disparities continue to challenge equitable healthcare provision (Cadoret & Garcia, 2014). Vulnerable populations, such as children, elderly, ethnic or racial minorities, or persons who are socioeconomically disadvantaged, are at greater risk for health-related challenges (Saunders, Hale & Harris, 2016; Waisel, 2013).

Undertaking/Approach: The capstone teaching project requires that students identify the following: statistics about an existing health disparity for the selected vulnerable population; a learning theory to guide their teaching plan (e.g., instrumental, humanistic, transformative, social, motivational, and reflective [Taylor & Handy, 2013]); and impact of relevant cultural, economic, environmental, and social factors on health for the selected vulnerable patient population (Jones & Smith, 2014). Students then propose nursing interventions for health education and develop a detailed teaching plan that reflects the chosen learning theory and addresses the health needs of the vulnerable population. Recommended nursing interventions are to be evidence-based (i.e., 5-6 current sources, including nursing research). This project is presented via a 5-7 page paper. Student also present their teaching plan to staff in their work setting and submit a presentation verification form online that includes staff comments/feedback for evaluation.

Projects are evaluated in part by student peers. Each student prepares an infographic of their teaching plan and presents it online to classmates via Zoom. An infographic is a visual representation of the content that includes charts, imagery, and minimal text to give an overview of the teaching plan. Students' infographics include a summary of the identified vulnerable population, statistics, suggested interventions, and teaching plan. Peers respond online and evaluate the infographics of two other classmates regarding what they learned. Comprehensive evaluation of the capstone teaching project is done via a detailed rubric that includes statistics/research; health impacts; recommendations; teaching/learning theory; teaching plan; format/grammar; presentation to work setting; and presentation to class.

Outcomes Achieved/Documented: The outcome for these projects is for students to learn how to develop teaching tools for patient education. Examples of projects developed include a handout in Spanish on wound care and a handout on Hepatitis A for the homeless population. Teaching plans have accounted for developmental and cultural needs, while also taking into account different learning styles. Analysis of rubric data reveal that staff find the presentations informative and plan to use them in the work setting as educational flyers that highlight important resources for the vulnerable population.

Conclusions: This learning experience teaches RN-BSN students how to systematically and scientifically address learning needs of vulnerable populations to decrease health disparity. The project also provides employed nursing students with an educational intervention that can be implemented in their respective clinical settings.

Perceptions of Benefits and Drawbacks to Attending a Live Streaming Nursing Conference

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Purpose: To explore nurse perceptions of benefits and drawbacks to attending a continuing education event delivered in a live-streaming format compared to in-person.
Background: In the context of the COVID-19 global pandemic, in-person continuing education conferences scheduled for healthcare providers have required conversion to virtual events. Little evidence exists regarding perceived benefits and drawbacks to participating in a live-streaming versus an in-person, work-related conference from a healthcare provider perspective.
Methods: N=237 nurses working in 37 different hospitals across 7 states in the United States working for a single health system participated in the live-streaming continuing education event and were eligible to complete a post-conference survey. Surveys evaluated perceptions of Registered Nurses regarding attendance at the live-streaming research conference compared to previously attended in-person events. Surveys included four Likert-scale items and two open-ended questions. Participant responses were analyzed using descriptive statistics for Likert-scale items and content analysis with thematic coding for open-ended questions.
Results: Of the 219 eligible responses, participants responded on average more favorably to Likert-scale items measuring the experience of participation in a live-streaming compared to an in-person continuing education event. Three themes emerged regarding perceived benefits of the live-streaming experience: *savings, self-care and safety and user-friendly.* Perceived drawbacks were also coded with three themes: *technical issues, impaired focus, and limited social experience/networking.*
Further Research: In the context of a global health threats and mandates for physical distancing, delivery of virtual continuing healthcare education may be preferred even as distancing requirements loosen. Among Registered Nurses, delivery of live-streaming education was perceived as superior to in-person. Despite noted challenges with technology and perceived inadequate networking opportunities, the use of live-streaming nursing conferences may provide a more inclusive and satisfying experience for nurse participants compared to a traditional, in-person events. Further research is needed to determine which delivery method translates to better knowledge and comprehension of continuing education material.

Environmental Impacts of Healthcare: Changes in Nurse Awareness over Time

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Purpose/Aims: The purpose of this study is to measure environmental awareness and behaviors of nurses in multiple acute care settings and compare results to similar measurement six years prior. Findings are compared across work setting, age, experience and other demographic features. Awareness and behaviors are contrasted for relationship.

Conceptual Basis/Background: Healthcare is an environmentally impactful enterprise, causing pollution through energy use, waste accumulation, and the use of toxic chemicals. Nurses are the most represented profession in health care and have a Standard of Practice that requires nurses to "practice in an environmentally safe and healthy manner." Yet, nurses' awareness of these impacts and what behaviors they take to mitigate them are not well understood.

Methods: The "Nurses Environmental Awareness Tool (NEAT)" consisting of six scales, was used to query over 600 registered nurses (RNs) in eight hospitals in three western states in 2013, and with a sample of over 1600 RNs in the same eight hospitals in 2019 via an anonymous, web-based survey.

Results: Ninety three percent of the 2013 sample were female, 85% Caucasian. Mean age was 45.6 years, and mean years as a nurse 18.4. Eighty seven percent of the 2019 sample were female, 82.5% Caucasian. Mean age was 44.2 years, and mean years as a nurse 16.9. Several differences between the 2013 and 2019 measurements were revealed, including on scale scores of "Relatedness to Health", (2013 M= 3.72; 2019 M=3.85; p=0.002), "Ecological Behaviors at Home", (2013 M=2.94; 2019 M=3.07; p=0.000), and "Ecological Behaviors at Work", (2013 M=2.48; 2019 M=2.42; p=0.032). When examining all responses, scores on the "Relatedness to Health" scale correlated more strongly with "Home Behaviors" (r=.38) than with "Work Behaviors" (r=.16). Differences between hospitals were small, reinforcing that nurses' awareness and behaviors were similar, despite the setting. Of note, RNs perform more ecological behaviors at home than at work, yet they report that ecological behaviors were easier to do at work than at home. RNs living in urban and rural settings performed more ecological behaviors than RNS living in suburban settings, Nurses living in urban settings scored higher on the "Relatedness to Health" scale than either rural or suburban settings.

Implications: This is the first large-scale study to measure and compare awareness and behaviors of acute care RNs at two different points in time. Results give researchers an opportunity to begin to understand awareness, and the relationship of that awareness to behaviors aimed at reducing environmental impacts of nursing practice. Results give nursing faculty knowledge to better educate RNs about the environmental impacts of nursing practice. Results may help nurse administrators to support RNs as they try to decrease practice-based pollution. Each will help nurses follow their professional obligation to practice in an environmentally safe and healthy manner.

Redesigning Shared Governance Structures Improved Clinical Nurse Engagement

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Purposes/Aims: Engagement scores were critically low for clinical nurses, despite significant investment in shared governance and professional development. The purpose of this project is to describe the effect of redesigning shared governance structures to better engage clinical nurses in decisions that affect them.

Rationale/Background: Two decades of research about the Magnet® nursing excellence program demonstrates that high nurse engagement is associated with better clinical outcomes and experience for patients and lower nurse turnover. Although performance at this academic medical center on nurse sensitive indicators and patient experience was relatively high, low nurse engagement scores created risk to degrade performance. Units worked independently to address population- and organization-level issues resulting in fragmented problem solving. Teams were slow to achieve results. Inconsistent attendance at shared governance councils reduced effectiveness and efficiency as context and plans were re-visited regularly. After reviewing engagement scores at a shared governance meeting, clinical nurse leaders and formal leaders agreed existing structures were inadequate and that changes needed to be cost neutral.

Methods: Leaders reviewed literature and conducted a site visit to learn about different models for shared governance. To maximize the voice of clinical nurses in decision-making, membership for the Nursing Strategic Council was reconfigured to a ratio of 5 clinical nurses for every formal leader. The NSC confirmed unit-level expectations regarding oversight of quality, professional development, and nurse engagement. Education regarding fiscal topics was reviewed regularly. Teams recognized the importance of consistently addressing population-level issues, such as support for floating, visitation, and professional development. This resulted in establishing cluster councils for acute care and ambulatory nurses. Funds to support governance activities were distributed to units. Resources for cluster activities were provided by units; resources for activities across the nursing enterprise, including staffing committee and evidence based practice fellowship, were centralized.

The commitment to improve communication included distributing agendas and meeting materials in advance, incorporating technology to foster remote participation, having clinical nurses summarize discussions and decisions, and publishing a synthesis of meetings in the monthly nursing newsletter. Audience polling software was implemented to get immediate feedback from attendees. Members evaluated participation in meaningful decision-making. The Marketplace was developed, a bimonthly set of concurrent sessions about organization-wide issues, such as performance reviews and patient safety reporting. This venue brings clinical nurses together to inform and influence practices that affect them.

Outcomes Achieved: Clinical nurse attendance at NSC became more consistent and the 5:1 ratio of nurses to leaders was maintained. Nurses reported they were more engaged and contributed to meaningful decisions. Over a one year interval, nurse engagement scores significantly increased in ‘adequacy of resources/staffing’ and ‘leadership access/responsiveness’. The percent of units outperforming population-specific means increased from about 11% to about 30%. There was a significant increase in ‘autonomy’ for nurses working in acute care and ambulatory settings. Expenses for nurse enrichment activities declined by 18%, but remained above expected targets.

Conclusions: These structural changes improved nurse engagement without increasing expenses. The stewardship approach gave nurses more opportunities to allocate finite resources on the most important work.

Teamwork as the Key Ingredient in Value Based Care

***Gail E. Armstrong**, PhD, DNP, ACNS-BC, RN, CNE, School of Nursing, Oregon Health & Science University, Portland, OR; **Kathy Reims**, MD, CSI Solutions, LLC, Kensington, MD*

The purpose of this presentation is to share results from a four month team training project that balanced standardized, evidence-based content for healthcare team growth with individualized assessment and feedback for each participating healthcare team.

Significant reforms in reimbursement models are shifting payment away from fee-for-service and towards value-based payment models. These emerging models emphasize compensation for value rather than volume, and aligning payment with improved quality and efficiency of care. As practices work to realign work processes, care delivery, and team member roles/responsibilities to address expectations around improvement, patient and family-centered care, and cost effectiveness, new models of team training are needed.

This presentation shares work done with 140 team members from 19 clinical teams over a four month training period to enhance teamwork. An adapted TeamSTEPPS survey was conducted for each team to assess baseline performance in team functioning, communication, team culture, and work of the team. Six interactive webinars were conducted, presenting content from current trends specific to healthcare team development. Teams translated the webinar content into their own context by completing action-oriented assignments. Perhaps most unique to this project is the individual team coaching that was conducted with each team by the project faculty. This component of the project allowed faculty to individualize content, approaches and recommendations.

This presentation reviews gross trends in the survey results across teams and across clinics. Findings specific to the global value of specific content (e.g. psychological safety on teams, important elements of team and practice culture) will be described. Non-quantitative rewards from the work will also be shared. Additionally, important points of variation will be examined, identifying the impact of system, practice and team elements on these variations. Assessing team culture, identifying team priorities, and improving team functioning are all practice context-specific; therefore, future models for clinical team training must accommodate individualization based on practice specific context and demands.

The Important Context of the Nurse Manager Practice Environment and the Link to Outcomes

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Purpose/Aims: The purpose of this research study was to test proposed relationships between the Nurse Manager Practice Environment (NMPE) and Nurse Manager (NM) specific outcomes; job satisfaction (JS), reason for leaving (RFL), and career recommendation (CR). With the additional purpose of testing whether work-family conflict (WFC) or family-work conflict plays a mediating role between the NMPE and NM outcomes.

Background: The healthcare system has become increasingly complex, and consequently the role of the NM has become more stressful and demanding. Many nurse managers will leave their positions because of personal stress, organizational stress, burnout, and work-life imbalance. NMs leaving their position has negative implications for financial, cultural, and patient safety outcomes. Therefore, NM retention is of significant importance. The limited research in this area makes studying the NMPE important to further understand how to enhance NM job satisfaction and prevent NMs from leaving their important role.

Methods: A secondary analysis of quantitative data collected as a part of a larger 2017 study was carried out. The database included NMs from member hospitals of the National Database of Quality Indicators ® (NDNQI) database. Human subjects approval was obtained for both primary study and this study. The sample (n=181) included current NMs with departments that care for inpatients or inpatient/outpatients within the United States who indicated they were planning to leave their position in the next 0-3 years. The relationship between variables was tested using linear regression analysis and following mediation methods.

Results: Linear regression established that JS, CR, and RFL were all able to positively predict NMPES scores (R2 = 36.7%, $\beta = .606$, $F(1, 179) = 103.67$, $p = < .001$; R2 = 32%, $\beta = .566$, $F(1, 179)= 84.28$, $p = < .001$; R2 = 12.3%, $\beta = .351$, $F(1, 162) = 22.73$, $p < .001$). The NMPE was a significant negative predictor of WFC and FWC (R2 = 12.5%, $\beta = -.353$, $F(1,179) = 25.54$, $p = <.001$; R2 = 4.6%, $\beta = -.215$, $F(1, 178) = 8.59$, $p = .004$). Even though there were significant relationships between the NMPE and both mediators and NM outcomes, there was a lack of significance in the relationship between the mediators and NM outcomes.

Implications for Translation to Practice/Further Research: Many of the proposed relationships were found to be significant and highlight the role of the NMPE on WFC/FWC and NM outcomes. Interestingly, WFC or FWC did not medicate the NM outcomes. These results could be attributed to the instrument, sample, or variables used in this analysis. Due to healthcare environment complexity, other mediators and samples of NMs should be studied. This study contributes to the literature that will help guide efforts to recruit and retain NMs.

Conducting Qualitative Study with Remote Synchronous Focus Groups: Lessons Learned

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Background: Like nursing practice, nursing research employs a holistic approach to examine nursing science questions, including numerous studies that rely on qualitative or mix-method inquiry. Direct, in-person encounters between researchers and participants has been a hallmark in the conduct of qualitative research. With limitations on travel and gatherings during COVID-19, research has been interrupted and investigators have been challenged in their quest to continue or initiate studies. Furthermore, dependence on in-person encounters can increase the cost and time to complete qualitative studies, as well as limit access to physically isolated or distant participants. Remotely conducted, synchronous video-conference methods offer a viable alternative to traditional approaches but expose tradeoffs and challenges to assure rigor.

Purpose: The purpose of this presentation is to describe specific lessons learned from the conduct of a study with ten focus groups (FG), nine of which were conducted via remote, synchronous videoconferencing. These “lessons learned” will be translated into best-practice recommendations that researchers can adapt and enact in future FGs or similar qualitative approaches.

Method: This pilot study employed a concurrent nested mixed-methods design including a quantitative pre-interview assessment, qualitative semi-structured focus-groups, followed by a quantitative prioritization activity. The design for this study exercised qualitative priority with integration occurring during analysis. With a foundation in naturalistic inquiry, conventional qualitative content analysis was the dominant analytical approach. The primary aim of this study was to explore data visualization needs and preferences of public health professionals, including baseline understanding and use patterns.

Focus groups were conducted from October 2019 through March 2020. The sample included ten geographically and structurally diverse health jurisdictions, with participants per FG ranging from 2 to 5 (total n=28) adults. Except for one in-person FG, all interviews were conducted via Zoom™ videoconferencing and facilitated by the lead researcher and a consistent research associate. The majority of FGs consisted of co-located participants at a single site (n=8) with the facilitator and associate each connecting from different locations. Remote methods were found to influence the study at all phases including pre-FG logistics, initiation of FGs, the videoconferencing/technology environment, management of the interview milieu, recognition of cues, and follow-up retention. Additionally, adaptations were required to ensure integrity of transcription, data analysis, and interpretation. Regardless, the team readily achieved credibility and dependability in this study and revealed that the benefits this innovative approach to FG interviews surpassed the tradeoffs.

Implications: Remote synchronous videoconferencing offers qualitative researchers a unique opportunity to engage participants and expand participant pools at a lower cost than direct, in-person interviews, plus can offer depth not attainable in telephonic-only interviews or asynchronous methods. While COVID-19 has challenged the conduct of research, it has prompted an expansion of approaches not previously considered and cultivated an environment where videoconferencing has substituted for many interactions. When nurse researchers anticipate the processes, challenges, and opportunities of this approach, they can utilize resources more efficiently, minimize pitfalls, and communicate the experiences of participants in a rich, full, and naturalistic form.

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Developing an Interprofessional Advance Care Planning Training

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Purpose: To describe the process to develop an interprofessional training program to facilitate advance care planning (ACP) in primary care settings.

Background: ACP is a key to delivering patient-centered care that is consistent with patients' values and goals. However, multiple barriers exist limiting primary care providers to have ACP conversations with their patients. Nurses and other team members' potential role as an ACP facilitator is rarely explored or underutilized. To overcome practice barriers and promote ACP in primary care settings, there is an urgent need to develop an interprofessional team approach for ACP leveraging all team members' abilities.

Methods: As part of a PCORI supported comparative effectiveness trial to compare an interprofessional (IP) team approach to an individual clinician approach to implement ACP in primary care (PLC-1609-32677), we have developed an ACP conversation training program for IP primary care teams by integrating Interprofessional Shared Decision Making Model into existing ACP training for clinicians through a 5-stage process. Stage 1: We selected the Serious Illness Care Program (SICP), an evidence-based ACP program for clinicians, as a template. The original SICP material served as the control arm intervention for individual clinicians. Stage 2: We adapted SICP by integrating the Interprofessional Shared Decision Making Model as a framework, and drafted Interprofessional Serious Illness Conversation (IP-SIC) Training Program. Stage 3: We invited 11 stakeholders (3 physicians, 3 nurses, 1 social worker, 1 medical assistant, and 3 patients and family advisors) to review the IP-SIC draft. Stage 4: We conducted a pilot training with an interprofessional primary care team (n=10) using the IP-SIC Training. Stage 5: We refined and finalized the IP-SIC Training Program based on the input from the pilot training participants. IRB approval was obtained before conducting the pilot training and program evaluation data were collected from the participants.

Outcomes: Newly developed IP-SIC Training includes online-modules describing ACP, a conversation guide, role-paly scenarios and instruction, and examples of workflows to facilitate ACP conversations with patients by an interprofessional team. Key modifications made to the IP-SIC Training include (1) changing some language in the conversation guide (e.g., replacing *sharing prognosis* with *sharing concerns about the future*) to better fit to the scope of practice of different professions in the team; (2) emphasis on shared objectives and contributions by each interprofessional team member; and (3) building a structure to enhance communications related to ACP among team members.

Conclusions: We used a systematic approach to develop an interprofessional training program to promote ACP in primary care settings. Seeking and integrating inputs from diverse clinical stakeholders was critical to make the IP-SIC Training relevant and applicable to different professionals in primary care teams. Future work includes assessing the impact of this new IP-SIC Training on the quality of ACP in primary care settings.

Funding: This project was funded through a Patient-Centered Outcomes Research Institute (PCORI) Award (PLC-1609-36277).

GAMING AND TECHNOLOGY: EFFECTS ON WORK AND HEALTH

Internet Gaming Disorder in Adolescents: A Systematic Review

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Background/Rationale: The last two decades have seen significant advances in technology resulting in tweens (8-12 years) spending an average of 4.5 hours a day and teenagers (13-18 years) spending 6.5 hours a day on screen-based entertainment. Approximately 64 million or 91% of children ages 2 to 17 in the United States play screen-based games. Recently, Massively Multiplayer Online Role Playing Games (MMORPG) like Fortnite have become a cultural phenomenon drawing in more than 125 million players worldwide in less than a year, ranging in age from young children to adults and earning Epic Games, the creator of Fortnite, $3 billion profit in 2018. The American Psychological Association has recognized that individuals may experience problem gaming that can cause significant impairment that should be further researched.

Purpose/Aims: The purpose of this systematic review was to provide an overview of the current evidence on the predisposing factors and the criteria for identifying problem gaming in children and adolescents.

Methods: Five databases (Medline, PsycINFO, CINAHL, PsycARTICLES, and Health Source: Nursing/Academic Edition) were searched using keywords individually and in combination. PRISMA methodology was used to guide this review. Sixteen eligible studies were included for review.

Results: The quality of research was assessed using the Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields. Overall, the quality of evidence was medium to high (Mean = 0.92, Range = 0.7-1.0). Time spent gaming and age of the child were not found to be predictors of problem gaming. The evidence demonstrated some predictors and protective factors. Overall, the following variables predicted internet gaming addiction: being male, playing online versus offline, playing alone or with virtual teammates, getting less sleep due to game-playing or nighttime waking to game. Protective factors included positive family cohesiveness, high academic achievement, and satisfactory social relationships with family, friends, and teachers.

Implications: Predicting the development of IGD remains challenging. There was a lack of standardized criteria to diagnose internet gaming disorder. The use of the DSM-V criteria was inconsistent and the validity and reliability of using the DSM-V criteria is questionable. In addition, several of the studies demonstrated contradictory results making it difficult to predict IGD. However, the factors identified as predictive or protective may help parents and providers to determine the risk of IGD for an individual teen. Health care providers can use this information to educate parents on risky gaming behaviors.

GAMING AND TECHNOLOGY: EFFECTS ON WORK AND HEALTH

Effect of GEM Phone App on Burnout for NICU Staff: A Pilot Study

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Purpose: The purpose of this research study was to evaluate the personal and professional wellness effects of a gratitude, exercise, and mindfulness (GEM) intervention, delivered via a smartphone application, for NICU staff.

Background: Providing healthcare is physically and emotionally demanding. Complex patient loads, long shifts, and working in emotionally and physically challenging areas can cause healthcare workers to experience compassion fatigue (CF) and burnout (BO). CF, BO, and high stress can lead to other physical, mental, and emotional difficulties. Additionally, medication errors, patient dissatisfaction, and a decrease in productivity have been linked to CF and BO. Gratitude, exercise, and mindfulness are three strategies that can potentially reduce compassion fatigue and burnout. The simple act of purposefully and consistently expressing gratitude has been found to help people become happier, more energetic, and hopeful. Expressing gratitude can also improve the ability to cope and adapt to challenging circumstances. Multiple studies have linked physical activity to improved mental health. Healthcare givers can benefit from exercise as they deal with work stress. Lack of regular exercise may predict intention to leave work. Mindfulness has been shown to help individuals become more self-aware, more open, more accepting of difficult situations, and experience more feelings of peace. These factors can help minimize burnout and compassion fatigue among health care workers.

Methods: A prospective, interventional pilot study design was utilized. Healthcare workers on a 65 bed Newborn Intensive Care Unit (NICU) in Utah were recruited for the study via email and staff meetings. Potential participants were given a QR code that would allow them to download the GEM smartphone app. Participants enrolled in the study by providing informed consent via the app. The Professional Quality of Life (ProQol), Subjective Happiness Scale (SHS), and Physical Activity Vital Sign (PAVS) questionnaires were measures utilized in the study. Participants completed the questionnaires at the beginning and end of the 21 day intervention via the app. Participants selected one of three interventions: 1) a daily gratitude journal, 2) regular physical exercise, or 3) mindfulness meditation. The app gave participants daily reminders to engage in their chosen intervention during the study and prompted them to log their involvement daily.

Results: A total of 83 participants enrolled, with 36 completing all aspects of the study. Participants were primarily female (98.8%) and nurses (85.5%). Participants in the gratitude group (n=18) experienced significant increases in compassion satisfaction (p=0.047) and subjective happiness (p=0.001) scores and a significant reduction in burnout scores (p=0.049). No significant differences were noted in the exercise (n=7) and mindfulness groups (n=11).

Implications: The results of this pilot study are promising. Significant improvements in compassion satisfaction, subjective happiness, and burnout scores were experienced in the gratitude group. The scores in the exercise and mindfulness groups were trending towards significance, but were limited by small sample sizes. Technical difficulties with the phone app had a potential negative effect on participant completion of the study. Additional research with larger samples sizes needs to be completed.

Language Specific m-Health App to Improve Knowledge of Oral Anticoagulation Therapy

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Objective: To improve knowledge of oral anticoagulation therapy (OAT) in patients receiving a culturally and language specific m-health intervention in an academic hospital.

Background: Oral anticoagulation therapy (OAT) including warfarin (Vitamin K antagonist) and new OAT (direct-acting oral anticoagulants including dabigatran, rivaroxaban, and apixaban) has been used to manage conditions such as atrial fibrillation, heart failure, or thromboembolic disorders. Without proper use of OAT the adverse events are serious including major bleeding. New OAT has less drug-drug interaction, food restrictions, and less regular monitoring by healthcare providers (physicians, pharmacists or registered nurses). Health care providers are responsible for providing proper education on OAT to prevent life threatening adverse events. Older adults especially those with language barriers have difficulties in managing their OAT. A language/culture specific mobile health–based intervention could help patients increase their knowledge of OAT and enhance self-care.

Methods: This study has a single arm, pre-post experimental design. We developed OAT applications (app) based on type of OAT and language (English/Spanish). The app called "My Happy Blood, MHB" was introduced to patients in an anticoagulation clinic of an academic medical hospital. The components of the MHB apps included (1) information about anticoagulation therapies (e.g., warfarin or new OAT) and safety tips,(2) medication self-monitoring and reminders, (3) Vitamin K content of foods including common Hispanic foods, (4) monitoring of signs and symptoms of bleeding, (5) monitoring blood test (e.g., INR) via visual graphics, and (6) resources related to anticoagulation therapy. Trained research assistants had one-on-one sessions with each participant to help install the app on their smartphone and provide information on its use. A 24/7 helpline for technical support was available during the study period. An anticoagulation knowledge test for those either using warfarin or new OAT medication was administered at baseline, 1 month, and 3 months. At the end of the 3-month study, the m-health intervention usability survey was conducted. Wilcoxon signed-rank tests were used to examine the difference of OAT knowledge between baseline and 1-month/3- month follow-up.

Results: A total of 17 participants enrolled in the 3-month m-Health intervention study. They were 12 males and 5 females, 7 Caucasians, 4 Latinos, 6 other racial/ethnicities. Mean age was 54.06 (SD=18.15), Median=57, range 22-83. Four of 17 (23.5%) participants had less than high school education. Three patients reported they received new OAT and 14 of 17 participants received warfarin OAT. The mean scores of anticoagulation knowledge test were significantly improved from baseline to 1 month and 3 months (respectively, $M_{baseline}$=69.51% (SD=12.90), M_{1m}=78.76% (SD=12.75), M_{3m}=82.47% (SD=12.40), all p <.001). The mean usability/satisfaction with the use of MHB app was 5.9 of 7 (SD=.79).

Conclusions/Implications: The results from the m-Health intervention study for patients with OAT showed significant improvement of OAT knowledge and high satisfaction in use of the m-Health app in patients with OAT. This study offers important information and education through easily used technology for all ages to prevent serious adverse events.

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Experiences with Technology and Telehealth among Women with Perinatal Depression

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Purposes/Aims: This Qualitative study describes women's experiences, specifically with use of technology during a telehealth intervention based on mindfulness-based practices and cognitive behavioral therapy (MBCBT) to reduce perinatal depression and anxiety (PDA).

Rationale/Conceptual Basis/Background: PDA is common in women during their reproductive years. According to the World Health Organization, PDA affects 15.6% of women during pregnancy and 19.8% during the postpartum period. Limited access to mental health care professionals for PDA is a significant barrier, especially for women who reside in rural and low-income settings. The emergence of telehealth in healthcare can improve accessibility to care regardless of geographic location. However, few studies are available that explore experiences of women with PDA using telehealth.

Methods: A secondary analysis of data collected from three focus group sessions. Women with perinatal depression and anxiety participated in focus groups after completion of an 8-week MBCBT group telehealth intervention. In each one-hour focus group, participants were interviewed on the same video-chat platform used for the group intervention. Women described their positive and negative experiences of the telehealth MBCBT program. Sessions were audio-recorded and transcribed verbatim, and subjected to inductive content analysis, constant comparison, and coding using Dedoose qualitative software.

Results: A total of six categories were identified during qualitative analysis; technology, interpersonal connection, keeping connection, program content, program organization, and learning style. Two of the six categories, interpersonal communication and keeping connection, were found to have significant interactions with technology. Technology had a positive effect on interpersonal communication, as participants valued the convenience. However, participants felt the secluded video chat room environment somewhat prohibited them from building relationships on a personal level. Participants also experienced flexibility and accessibility of using technology in group sessions, such as being in a private setting and joining the group from any remote location. Although some participants valued the technology, other participants experienced frustration. Some participants described difficulties logging into the web-based video chat and experienced malfunction in the audio or video system. Participants described their frustration of technological negative experiences as "*perfect storms.*" These expressions highlight the stress and barriers participants experience relating to technology use.

Implications: Utilizing a web-based video chat system to deliver MBCBT to women who are experiencing PDA has the potential to reduce barriers to accessible care, regardless of their geographical location. Consequently, a telehealth approach could improve treatment retention and reduce costs. The findings of these focus group interviews showed technology has both a positive and negative effect on women and the delivery of care. Reducing technology barriers such as provision of direct technology support to participants, and timely troubleshooting of technical difficulties may maximize positive experiences. Future studies can explore technological support and reduction of barriers to technological challenges. It is also important to explore how telehealth environments can better support personal connections amongst individuals, i.e., women's needs described in focus groups should to be considered for maximizing effectiveness of telehealth.

Utilizing a Social Media Platform to Increase Participation in a Virtual Journal Club

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Purpose/Aim: The purpose of this evidence-based practice project was to offer a social media platform for all nursing staff to participate in a Virtual Journal Club (VJC). Aim 1: To set up an organizationally approved social media account for the VJC. Aim 2: For the participants to have access to the VJC at home and at work. Aim 3: To increase the number of participants using the VJC.

Rationale/ Background: A VJC is a place where nurses can read, synthesize, and discuss research and evidence-based practice articles. There is a well-known time lag of disseminating this knowledge from bench to bedside. In 2016, a 300-bed community hospital constructed a VJC to educate nurses on the latest studies. In 2016 and 2017, this VJC was used via an intranet-based platform with little success. Main barriers included (1) no access outside of work and (2) difficulty following threads leading to incohesive interactions. In 2018, a website was created. This platform had one fatal flaw, a multistep verification process to gain access, with the verification email being routed into spam. In late 2018, a literature search was done to identify best practices. A number of articles were reviewed with results indicating that the utilization of a social media platform increased participation.

Approach: The Nursing Research Council used the Rosswurm and Larrabee model as a systematic evidence-based practice process. Step one, assess the need for change, was done mid-2018 when platform problems were identified. Steps two and three: link problem with interventions and outcomes, and synthesize best evidence, was done at the end of 2018. Step 4, design a plan, was discussed in detailed early in 2019, and a number of traditional social media platforms were reviewed but did not meet institutional security measures. One social media platform that the organization already used was identified. Step 5, implementing and evaluating a plan, involved three phases. Phase one was exploratory. An account was created with basic information. Council members and the Education team were invited to test out the accessibility (i.e., desktop and phone application). Phase two included a soft-opening with the VJC completely set up, and Council members each did an initial post and a response. All potential barriers were evaluated and addressed. Phase 3, hospital go-live in May, included a number of promotional techniques (i.e., QR codes, emails, signs). Stage 6, integrate and maintain is discussed below.

Outcomes: Aim 1 and Aim 2 were successfully met by identifying a user-friendly social media platform, that resembles the basic principles of a traditional social media news feed. Aim 3 was measured by number of total members and posts. Compared to 2018, 2019 increased in VJC members from 22 to 44 and total number of posts from 46 to 106.

Conclusion: Advances in nursing practice need to be communicated quickly. Utilizing a social media platform versus an internet-based platform has increased participation within the VJC. Thus this practice change has been deemed successful, and continues to be maintained by the Nursing Research Council.

Unpacking Spirituality through the Lens of Persons of Color Living with Serious Illness

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Purpose: The study sought to illuminate characteristics of spirituality as described by people of color living with serious illness.

Background: The domain of Spiritual, Religious, & Existential Care is one of the 9 domains of Palliative Nursing. There is also a NANDA-I diagnosis for spiritual distress, a state of suffering related to difficulty creating existential meaning. Spiritual support enhances a patient's well-being, provides hope, and encourages optimism, but formal training in this area is lacking.

Methods: Using a secondary data set of audio-recorded narrative interviews, a thematic content analysis was conducted on interviews with 20 persons of color living with serious illness, admitted to an acute care hospital. Primary study data was collected November 2017–November 2018 and tested the feasibility of integrating person-centered narratives into the electronic health record. Through a deductive coding process a schema was created based on a broad definition of spirituality, including: Religion, Self, Family, Community, Nature, and Art/Music/Literature. Once a coding schema was identified, all three authors independently coded all 20 transcripts using deductive codes, inputted their codes into a coding matrix, and discussed the codes at weekly meetings over 3 months to reach consensus of final themes.

Results: Participants (n=20). Illnesses: cancer (15%), end stage renal disease (20%), and heart failure (75%). Race/ethnicity: Black (40%), Hispanic/Latino (45%), Native American (10%), more than one race (5%). Sex: male (60%), female (40%). The three major themes expressed were Religion, Self, and Family. Of the 20 participants, 18 mentioned religion as an aspect of their spirituality. Of these, 16 identified with Christian beliefs, 1 held Native American beliefs, and 1 held both Christian and Native American beliefs.

Patients noted three main effects of serious illness on their religious life: an increased faith, a stronger sense of purpose, and the importance of being prayed for. In the theme of self, 15 out of 20 participants made positive statements about self-worth, awareness of their life in a larger context, and reflection on their personality characteristics. Serious illness increased their feeling of value in the world and influenced what they valued in their lives. All 20 participants described Family as an important aspect of their spirituality, reflecting that family added existential meaning and purpose to their lives. Minor themes expressed by participants included Community, Nature, and Art/Music.

Implications for Translation to Practice/Research/Policy: Religion, Self, and Family were the three most dominant themes in the spiritual lives of the participants. Nurses must understand the broad range of experiences encompassed by the spiritual domain in order to be effective spiritual care generalists. Nursing curricula should include formal training in spiritual care and assessment. Nurses can build on skills they already have to be effective spiritual care generalists, such as compassion, active listening, inquiring after a patient's spiritual needs, watching for signs of spiritual distress, and knowing when a chaplain would be helpful. But first it is imperative that nurses have the knowledge to anticipate needs enabling them to empower their patients to have healing despite their physiological illness.

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HEALTH AND CULTURE: DIVERSE PERSPECTIVES

Asian Older Adults Perceptions and Knowledge about Brain Health

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Aims: This project aims to: 1) explore concerns, perceptions, and cultural beliefs related to memory loss among Korean, Samoan, Chinese and Cambodian immigrant older adults; and 2) identify culturally relevant factors that might contribute to the development of an innovative community-based program about brain health.

Background: In the United States, Alzheimer's is estimated to affect 5.8 million people age 65 and older in 2020. This number is projected to reach 13.8 million by 2050. Asian older adults age 65 and older have become the second most rapidly growing racial population of older Americans. Although Asian older adults are the largest group of immigrants, there are limited studies on dementia among Asian older adults. Additionally, Asian older adults are often underrepresented in dementia-related research due to factors such as, but not limited to, mistrust, language barriers, fear, and limited knowledge. Although a few studies have addressed memory loss among Chinese Americans and Korean Americans, cultural diversity across subgroups among Asian Americans requires a broader investigation to understand concerns, perceptions, and cultural beliefs regarding memory loss.

Methods: We conducted a qualitative study with content analysis under the interpretive paradigm. A focus group guide and a demographic survey were developed. Sixty-two participants were recruited from the Asian Counseling and Referral Service (ACRS). We held seven focus groups for Korean, Samoan, Chinese and Cambodian participants. Training sessions for bilingual moderators were conducted to assure consistency across focus groups. Translation of study materials (recruitment flyer, consent, focus group guide, and survey forms) into indigenous languages were verified and cross-checked by two bilingual research team members. Inductive content analysis and indigeneous coding were used to analyze data. The intercoder reliability for all groups exceeded .80 which was considered reliable data.

Results: Participants shared similar perceptions, experiences, and concerns about memory and dementia loss across the four culture groups (Korean, Samoan, Chinese and Cambodian). Unique perspectives from each cultural groups also arose during the discussion (e.g., different insights on factors contributing to memory loss and culture stigma of dementia). The first main theme was perception and knowledge about memory loss and dementia. The sub-themes included the meaning of memory loss, perceived contributors to memory loss, perceived strategies to maintain and improve memory, immigration, acculturation, and stigma. Under the second main theme components of a future healthy brain program, the sub-themes consisted of culturally competent information and knowledge about memory loss and dementia, content and format, and frequency of exercise and healthy diet.

Implications: A culturally tailored and language appropriate community-based brain health program is needed for and desired by Asian American older adults. The program should include culturally sensitive healthy brain-related knowledge, early promotion of and positive attitudes toward cognitive health, and collaboration with local communities to develop and disseminate brain health programs.

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Qualitative Study on the Views of the Latinx Community of Mental Health Services

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Purpose: The purpose of this completed qualitative study was to explore the experiences and perceptions of mental health among a Latinx population.
Background: Latinx persons with mental illness have lower rates of treatment and do not access resources as often as the White population. One of the possible reasons that the Latinx population in the United States does not frequently utilize mental health services is because therapy is not culturally congruent and has only been validated in White patients. Other reasons may include language barriers between patient and mental health provider. In a preliminary survey of Latinx residents conducted by the local Health Department, participants noted that one of their biggest concerns was mental illness and a lack of local resources. This may be especially pronounced in this county where Latinx are still a small minority of the population and very few practitioners speak Spanish.
Methods: We recruited Spanish-speaking respondents who identified as Latino and who lived in the county. We used snowball sampling methods to build a sample of 14 respondents, which we deemed to be an adequate sample size. We conducted semi-structured interviews via telephone with participants in Spanish, using an interview guide we developed as a research team based on a literature review. All interviews were audio-recorded and transcribed by a third-party transcription service. We translated the transcriptions into English and analyzed them for common themes. Three researchers met to develop a codebook based on a subset of the interviews, and the interviews were coded using the codebook by two researchers.
Results: We interviewed 14 participants. Eight were male, six were female, and the mean age was 43 years. We identified three themes that were common among all interviews. The themes that emerged were coping mechanisms, sources of anxiety, and communication about mental illness. Some respondents coped with mental illness by relying on God and their religious traditions, though many denied that mental illness was a problem in their community. Respondents noted that a major source of anxiety was acculturation into the mainstream culture. Those who felt a need to discuss their mental health did so only with an "inner circle" of friends.
Implication for Translation to Practice: Nurses working with the Latino population need to be aware of the potential for patients to deny struggling with anxiety or depression. This may be particularly acute with new immigrants as they attempt to acculturate into a new culture. Potential interventions nurses may employ are to collaborate with places of worship to provide support to patients. Additionally, nurses can encourage patients to identify their close confidants or persons with whom they feel comfortable sharing concerns.

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HEALTH AND CULTURE: DIVERSE PERSPECTIVES

Exploring Knowledge of Arab American Women Regarding Breast Cancer Screening

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Purpose: The purposes of this study were to examine associations between knowledge and mammography screening and to determine whether knowledge can work as a significant predictor of participation in breast cancer screening among Arab American women (AAW).

Background: Breast cancer (BC) is the most common cancer among women in the world and the United State. Mammography screening has been a significant concern among ethnic minority women in the US although it has been identified as a very valuable tool to decrease morbidity and mortality rates of BC. Despite the fact that AAW get diagnosed with BC in late stages at a relatively young age, they under-utilize mammography screening. Evidence showed that lack of knowledge about BC screening negatively influenced minority women's attitudes towards participation. As racial disparities in health continue to influence mammography screening in the US, AAW were recognized as an ethnic minority group requiring further interventions and research to promote their participation in BC screening.

Method: In this exploratory, correlational cross sectional study, 316 Muslim and Christian AAW from three Arab countries, Jordan, Lebanon, and Egypt, completed a survey that combined sociodemographic variables and the Arab Specific-Culture Barriers instrument which presented three items related to knowledge about mammography screening. These items included familiarity with the test, knowing how frequently the test is recommended at the woman's age, and perceived effectiveness of the test. Pender's Health Promotion Model was employed to guide the exploration of biopsychosocial variables correlated with mammography screening, and to predict the likelihood of engaging in screening behaviors. Chi Square, Odd Ratio and Logistic Regression analysis tests were performed to discover associations and ascertain effects of knowledge on the likelihood that participants would perform mammography screening.

Results: The results revealed lower mammography screening rates in AAW compared to the national screening rate of 64% among all women aged 40 and older in the US. Additionally, women who reported familiarity with mammography were fifteen times more likely to engage in mammography screening (OR15.4, 95% CI: 5.6-40.8, p<.001). Women who reported mammography screening recommendations based on age correctly were twelve times more likely to engage in mammography screening (OR12.07, 95% CI: 7-21, p<.001). There were no significant associations between perceived effectiveness of mammography screening and performing it ($X^2$4, N =316) =.408, p=.982).

Implications: This study supports the previous literature conferring the importance of additional efforts to improve mammography screening rates among AAW. Improving BC screening-related knowledge and health literacy is essential to help those women make an informed decision about participating in mammography screening. Oncology nurses and nurse practitioners should educate AAW within a cultural context to reach out to them through exploring their ethnic identity, cultural misconceptions and taboos, indicating the importance of training nurses to provide culturally-congruent care to these women. Community and public health nurses need to develop bilingual education-tailored interventional programs to raise awareness about BC and its screening among AAW. In addition, research is still needed to understand why the rate of mammography screening is not increasing among these ethnic minority women.

The Burnout Dyad: How Patients and Providers Co-Construct the Clinical Care Experience

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Purposes: 1) To describe findings from the 2019 Stanford Medicine X Burnout Workgroup. 2) To suggest additional patient-specific factors that may be added to the National Academy of Medicine Wellness and Resilience Model (2018). 3) To introduce a new model for burnout, the Burnout Dyad Model, acknowledging holistic patient and provider factors influencing the phenomenon, as well as the co-constructed nature of the clinical care experience.

Definition of Theory: The Burnout Dyad is a conceptual model that depicts individual and shared factors associated with patient and provider burnout; applies these factors across health care settings, specialties and diagnoses; and, acknowledges variation within these groups (social, economic, cultural and historic backgrounds, as well as prior exposure to trauma within and outside care-seeking experiences). This model identifies patient and provider burnout as equal contributors to treatment adherence and rejects hierarchy placing provider wellness/resiliency over that of the patient in terms of burnout management. The Burnout Dyad model proposes that patient and provider factors influence perceptions and processing of each clinical interaction; each interaction informs how patients and providers see each other and how they see themselves. This process enables identity co-construction and ultimately defines the clinical care experience.

Internal Consistency of the Theory: This model was built on Blumerian (1969) symbolic interactionism (SI), in that the model's foundation envisions the clinical care experience as the site of reality co-construction and understanding of the self. In SI, communication is seen as the way people make sense of their social words; patterns of interaction and symbols used by both members within the dyad (the white coat as a symbol of provider authority, or filling a prescription as evidence of being a compliant patient) influence how human actors build and understand of their place within the relationship. In the clinical care experience, the patient and the provider are actors, acting-out their roles, while simultaneously (and continually) re-interpreting their role as they receive feedback from the other. Each actor (patient, provider) brings their history of how they see themselves in their role, and how they perceive others have seen them in this role in the past, while each clinical interaction provides them with more information driving this understanding.

Logic Linking Theory to Practice: Variation in patient populations across outpatient clinical settings are not acknowledged in current burnout models. The complex nature of patients served by low-income, rural and minority-serving community clinics may impact how a provider experiences their own clinical practice, how they perceive their patient population, and how their patients receive and experience care.

Conclusions, and Utility of Theory: The Burnout Dyad Model identifies unique patient factors as playing a role in provider burnout and recognizes that patients may also experience burnout. This model creates a framework for the co-construction of the clinical care experience may provide insight into published findings linking lost or improved trust, and treatment adherence (patient), as well as role longevity and decreased incidence of burnout (provider).

Cardiac Monitoring after Cryptogenic Stroke

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Purpose/Question/Aim(s): The purpose of this project was to determine the minimum cardiac monitoring time frame needed to maximize the diagnosis of occult atrial fibrillation. A secondary aim of the project was to examine the risk factors correlated with higher occult atrial fibrillation identification rates.

Background: Atrial fibrillation (afib) is a common cause of ischemic strokes, and the risk of stroke associated with atrial fibrillation can be reduced by anticoagulant therapy. Occult atrial fibrillation is intermittent in nature and hard to capture. The current standard of practice is that a cardiac monitor is worn externally for 30 days after an ischemic stroke. Multiple types of devices are available to monitor for arrhythmias based on length of cardiac monitoring time desired. Implantable cardiac monitors provide data on arrhythmias that can be retrieved during a five year period. The current research has not specifically identified subsets of the cryptogenic stroke population that would benefit from extended monitoring.

Methods/Sample/Instruments: A retrospective chart review study design was used. The study population included 85 individuals between ages 35-88 with a diagnosis of cryptogenic stroke evaluated at an urban medical center in Southwest Idaho. These subjects had cardiac monitoring devices implanted within the last five years. Purposive sampling was utilized. To identify the most effective cardiac monitoring time frame, a Kaplan-Meier estimate was used to measure the number of subjects with an atrial fibrillation event during the time from device implant to onset of atrial fibrillation. The secondary analyses used a Cox Proportional Hazard and logistic regression to identify associated risk factors. Variables included sex, age, left atrial enlargement, ejection fraction less than 40% per echocardiogram, and PR interval variability averaged over three electrocardiograms.

Results: A total of 64 subjects met the inclusion criteria. After implant of the cardiac monitor, atrial fibrillation was identified in 17 subjects (26.6%). Twenty-five percent of the 17 subjects had an atrial fibrillation event recorded within 30 days, 50% within 60 days, and 75% within 158 days. The mean time to diagnosis of atrial fibrillation was 138 days with a range of 14 to 605 days. Age was a significant predictor in the Cox proportional hazard model for time to atrial fibrillation diagnosis. Older age is correlated with a later onset of atrial fibrillation after monitor placement (OR.95 95% CI 0.90, 1.00). The other variables were not statistically significant.

Implications for Translation to Practice: The data analysis supports the hypothesis that implantable cardiac monitors are superior to short term externally worn monitors in identifying atrial fibrillation in a cryptogenic stroke population. Older age predicted a later onset of an atrial fibrillation event. This data can potentially be used to support increased initial utilization of implantable cardiac monitors in an older population. Limitations of the study include the relatively small sample size. Researchers may benefit from analyzing data from multiple medical centers to determine the presence of significant predictors.

Symptoms Matter: Factors Associated with Prehospital Delay in Acute Coronary Syndrome

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Purpose/Aims: The purpose of the study was to examine symptom presentation factors associated with prehospital delay in patients presenting to the emergency department (ED) and evaluated for ACS.

Rationale/Conceptual Basis/Background: Emergent reperfusion targets (<90 minutes) for ST-elevation myocardial infarction have largely been met with no decrease in mortality, suggesting that prehospital rather than in-hospital delay is contributing to poorer patient outcomes.

Methods: This prospective, observational study included a multiethnic sample of patients from five medical centers in four regions of the US. Clinical presentation data, symptoms, and health history were collected directly from the patient in the ED shortly after triage.

Results: Prehospital delay times were available on 975 of the 1064 patients enrolled. The sample included 439 patients ruled-in for ACS, 536 patients ruled-out for ACS, and was comprised of 69% White, 13% Black, 8% Hispanic and 10% other ethnic groups. Ages ranged from 21-98 years. There was no significant difference in median delay times between those ruled-in (6.5 hrs.; interquartile range [IQR] 22.8 hrs.) and those ruled-out (6.7 hrs.; IQR 23.1 hrs.; p=.857) for ACS. Sweating, chest pain, abrupt onset of symptoms, and experiencing a single symptom were associated with shorter prehospital delay. Upper back pain, unusual fatigue, and a chief complaint of shortness of breath were associated with longer delay (see Table). A multivariable model including 13 symptoms, demographics, and clinical presentation variables explained only 15.5% of the variance in prehospital delay.

Implications: Symptom driven action, not diagnosis driven action is critical if we are to be successful in decreasing prehospital delay time. Symptoms overlap with comorbid conditions, therefore, patients need to be counseled that it is in their best interest to seek care as soon as possible after symptom onset since effective therapies are time dependent.

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HEART HEALTH ACROSS THE LIFESPAN

College Students, Are They at Risk for Cardiovascular Disease?

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Purposes/Aims: College students who participate in risky behaviors such as poor diet, excessive weight gain, alcohol and tobacco use, and lack of exercise are predisposed to developing cardiovascular disease in the future. The purpose of this study is to examine and evaluate the cardiovascular risk factors in college students including their social choices and the impact those choices may have on their cardiovascular health.

Methods: A convenience sample of college students, ages 18 to 36, were recruited from a large urban university campus via research flyers and several media platforms between March to September 2017. Participants' blood pressure, body mass index, fasting lipid panel, fasting glucose, hemoglobin A1c, serum cotinine levels, physical activity, alcohol consumption, and dietary habits were collected.

Results: A total of 148 college students were recruited, 59.5% were female and 36.5% were White. The mean age for the participants was 24. ± 4.58, and most of the participants were between ages 18 to 23 years (62.8%), working on their bachelor's degree (53.4%), single (77.7%), and had insurance coverage (91.9%). A high prevalence of cardiovascular risk factors was found amongst the college students: 23.8% were current or past smokers, 65.5% consumed alcoholic beverages on average of 1-2 days per week, an average of 1080 minutes of inactivity per week, 13.5% had elevated blood pressure, 25.7% had hypertension stage I, 3.4% had hypertension stage II, 36.5% were overweight while 19.9% were obese, 14.2% were prediabetic and 2.0% were diabetic, and 40.5% had borderline high cholesterol levels while 3.4% had hyperlipidemia. The top co-occurrence cardiovascular risk factors in this sample were overweight and alcohol consumption.

Implications: The results of this study indicate that college students participate in risky behaviors that predispose them to develop cardiovascular disease in the future. Unfortunately, most college students are unaware of the health consequences of these cardiovascular risk behaviors; therefore, it is imperative to establish cardiovascular risk awareness and prevention in this population.

Child Obesity, Human Ecology, and Epidemiology: What's the Connection?

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Purpose/Aims: The purpose of this research was to understand the contributions of an ecological perspective on the development of obesity in children. Human ecology (microsystem/mesosystem) and the epidemiologic triangle (agent/host/environment) were used as the conceptual framework to examine the contributions from each component to the development of obesity in low-income, Mexican American children.

Rationale/Background: The prevalence of obesity among children 2-19 years is 18.5%; however, the prevalence among Hispanic children is 25.8%, according to the CDC in 2019. Among low-income Hispanic children in metropolitan areas of Texas, the prevalence of obesity was 35.6%. This study was undertaken in a border county in Texas to examine factors that could contribute to child obesity but framed in an ecological approach that considers child and family factors (host, agent, microsystem), and community factors (mesosystem).

Methods: This was a cross-sectional descriptive study. The total sample was 55 mother-child dyads (N=110) who were recruited from a Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) at the Hidalgo County Health Department in Hidalgo County, Texas, which is on the U.S. Mexico border. The children were ages 1-3. Measures included anthropometrics of mother and child, dietary history, home environment, maternal stress, employment, and acculturation. Data were analyzed with descriptive and chi-square statistics for categorical variables, and independent sample t-tests for continuous variables. Multiple regression was used to determine variables that accounted for the greatest variance in the development of obesity among children in this sample.

Results: Outdoor play was significantly of longer duration and more frequent among children of normal weight vs children who were overweight/obese (p=0.02). Frequent intake of high-calorie fruit drinks (not 100% fruit juice) was significantly more common in overweight/obese children (p=0.01). Almost twice the percentage of overweight/obese children had prolonged bottle feeding (greater than 12 months) as compared to normal weight children (p=0.04). Maternal employment, child's age, and maternal BMI in combination resulted in Nagelkerke R2 of 62 (p=0.01).

Implications for Practice/Policy: Nurses who provide care for children and guidance to families can use this research to emphasize the need to stop bottle feeding before or at 1 year of age, and to ensure that children are not fed high-calorie, low nutritional drinks. Outdoor play needs to be a priority for all children, especially toddlers, and when mothers are employed, nutritional education should be provided on how to provide fast, nutritious meals and lessen reliance on fast foods. Policy should focus on providing more parks and green spaces in low-income neighborhoods and replacing food deserts with farmers' markets and stores that provide foods of high-quality and low-cost.

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Development of Pediatric Rapid Response Algorithms Using a Shared Mental Model

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Intermountain Healthcare is a Utah-based, not-for-profit system of 24 hospitals. Pediatric patients receive care at most of the system's rural and urban hospitals, along with Primary Children's Hospital, a stand-alone 289-bed pediatric hospital in Salt Lake City. Care of the deteriorating pediatric patient varied at each facility and interventions were not standardized. Lack of standardization lead to a delay in recognition of deterioration and/or inappropriate care delivery. Evidence-based Rapid Response Algorithms and problem-specific interventions were developed using a shared mental model.

Description of Project/Methods: The development process began with a literature review assessing the current research trends and recommendations related to pediatric rapid response. Although the literature validated the value of pediatric rapid response, standardized interventions were lacking.

Using a shared mental model, which is a team's shared understanding of a task *(Jonker, et.al., 2010),* pediatric rapid response algorithms and order sets were created for each of the eight most common causes of pediatric deterioration. Content experts assisted in fine tuning the proposed interventions.

Case scenarios were created for each algorithm and were vetted through simulation at several Intermountain hospitals. Participants were comprised of intra professional members of rapid response teams and bedside caregivers. The algorithms and order sets were revised after each of the 11 sessions based on feedback from 100 participants and team observation. Final algorithm testing included representatives from 14 of the previous hospitals that participated in simulation testing.

Medical Executive Committees in each facility approved the algorithms and order sets. Education was disseminated to all Intermountain pediatric caregivers. The algorithms were then integrated into the EMR, copyright clearance was obtained, and the books were printed and distributed.

Outcomes: A vetted, well-received set of pediatric rapid response algorithms and order sets have been integrated system wide. Preliminary data demonstrates the following:

- Increased recognition of deterioration in pediatric patients
- Increase in pediatric rapid response rate (greater than 50%)
- Decrease in transfer rate to pediatric intensive care
- Standardized interventions adopted throughout system

Conclusion: Using a shared mental model, appropriate standardized treatments of the deteriorating pediatric patient were established which decreased the risk for human error and improved patient safety and outcomes. We continue to evaluate the efficacy of the algorithms through data collection and analysis.

Patient-Generated Health Data in Pediatric Asthma: A Participatory Design Approach

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Background: With a growing, digitally connected culture, a multitude of mobile health applications supply patients with the means to regularly monitor their own data and have greater access to health information. Mobile patient generated health data (PGHD) - data created, recorded, or gathered by or from patients (or family members or other caregivers) to address a health concern - are used to screen for problems, monitor progress, and enhance communication between patients and their care providers. Although these data have the potential to provide insights to a patient’s status and behavior occurring between care episodes, the vast amount of information continuously generated from patients remains clinically untapped. An organized introduction of PGHD into clinical care, including the proper level of summarization and contextualization, is important because of the sheer volume of measurements at varied timepoints. A better understanding of provider information needs and preferences may lead to successful integration of PGHD into electronic medical records (EMRs). The purpose of this study was to investigate provider preferences for the graphical display of pediatric-asthma PGHD to support decisions and information needs in the outpatient setting.

Methods: We conducted a formative evaluation of information-display prototypes using an iterative, participatory design process. We used semistructured interviews and questionnaires to evaluate the usability of the displays and determine provider preferences. We conducted multiple iterative design cycles with the participants. As a part of each cycle, we conducted interviews until target-user response saturation, which we define as no new information or repeated responses to interview questions. In addition, each participant completed a 10-item validated survey tool to elicit factors such as perceived user performance (usability), perceived decision quality and perceived task completion time. After each cycle, we conducted a content analysis of the participant responses to the interview questions and used the recommendations to refine or modify prototypes in subsequent cycles.

Results: We recruited 6 clinicians with pediatric asthma experience to discover clinician preferences for graphical display prototypes that incorporate PGHD to support their tasks, workflows, and information needs. We found provider preferences for display features, such as the use color to indicate different levels of abnormality, the use of patterns to trend PGHD over time, as well as the display of environmental data. Preferences for display content included the amount of information, the relationship between data elements, and the use of environmental data.

Conclusion: Overall, our results indicate that providers treating pediatric patients with asthma were interested in using PGHD displays in practice and that the visual synthesis of multiple PGHD elements facilitates the interpretation of the PGHD. We found a desire for greater detail, additional PGHD sources, and visual integration with relevant EHR data. Future work should include the development of interactive interface displays with full integration of PGHD into EHR systems.

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The Moderating Role of Spirituality When Parenting Teens with Spina Bifida

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Purpose: Investigate the relationships among caregiver burden, depressive symptoms, spirituality, quality of life, and demographic factors in parental caregivers of adolescents diagnosed with spina bifida.

Method: In this exploratory cross-sectional study, 58 caregivers of adolescents with spina bifida in southern California were recruited during routine visits to a multidisciplinary clinic at a healthcare university from January 2016 to January 2017. Each parent completed a series of self-report scales including the Patient Health Questionnaire, Zarit Burden Interview, System of Belief Inventory, and the Caregiver Quality of Life Index Revised.

Results: A multiple linear regression analysis showed that caregiver burden partially mediated the relationship between depressive symptoms and quality of life (B = 0.08(0.03), CI: 95% [0.03 - 0.15]), and spirituality moderated the relationship between caregiver burden and quality of life ($\beta = 0.396$, $p < .01$). Depressive symptoms did not mediate the relationship between caregiver burden and quality of life (B = 0.08(0.01), CI: 95% [-0.01, 0.3]).

Conclusion: Parental caregivers with greater levels of spirituality reported a higher quality of life. Caregiver burden was associated with a lower quality of life for caregivers with low levels of spirituality, followed by caregivers with moderate and high levels of spirituality, respectively. Caregiver burden appeared to have a greater effect on quality of life than depressive symptoms and spirituality. Accordingly, we recommend that healthcare professionals screen for caregiver burden in parental caregivers of adolescents with spina bifida. These results warrants further research into the spirituality of parental caregivers of adolescents with spina bifida

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Equine Assisted Learning: An Evidence-Based Intervention for Families

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Purposes/Aims: This study sought to build and deliver an evidence-based, family-centered equine assisted learning program aimed at promoting family function, family satisfaction and child social-emotional competence, and to measure its acceptability, preliminary effect, and long-term impact.

Background: Equine assisted learning is a complementary and alternative approach to family therapy which is being used increasingly to promote mental health in both adults and children. It is essential to rigorously evaluate the acceptability and preliminary effect of an evidence-based, family-centered equine assisted learning program among families.

Methods: *Design.* A mixed-methods quasi-experimental one-group pretest, posttest, and 3-month follow-up design was implemented. *Sample/Setting/Program.* Twenty families with children 10 years and older were recruited to participate in a 3-week equine assisted learning program at a therapeutic riding center in Phoenix, Arizona. Sessions included groundwork activities with horses used to promote life skills through experiential learning. *Measures.* For the quantitative component, one adult from each family (n=20) completed the Devereaux Student Strengths Assessment (DESSA-mini), Brief Family Assessment Measure (Brief FAM-III; 3 domains), and Family Satisfaction Scale (FSS) to measure child social-emotional competence, family function, and family satisfaction, respectively, at three data points: pretest (T0), posttest (T1), and 3-month follow-up (T2). Following completion of the 3-week intervention, all participants (32 adults and 23 children) completed an acceptability questionnaire consisting of qualitative and quantitative data about their experience. *Analysis.* We conducted descriptive and non-parametric statistics to analyze the quantitative data, and content analysis to analyze qualitative data.

Results/Outcomes: Nineteen of the 20 participating families completed all project activities. Parents/guardians mean age was 42.2 (80% females); children's mean age was 12.3 (52% girls). The findings suggest a promising effect of the program, demonstrated by statistically significant pre-posttest (T0-T1) changes in all outcome measures and their effect sizes: DESSA ($p = 0.015$, $d = 0.681$), all three domains of Brief FAM-III (General Scale: $p = 0.005$, $d = 0.743$; Self-Rating Scale: $p = 0.050$, $d = 0.507$; Dyadic Relationship Scale: $p = 0.028$, $d = 0.483$), and FSS ($p = 0.001$, $d = 1.037$). All measures continued on a positive trajectory at 3-month follow-up. The program was also highly accepted: 96% of children and 100% adults agreed that the program was positive, educational, and engaging. Findings of qualitative data suggested that the experience was very personal, yet participants gained insight about their roles and obligations to others within the family.

Conclusions/Implications: The success and promising findings of this project give the unique account of an evidence-based, equine assisted learning program designed to promote mental health in families. It is important for nurse practitioners and horsemanship professionals to connect, make progress toward common goals, and improve outcomes for families.

Influences of Maternal Obesity on Induction of Labor Requiring Cervical Ripening

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Statement of the Problem: Although obese women are less likely to initiate spontaneous labor than normal weight women, have longer labors, and higher rates of cesarean birth, evidence suggests little is known about the most effective methods for labor induction requiring cervical ripening in women with obesity. Using a population-based sample we evaluated the relationships between maternal obesity and methods for induction of labor requiring cervical ripening.
Methods: This retrospective cohort study used the Consortium of Safe Labor (CSL) dataset, a nationally representative perinatal database with over 200,000 records, collected from 2006 to 2012. Women with a low risk pregnancy (cephalic, singleton, and term gestation), undergoing induction of labor were included. The primary outcome of this study was cesarean birth after the use of cervical ripening methods. The secondary outcome was the time to birth with the use of cervical ripening methods. Binomial regression models and a survival analysis were adjusted for age, parity, race, insurance, and hospital type.
Results: Of the 41,359 cases included in the study, 6,035 women received one or more cervical ripening methods (misoprostol, other prostaglandins, or mechanical means) for induction of labor. The odds for cesarean birth in the highest obesity category (obese cat 3) were lower after using misoprostol [aOR 3.44; CI 1.95-6.07] than using other prostaglandins [aOR 7.03; CI 3.98-12.43], and lower using mechanical means [aOR 3.69; CI 2.04-6.68} then using either prostaglandin (misoprostol or other prostaglandins) [aOR 3.94; CI 2.67-2.54] compared to normal weight women. The time to birth in the highest obesity category (Obese Cat 3) had higher hazard after using other prostaglandins [aHR 1.62; CI 1.20-2.11] and lower hazard after using mechanical means [aHR .91; CI .65-1.28] when compared to the use of misoprostol. Women with obesity had longer labors of approximately 3.78 hours, and in the highest category of obesity, there were an additional 5.85 hours in labor when compared to normal weight women.
Implications: Clinicians and nurses can better support women with obesity requiring cervical ripening for induction of labor with careful consideration of cervical ripening method choice and effective counseling on length of labor induction, and risk for cesarean birth. This research supports the need for new labor induction protocols that are individualized by the degree of maternal obesity (at time of hospital admission) both in the timing and choice of induction methods. Further research is needed, including prospective studies, on both high-risk and low-risk women to see if the influences of BMI are similar in both groups of women. Additional secondary analysis is needed, including the influences of race and insurance status in relation to outcomes of induction methods used and cesarean birth rates. If cesarean rates are higher it could be important for insurers, policy makers and other stake holders to understand the differences in these cesarean birth rates. Finally, additional bench research is needed to increase our understanding of the metabolic shifts in women with obesity in general and especially at the time of birth.

Symptom Prevalence during Postpartum Recovery: What Does Age Have to Do with It?

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Purpose: The purpose of this longitudinal study was to describe: 1) the prevalence of symptoms and distress associated with both common and rare symptoms reported by primiparas during the first three months postpartum; and 2) demographic and maternal-infant characteristics associated with the most prevalent symptoms.

Background: New mothers experience a variety of symptoms that should attenuate over time. A better understanding of how rapidly these symptoms resolve, and what demographic and maternal-infant factors place mothers at greater risk for a distressful symptom experience, is warranted.

Methods: Data for this secondary analysis are from a randomized clinical trial in which an intervention to improve postpartum sleep was compared to an attention control group receiving dietary information. The sample included 152 nulliparas recruited from clinic settings during their third trimester. They were assessed at 1, 2, and 3 months postpartum. This analysis includes 114 ethnically diverse new mothers with complete data.

In addition to questionnaires about demographics and their birth experience, mothers completed the Memorial Symptom Assessment Scale (MSAS), consisting of 32 physical and psychological symptoms. If a symptom occurred during the past week, respondents are asked to rate its frequency, severity, and level of distress. Descriptive analyses included means and standard deviations (SD), frequencies and percentages. Patterns of symptoms over time were assessed with repeated measures ANOVA. One-way ANOVA or Chi-square (X^2) was used to compare groups. Statistical significance was set at $p \leq .05$.

Results: Women reported an average of 7.0±4.7 symptoms at 1 month postpartum. The number of symptoms fell significantly at 2 months (5.8±4.3) and 3 months (5.3±4.3). MSAS results did not differ by randomized group allocation. Compared to younger mothers, mothers ≥35 years of age had more symptoms, particularly physical symptoms, and were more distressed by their symptoms at 1 and 2 months. Women who gave birth vaginally experienced more symptoms at 1 month than women who had cesarean births. Breast-feeding mothers had more symptoms than formula-feeding mothers, and mothers bed-sharing with the infant had more symptoms at 3 months than mothers who did not bed-share. More than 50% of the sample reported lack of energy and worrying, which decreased by three months. Difficulty sleeping, feeling drowsy, feeling irritable, feeling sad, and difficulty concentrating were experienced by over 33% of the sample, with mothers ≥35 years old having significantly higher prevalence rates compared to younger mothers. Hair loss was experienced initially by only 4%, but by 3 months it increased to 25%. Most distressing to these new mothers were physical symptoms (pain, bloating, constipation and hair loss) compared to psychological symptoms (difficulty concentrating and feeling sad).

Implications for Practice and Research: Difficulty concentrating, feeling drowsy and feeling sad were among the top 10 symptoms experienced fairly consistently across postpartum recovery. However, fewer than 10% appraised these symptoms as distressful. The lack of distress regarding these symptoms creates potential high risk for maternal-infant health and safety. Priorities for future research and clinical guidelines for early postpartum interventions are critical, particularly for older first-time mothers.

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Postpartum Depression in Oregon: A Contemporary Exploration (PRAMS 2012-2018)

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Purpose/Aims: The objectives of our study were twofold: to establish a contemporary presentation of statewide postpartum depression (PPD) prevalence and predictors; and to determine if there are gaps in the assessment and care of women with PPD.

Background: A recent cross sectional analysis in Oregon suggested as many as 30% of local providers were not screening for PPD beyond the immediate postpartum period. With a self-reported PPD rate in Oregon of 18.2% as of 2018, it is likely that at least some of these woman may be undiagnosed and untreated. Given the potential for immediate and continuing negative health outcomes for both mother and child, this is of clinical concern. It is important to understand who is most at risk in the current multifaceted health care climate and to explore the potential association of wider determinants of health in order to better support those most impacted.

Methods: This analysis includes women who had a live birth and completed the Oregon PRAMS survey from 2012-2018. The outcome measure was self-reported PPD as determined by answers to two questions about depressive symptoms. Associations between PPD and social, demographic, and pregnancy characteristics were first assessed in simple logistic regression models. Variables with the highest significance ($p<0.001$) were included in a multivariable logistic regression model to determine which associations remained significant when controlling for other factors. All modeling accounted for the complex survey design.

Results: From 2012-2018, 9873 mothers completed the Oregon PRAMS survey; 318 were dropped from this analysis due to missing answers related to defining PPD and one was dropped for plurality>2. Infants were between 9-47 weeks old at survey completion. We estimated 11% (weighted) of Oregon mothers suffer from PPD. In the adjusted model, increased frequency of depressed feelings during pregnancy was significantly associated with higher odds of PPD (from OR=1.53 for rarely to OR=16.89 for always compared to never), as was lack of social support, specifically not having anyone to borrow money from in an emergency (OR=1.64). Asian, Black, and mixed race mothers had significantly higher odds of PPD than white mothers (OR=2.31, 1.43, and 1.37 respectively). College graduates and those still breastfeeding had significantly lower odds of PPD (OR=0.67 and 0.75 respectively).

Implications for Translation to Practice/Further Research/Policy: Our analysis suggests there are strong predictors of PPD during pregnancy that can guide clinicians in the provision of support and treatment to mothers both before delivery and in the postpartum period. We contend the knowledge of who is most at risk, and the provision of adequate assessment and screening, is of fundamental importance. In today's climate, with the exposure to increased financial constraints and overt racism, our findings raise the question as to whether there will be an impact on PPD rates. Further research will explore this question, and, (using PRAMS 2 surveys), will assess if there is prolonged impact to mother and/or child beyond the postpartum period.

A Scoping Review of Loneliness in Pregnancy and New Parenthood

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Purpose/Aims: A scoping review of loneliness experienced during pregnancy and new parenthood was conducted to summarize the current knowledge on loneliness experienced during pregnancy, and by parents during the postpartum period through the first five years of the child's life.

Rationale/Conception Basis/Background: Loneliness during pregnancy and the early parenting years has not been developed through a rigorous program of research, and remains in a relatively amorphous state, resulting in little overall knowledge of the effects of loneliness during pregnancy and new parenthood. Although primarily studied in geriatric populations, loneliness studies across the lifespan have linked this subjective experience to far-reaching physical and mental effects, including an increased risk for mortality, depression, increased systolic blood pressure, impaired sleep, and increased rate of physiological deterioration, to name a few. There is limited data about the prevalence of loneliness among new parents, but there is evidence that this prevalence rate is greater than in the general population. A scoping review was conducted in order to map the literature to date and help guide future research and intervention development.

Methods: A scoping-review protocol (registered at Open Science Framework at doi:10.17605/OSF.IO/BFVPZ) was designed following Arksey and O'Malley's framework, and reported following guidance of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA-P) statement. We included all types of literature in English, including study designs, reviews, opinion articles, dissertations, reports, books, and grey literature. To be considered for inclusion, sources focused on loneliness in pregnant persons, postpartum people, and parents of children five years or younger. We searched nine electronic databases (from inception onwards). Grey literature was identified searching the British governmental website gov.uk, the Jo Cox Commission on Loneliness, the Campaign to End Loneliness, and the British Red Cross's Action on Loneliness websites. Two reviewers, working independently of each other, screened the titles and abstracts of the returned articles, then screened full-text articles. Data was extracted by one reviewer and assessed for accuracy and thoroughness by two reviewers. A third reviewer was available to cast deciding votes when no consensus could be reached.

Results: Results of this scoping review illustrate many difficulties relating to loneliness during the transitional time of becoming a parent. To name a few, loneliness is associated with depression in postpartum men and women; decreased parenting self-efficacy; poor life satisfaction; impaired infant-mother bonding; childcare burden and deficient social networks; sleep problems; decreased satisfaction with the intimate-partner relationship; and child abuse. The risk for loneliness increases when the child or parent has health complications; if they are a pregnant male or non-binary person; when they are exposed to intimate-partner violence; and/or if they are an immigrant or refugee.

Implications for Translation to Practice/Further Research/Policy: This review illustrates the need for a systematic approach to understanding the prevalence of loneliness among new parents, and the implications of loneliness and social support on the health and wellbeing of pregnant people and new parents.

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Domain Specific Stressors and Their Relationship to Opioid Use during Pregnancy

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Background: According to the United Nations Office on Drugs and Crime, there are approximately 36 million individuals in the United States who misuse opioids, including prescription painkillers and heroin. Women in particular are prescribed opioid painkillers during outpatient visits more often than men (54% vs. 46%); furthermore, 80% of heroin initiators misused prescription opioids before turning to heroin, a cheaper opioid alternative. Opioid misuse is problematic during pregnancy due to harmful effects on the developing fetus and subsequent Neonatal abstinence syndrome (NAS). A substantial body of knowledge has focused on relationships between stress during pregnancy and substance use as a coping strategy. Fewer studies have focused on opioid misuse during pregnancy and its relationship to stress overall, and within specific domains.

Purpose: The current study contributes to existing literature by examining relationships between three domains of stress (emotional, partner, and financial) and opioid use among pregnant women.

Methods: This study was a secondary analysis of cross-sectional data from the Pregnancy Risk Assessment Monitoring System (2004-2018). Women who were age 18 years or older were included in this analysis if they resided in states that asked questions about opioid use (n=57,632). Maternal sociodemographic and health characteristics, as well as domain-specific stressors, were compared among women who used and did not use opioids. Opioid use (prescription painkillers and heroin) was modeled as a function of domain-specific stressors (categories and counts) using logistic regression and controlling for sociodemographic and health covariates. All analysis used STATA version 14 with survey weights applied to account for the complex survey sampling design.

Results: Overall, 7% (n=4,141) of women in the sample used opioids during pregnancy. The majority of pregnant women who used opioids during their pregnancy were 30 years of age or older (70%); and identified as Asian (39.7%), non-Hispanic white (25%), or Pacific Islander (23%). Nearly half had a high school level education or less (40.5%). The majority were unmarried (70%) and had one or more pre-existing health conditions before pregnancy (58%). Most received adequate or adequate-plus prenatal care based on the Kotelchuck Adequacy of Prenatal Care Index (39.6%, 34.5% respectively). Compared to women who did not use prescription opioids or heroin during pregnancy, those who did had higher odds of emotional stress (OR=4.18; 95%: 3.70-4.70; $p<0.01$); partner stress (OR=3.64; 95%: 3.21-4.13; $p<0.01$); and financial stress (OR=3.52; 95%: 3.10-3.99; $p<0.01$).

Conclusions: Findings from this analysis indicate strong and consistent associations between stress and opioid use across all domains of stress we examined. These findings suggest the need for future qualitative research designed to explore these relationships, and ultimately inform targeted interventions designed to reduce opioid use and mitigate emotional, financial, and partner stress during pregnancy.

Carrying Uncertainty: The Experiences of Women Prenatally Exposed to the Zika Virus

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Purpose: The goal of this research was to illuminate the experience of pregnant women who tested positive for the Zika virus during the 2016 epidemic in the continental United States and Puerto Rico. The personal and social impacts of diagnosis in a time of prognostic uncertainty were investigated and the processes by which women understood their situations and engaged in reproductive decision-making were traced.

Background: Research supports a definitive link between Zika infection in pregnancy and subsequent microcephaly, neurologic impairments, and developmental delays in offspring, but diagnosis and prognosis remain uncertain. Prior research on similar cases of prognostic uncertainty point to the moral and ethical complexities faced by parents, and the lack of clinician expertise in managing the emotional aspect in these cases. To date, limited research has explored the experiences of women prenatally diagnosed with Zika virus. Arguably, Zika is a proxy for other emergent diseases with reproductive consequences. This research thus provides a cautionary example of failure of wider public health systems and a roadmap for improvements in policy, messaging, and coordination.

Methods: Interpretive phenomenology was used. A convenience sample of ten Puerto Rican and U.S. mainland women who tested positive for Zika during their pregnancies was recruited. One-on-one interviews were conducted and analyzed by an interpretive team using an iterative process. Patterns and themes were identified, and a model was developed to represent the distinct aspects of each setting and overlapping themes.

Results: We found that the limited state of clinical knowledge at the beginning of the epidemic had significant emotional and psychological impacts. Participants responded to the threat with various behaviors intended to ensure the safety of themselves and their unborn children. This process was highly personal and contextual and determined to what degree women adopted protective strategies. In Puerto Rico, women experienced the months of epidemic as a campaign of fear, which gave rise to explanations based on conspiracies, reminders of historical trauma, racism, colonialism, and reproductive coercion. In contrast, on the mainland, women benefitted from the reassurance of increased medical surveillance, but still contended with diagnostic uncertainty, the burden of personal hypervigilance, and the threat of social judgement. All women expressed a desire for clinical care with more anticipatory guidance, transparency, and shared decision making.

Implications: This study contributed to the understanding of women’s experiences at the forefront of an emergent viral epidemic with potentially catastrophic reproductive consequences. It revealed the complexity of maternal decision-making processes and risk perception among a swelter of external complications associated with the local social structure and embedded medical system. The importance of reproductive justice as a framework through which to view epidemics was highlighted. Development of locally tuned models built along lines revealed here would complement global disease reconnaissance, and policy and practice development, in cases of similar emergent diseases with potentially severe, but uncertain, sequela.

An Academic-Practice Partnership: Preparing Public Health Nurses for Disasters

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Aims: To harness existing relationships to build educational capacity and strengthen public health nurse competence to provide emergency shelter services during a disaster.
Background: Natural disasters are increasing in frequency and impact. From 2016 – 2018, the US had more than double the number of major disasters per year compared to the long-term average. In 2018, California experienced its worse wildfire in state history, with 85 people killed and 52,000 people evacuated due to the Camp Fire. Public health nurses (PHNs) are front-line personnel during disasters, providing health care to evacuees in emergency shelters. For many PHNs, triaging patients based on acuity, and providing emergency care, is outside their typical nursing responsibilities.
Undertaking (approach, methods, measurements): Relationships between the School of Nursing and surrounding Public Health Departments had historically focused on clinical placements for students. Following a disaster in 2018, PHNs from a local Public Health Department approached the School seeking support to strengthen PHNs skills needed in emergency shelters. A curriculum was developed, utilizing PHNs first-hand experience in emergency shelters, faculty knowledge and skills, and the School's simulation lab. The one-day training program included a didactic component followed by hands-on skills practice and clinical simulations. Following the first implementation, other Public Health Departments requested the training, and utilized emergency preparedness grant funding to support participation of their PHNs. Three trainings were implemented. Pre- and post-tests with a Likert-type scale were administered to measure PHNs' confidence in recognition, assessment, intervention and evaluation of evacuees with respiratory, cardiac, and neurological issues. Data analysis was conducted using SPSS version 26.
Outcomes: Ninety-three PHNs from 13 counties in 2 states participated in the training. Participants' years of experience in community/public health ranged from less than one year to 40 years ($n = 88$; mean = 11.61 years; SD = 13.07) while years of experience in acute care settings ranged from less than one year to 39 years ($n = 89$; mean = 4.84; SD = 7.46). Correlation coefficients indicated moderate to strong positive associations between years of acute care experience and higher confidence levels prior to training ($r = .305$ to $.507$; $n = 83$; $p \leq .005$), while years of community health experience was not associated with higher confidence prior to training. Independent samples t-tests were conducted to compare pre- and post-test means. Analysis indicated that the training significantly increased confidence levels in all areas of skill and for all conditions covered ($t\ (169) = 6.7$ to 9.7; $p = .000$). Many participants reported the simulations and hands-on practice being highly useful in reinforcing learning, with 89% "*very likely*" to recommend the training to other nurses.
Conclusion: This partnership has demonstrated the value of expanded academic / practice partnerships. The partnership has strengthened the School's programs, through better understanding of the practice environment beyond the hospital setting. The Departments of Public Health involved have PHNs with improved skills and readiness to respond to disasters. There is potential for this model to be expanded to other Schools of Nursing, topics and community partners.

The UCLA/SON-Cuba Program: Expanding Student Experiences

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Purpose/Aims: In the US, the nursing professions is not as diverse as the communities we provide care for, as only 7-8% of all registered nurses identify as Latino. International exchanges expand opportunities for professional development, language and cultural immersion; enhance language and cultural understanding, increase leadership and teamwork skills and provide expose students to creative strategies and policy development for decreasing health disparities. The UCLA/SON to Cuba program enriches local experiences as students become immersed in various prevention and health promotion strategies.

Rational/Background: Over 57 million individuals identify as Hispanic/Latino, comprising approximately 18% of the U.S. population. While the Hispanic population has continued to grow, nursing has lagged behind. Students value and welcome global exchanges and opportunities for travel; Latino students also welcome the leadership opportunities as ways to utilize their language and cultural skills. The School of Nursing -Cuba program allows students to learn of the Cuban nurse/doctor model, as one way to think “out of the box” to impact health care in underserved diverse populations in the US.

Methods: We have completed our 7th year of the program to Cuba. Nursing students selected for the program participate in pre travel sessions, engage with health leaders, critically asses assigned readings and lead pre/post discussions and submit daily reflective journals during the travel. Post travel, students submit reflective blogs, including strategies for health policy interventions.

We have collected over 150 student journals and blogs, along with photos and videos. Using content analysis, the student journals, blogs, and notations from the literary discussions confirm the value of the program, along with suggestions for enhancing nursing education, increasing diverse opportunities for improving health care in the US and future research.

Results: The qualitative analysis of student journals, blogs and faculty notations from the pre/post discussions highlight some the strengths and limitations in student preparation for international experiences, i.e. limited understanding of non-western models of care. Key themes include: 1) interest in alternative models for primary care; 2) Integration of nursing and public health; 3) valuing and respect for nursing, culture and humility; 4) familismo and family focused care; and 5) spirit of teamwork and collaboration. Students demonstrate increased understanding of health care models, with greater support integrating clinical practice with the social determinants of health, and a collaborative team work approach.

Implications for Translation to Practice/Further Research: The UCLA/SON-Cuba program is transformational as it bridges relations with nurses and other health providers in Cuba and expands students’ critical thinking. The findings suggest some of the strengths and limitations of nursing education, as well as strategies for expanding nursing’s knowledge on international health, language and cultural skills, and valuing nursing’s role in diverse communities and policy development.

Further research should integrate quantitative tools to more fully explore student personal and professional development pre and post travel. Additionally, cross cultural tools could be utilized for assessing ethics, humility, and collaborative interdisciplinary teams to support nursing practice and health policy development.

Student Experiences Simulating End-Stage Renal Disease for Three Days

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Purpose: The purpose of this presentation is to explain how undergraduate nursing students described their experiences when simulating having end-stage renal disease (ESRD) for three days.

Background: ESRD is a complex disease that requires lifestyle, dietary, and medication management. Approximately 750,000 adults are being treated for ESRD in the United States, and the incidence of ESRD has more than doubled in the last three decades. ESRD remains relatively uncommon in the pediatric population. Teaching methods for educators to use when teaching about ESRD are not well described in the literature. Thus, an innovative teaching method where students simulated having ESRD for three days was developed.

Methods: These findings are part of a completed larger study in a pediatric nursing course that compared two teaching methods: the three-day simulation and a series of video interviews of children and families discussing their experiences with ESRD. Two cohorts of senior nursing students from a nursing school in the South-Central United States participated in this study. During the course, one group of students viewed the videos and the other group participated in the three-day simulation. The simulation involved eating foods on the renal diet, taking six simulated medications a child with ESRD would take daily, and simulating peritoneal dialysis while sleeping. The simulation was done at home during a three-day period that students chose. At the conclusion of the semester, students were invited to complete an anonymous online survey about their experiences with this assignment. Thematic analysis was completed on 16 responses (a 46% response rate).

Results: Students who participated in the three-day simulation reported that learning on their own was time-consuming but useful, the assignment made the knowledge “stick,” it was difficult to find reliable resources about diet and medications, and that dietary restrictions were especially challenging. They also noted how the disease became all consuming, since choices had to be made about foods several times daily and they had to remember to take multiple medications daily. Finally, they believed that children with ESRD might have trouble fitting in with other children due to the overall challenges of managing this disease and needing to rely on medical equipment. Students did note that the experience was not completely authentic, since they did not really have the disease, and that hearing from children or families who actually have ESRD would be useful.

Implications: This assignment augmented the usual classroom approach to teaching about ESRD. Students were able to have simulated experiences with many of the challenging aspects of ESRD – concepts that are not easily learned in the traditional lecture environment. Combining this simulation with videos of actual families and children with ESRD may make the experience more authentic. Although this assignment was time-consuming, it appeared to deepen the students’ learning. Faculty can use the results of this study as an additional method for teaching ESRD content in the curriculum.

The Lived Experience of Professional Identity Development in Senior Nursing Students

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Purpose: The purpose of this study was to interpret and describe the lived experience of professional identity development in student nurses approaching graduation from nursing school.

Rationale/Conceptual Basis/Background: Professional identity is defined as how one thinks, acts, and feels like a professional nurse (Brewington & Godfrey, 2020). Professional identity is a poorly defined and understood concept in nursing literature with multiple definitions and scales available (Fitzgerald, 2020). In addition, professional identity formation is recommended as an essential part of nursing education curriculum (Benner, et al., 2010) but it is unclear how identity formation is enacted in nursing program curriculum and has not been universally implemented. Nurses with highly developed professional identity and perceptions of empowerment have reported high job satisfaction and have the potential to improve patient outcomes (Laschinger, et al., 2014). Therefore, it is imperative that student nurses being to develop professional identity in their nursing school programs before they enter the workforce.

Methods: Interpretive phenomenology based on the philosophical work of Heidegger and Gadamer was used as the research methodology for this study. Eleven student nurses were recruited and interviewed during the last semester of their nursing program. Interview transcripts was analyzed through group interpretation with multiple researchers and nursing education experts until consensus on emerging themes was reached.

Results: Themes included: mastering the "hard" skills to get to the "soft" skills, living in two worlds, and being trusted to be independent as a student by instructors and preceptors. Participants represented student nurses approaching a novice level of their professional identity development. Picking up on what is means to think, act, and feel as a professional nurse required a great deal of new knowledge and skill development before the participants could begin to expand their concept of professional identity. The participants needed to "connect the dots" between the two worlds of classroom and clinical scenarios with their newly developed nursing judgement, in order to feel as if they were acting as a nurse. When participants were offered opportunities, by their instructors or preceptors, to act independently in a clinical or simulation experience, the participants reported feeling a strong sense of professional identity.

Implications for Translation to Practice/Further Research/Policy: Implications for further research and practice include ways to link together reflection of meaningful identity formation events prior to graduation. Nurse educators need to provide multiple opportunities for nursing students to complete more nursing actions independently. When safely supported, these opportunities should be highlighted with the student, drawing upon previously experiences, and reflecting upon areas of growth so students can continue to build their professional identity. It is also apparent that a more structured mentoring program for students and/or newly graduated nurses is an essential component of identity formation for novice nurses to have as a resource for modeling and feedback. These types of professional identity formation interventions need to be further tested to determine if they do indeed improve how one thinks, acts, and feels like a professional nurse.

Resilience through the Eyes of Nurse Practitioner Students

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Aims: The purpose of this study was to understand how resilience is experienced in graduate nursing students. Aims were to: 1) explore how first-year Doctorate of Nursing Practice (DNP) students represent and enact resilience to stressors in their graduate school experience and 2) describe how DNP students contextualize resilience in relation to their identities, relationship, experiences, and resources.

Background: Prospective DNP students face many barriers to enrollment or completion such as navigating work-life balance, writing assignments, finances, racism, negotiating clinical sites, clinical practice, care of patients, workload, and potentially harmful interactions with clinical staff and faculty. A recent study of graduate students found that 44.7% of graduate students reported having an emotional or stress-related event in the past year. Resilience represents an outcome of coping where the outcome is better than expected or the individual improves as a result of a disruption or difficulty. However, an operative universal definition of resilience remains elusive, because it changes across the lifespan and in different contexts. While there is some evidence of research examining resilience in pre-licensure nursing students, to date, research that explores resilience in graduate nursing students is scarce. Without identifying the explicit outcomes in this population, it is difficult to evaluate current supports or design future interventions. Therefore, this study aimed to explore how first-year DNP students represent and enact resilience and how their resilience relates to their identities, relationships, experiences, and/or resources.

Methods: A combination of a photovoice focus group and one-on-one semi-structured interviews were utilized. Participants were recruited through announcements over email and presentations in the DNP courses. All DNP students were eligible to participate. Participants were asked to take photos of what they believed represented resilience. Photos were then discussed in a focus group and one-on-one interviews which were audio recorded and transcribed. Data were analyzed using Dedoose.

Results: A total of 7 DNP students participated in the study, 6 female, 1 male. All participants identified as White, ranged in age from 25-48, and worked at least 20 hours/week. Thematic analysis of the participant photos, interview and focus group transcripts were conducted. Six major themes and six subthemes emerged from the data. Three major themes described the enactment of resilience: preparing for stress, coping with stress, and perseverance. Within the themes of preparing for and coping with stress, six subthemes were noted: clearing their plate of responsibilities, setting expectations, prioritizing self-care, reframing (seen in the first photo below), social support, and getting away from school (seen in the second photo below). Participants contextualized resilience within themes of their identity as a nurse, previous experiences, and a sense of faith or justice.

Implications: Although resilience is highly contextual to each individual and setting, identifying the actions and outcomes that DNP students identify as resilience enables schools to better advise and equip students to experience resilience in the face of stressors. Also, this is the second study that we are aware of where resilience has been characterized by preparing for future unknown adversity, potentially expanding the concept of resilience.

Cultural Competence in Nursing Students and Practicing Nurses

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Purposes/Aims: The purpose of this study was to evaluate the cultural competence of nursing students and practicing nurses, explore the factors affecting cultural competence, and examine differences in cultural competence between nursing students and practicing nurses.

Rationale/Conceptual Basis/Background: Cultural competence in healthcare is the providers ‘ability to design and deliver care that meets the needs of patients from diverse backgrounds. Research indicates that nurses do not feel comfortable or adequate providing care that was culturally appropriate and sensitive to patients from different cultural backgrounds, and that new nursing graduates feel that they are not prepared to serve a multicultural patient population.

Methods: A cross-sectional, descriptive survey via the Nurse Cultural Competence Scale (NCCS) was used. The NCCS included four subscales, Cultural Awareness Scale, Cultural Knowledge Scale, Cultural Sensitivity Scale, and Cultural Skills Scale. A convenience sample was recruited from a nursing school, and an acute care hospital in a large city in the western U.S. A multiple linear regression model was used to analyze data. The study explored the relationships between demographic variables and the level of cultural competence in nursing. Differences in the level of cultural competence between undergraduate nursing students and practicing nurses were also evaluated.

Results: The 301 research participants included 176 (58%) undergraduate nursing students (Level I, II, and IV) and 125 (42%) practicing nurses.

An analysis of variance was conducted to evaluate the statistical significance of the overall regression model. All models were statistically significant ($F > 2.02$, $p < .05$). Employment status ($b=.32$, $p < .04$) and language ($b = .17$, $p < .03$) were predictors of cultural awareness. Predictors of cultural knowledge were self-rated cultural competence level ($b =.39$, $p < .01$), student status ($b=.35$, $p < .03$), and perceived Americanization level ($b= .18$, $p < .02$). Predictors of cultural sensitivity were employment status ($b= .46$, $p < .01$) and self-rated cultural competence level ($b= .35$, $p < .001$). Self-rated cultural competence level ($b = .43$, $p < .001$) was the only predictor of cultural skills.

Level IV students ($\bar{x} = 3.37$) were more culturally aware ($p < .01$) than practicing nurses with a bachelor’s degree ($\bar{x} = 3.19$). Level II ($\bar{x} = 3.23$) and IV ($\bar{x} = 3.25$) students were more culturally sensitive ($p < .01$) than the practicing nurses with a bachelor’s degree ($\bar{x} = 3.02$).

Implications for Translation to Practice/Further Research/Policy: Cultural competency training is emphasized more in nursing academia than in practice settings. It is important to establish the same level of ongoing education and evaluation of cultural competence for both nursing students and practicing nurses. Future research should focus on identifying the factors influencing the self-rated cultural competence level for improving overall cultural competence training. Future research should also focus on developing evaluating methods for the consistency in cultural content delivery and strategies for modifying the current curriculum. Nurse leaders and educators in the practice settings could use the study findings to reevaluate and modify their training programs.

PERCEPTIONS AND RESPONSES TO THE COVID-19 PANDEMIC

Healthcare Providers First: A COVID Mental Health Response Team

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Purpose/Aims: HealthCare Providers First (HCPF) offered free confidential, interdisciplinary mental health peer support via a secure phone line to front line health care professionals during the height of the COVID-19 pandemic in Connecticut. The goals included coalition building among team leadership and mitigating trauma health care professionals managing the pandemic.
Rationale/Background: The COVID-19 pandemic brought unpreceded stress on the medical system in Connecticut in March, 2020. Physician suicide and nurse burnout was on the rise in New York City, Connecticut's epidemiologic predecessor. With executive leadership initiation, the Connecticut Nurses Association (CNA) approached the psychiatric specialty group of the Connecticut APRN Society (CT APRNS) to develop a program aimed at preserving the mental health of the state's front-line health care workers.
Approach/Framework/Model: Critical Incident Stress Debriefing and Mental Health First Aid served as the theoretical frameworks for the volunteers' intervention. The leader built a coalition among the healthcare leadership organizations across the state, welcoming stakeholders to the leadership planning team: psychiatric APRNs (the CT APRN Society), psychiatrists (Connecticut State Medical Society: CSMS and Connecticut Psychiatric Society: CPS), nurses (CNA), and pro-bono legal consult. The coalition selected the existing *Physician Support Line* as the model for callers to access APRNs/MDs for its ease of implementation/volunteer use, affordability, and confidentiality/anonymity.
Methods/Process/Best Practices: Representative coalition organizations called to their member organizations for volunteers to staff the line. A nurse from CNA developed the website and media campaign for the support line. A local mental health authority (LMHA) made an electronic "resource binder" for future referral. The legal team wrote policies & procedures. Twelve nationally board certified psychiatric APRNs and ten psychiatrists were vetted, trained, and scheduled to cover the line. Telzio was the call-in system used, providing a 1-888 number that connected the caller to the clinician's cell phone at their shift. To ensure caller anonymity, no data were obtained; rather clinicians used interventions based on theoretical frameworks and referred for counseling as needed. Weekly debriefings were held for volunteers to process vicarious trauma with team leadership; leadership meetings were held for peer support.
Outcomes: The line was active from May - September, 2020. 132 calls were fielded, 1 interview about the line was conducted for a local nursing school, and the leader nominated as "Wednesday's Warrior" on local media. Because COVID cases are low in Connecticut, leadership has retired the support line for now.
Conclusions/Implications: This project exemplified successful coalition building of an interdisciplinary team; involvement of nursing was critical for the conceptualization and delivery of the support line. To enhance success of similar programs in the future, developers should consider budgeting for administrative support and institutional housing for an insurance policy.

Exploring a Rural Latino Community's Perception of the COVID-19 Pandemic

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Purpose: The purpose of our study was to understand the perception of the Latino community in a rural state regarding the coronavirus pandemic and COVID-19.

Background: The coronavirus disproportionately affects Latinos, potentially due to higher rates of chronic disease and social and economic factors that make it impossible to work remotely or to follow social distance precautions. Public health messaging in a rural state is often delivered in English, making it difficult for Spanish-speaking populations to access relevant, current, and local information. Current and local information about protection measures is important for Latinos who seek to prevent the spread of the virus, particularly in a rural setting where access to health services and testing is limited. There is limited information about how this community receives its information and how they are coping with the pandemic.

Methods: Using snowball sampling methods, we recruited a convenience sample of Spanish-speaking individuals who identified as Latino. A bilingual, bicultural researcher trained in qualitative data collection conducted semi-structured interviews over the phone. Interviews were audio-recorded, transcribed into Spanish, and translated to English. We used thematic analysis of the interviews to identify common themes.

Results: We conducted 14 interviews with eight males and six females before reaching data saturation. The research team identified five common themes: news sources, changing behaviors, emotional responses, coping mechanisms, and the use of natural remedies as a prevention measure. Respondents mostly received news from Spanish-language sources and relied on Facebook for local news. Many noted that the news from Facebook needed to be interpreted with caution. Most respondents followed all precautions but noted that many in the community were not following recommendations, which caused them worry. They also worried about their children and the lack of social outlets for young persons. Respondents were coping with the pandemic through an increased reliance on faith and by adopting a positive attitude. Finally, we learned that many persons used natural remedies they learned in their home countries to prevent illness, including ingesting hot liquids and acidic concoctions.

Implications for Translation to Practice: Nurses play a pivotal role in educating people about preventing the spread of the pandemic. Nurses in the public health setting should ensure linguistically and culturally appropriate messages to reach Spanish-speaking Latinos. In a rural setting, where access to care and internet connectivity is limited, this is especially important.

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PERCEPTIONS AND RESPONSES TO THE COVID-19 PANDEMIC

Impacts from COVID-19 on Perinatal Care for Pregnant People and the Nurses Caring for Them

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Purpose: To explore experiences of care of pregnant people and the nurses caring for them during the COVID-19 pandemic. We aimed to examine the impacts of health care system changes on patients and nurses in response to COVID-19.

Background: The COVID-19 pandemic has forced health care systems to rapidly adapt policies and procedures in order to protect patients and staff from exposure, particularly in the perinatal care setting. These changes have had varying effects on how nurses are able to provide care and how patients experience that care. We had a unique opportunity to explore the experiences of patients and nurses as they navigated these changes and how it impacted their care experience and ability to provide care during pregnancy and birth.

Methods: We conducted 15 in-depth interviews with pregnant or postpartum people and 14 interviews with nurses who practice in the perinatal setting between March and July 2020. Transcripts were analyzed separately by population using critical thematic analysis, and later compared across populations to evaluate different perspectives of similar themes.

Results: Patients and nurses had similar but nuanced perspectives on how they experienced health care system changes in response to COVID-19. Patients focused on how the shift to virtual care and reduced visits led to a disconnect with providers, a need for additional mental health support and reassurance, and a loss of trust and connection with providers due to masking, physical distancing, and perception of being considered a vector for infection. Nurses focused on how hospital systems lost the trust of their providers with inconsistent policies and policy roll-out, and a lack of recognition for the sacrifice that many nurses made to continue to care for patients. Both groups recognized the significant impact of policies restricting visitors and support people on marginalized communities and communities of color, with a perceived exacerbation of poor care experiences and mistreatment described by both nurse and patient participants.

Implications for Translation to Practice: Given the immediacy of the COVID-19 pandemic and the impacts of health care system responses, there are many opportunities to improve current policies and systems to better support pregnant and birthing patients and the nurses who care for them. Improved resources around mental health and providing opportunities for better connection to providers, providing transparency in policy changes and support for employees, and revising policies around visitors and support people are concrete actions that could improve experiences of care for patients and experiences of providing that care for nurses.

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PERCEPTIONS AND RESPONSES TO THE COVID-19 PANDEMIC

Adolescent Psychiatric Emergencies Precipitated by the COVID-19 Pandemic

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Aims: The purpose of this study was to characterize adolescent psychiatric emergencies precipitated by the 2020 coronavirus (SARS-CoV-2, known as COVID-19 disease) pandemic during Spring 2020.

Background: Psychiatric emergencies are acute behavioral disturbances where there is imminent risk of harm to the affected individual or others. Among adolescents, these events are commonly acute suicidality—one of the top ten leading causes of death for adolescents—or suicide attempts and, less commonly, homicidal intent. In the State of California, adolescents experiencing such a crisis may be placed on an involuntary psychiatric hold, which provides for 72-hour involuntary detention at a psychiatric facility. Studies of child and adolescent mental health from COVID-19 and other pandemics indicate that psychological distress and psychiatric symptoms can be precipitated by pandemics, but it is not yet known how and if pandemics contribute to psychiatric emergencies.

Methods: This retrospective case series used a sample of adolescents admitted to a safety net psychiatric hospital in Los Angeles, California on an involuntary psychiatric hold between March 15 and May 31, 2020. Medical records and involuntary psychiatric holds were reviewed to determine if the events precipitating the psychiatric crisis were related to the pandemic. A total of 59 adolescents were involuntarily admitted during the shelter-in-place order and 14 met inclusion criteria for detailed medical records abstraction. Descriptive statistics and frequencies to characterize the cases. The total number of adolescent admissions from March to May for each of the five years prior to 2020 were also examined to compare the total volume of admissions during California's shelter-in-place order to historical patterns.

Results: COVID-19-precipitated admissions were 24% of total admissions from March 15 to May 31, 2020, though total admissions during this time period were reduced from the same time period in prior years. Most hospitalizations were precipitated by shelter-in-place stressors for adolescents with a prior psychiatric history, but for 28.6% of the sample, the pandemic-precipitated emergency was their first mental health encounter. All 14 patients were placed on an involuntary psychiatric hold for danger to self, with one patient secondarily held for grave disability and one secondarily held for danger to others. Ten patients made an actual suicide attempt, while four made a suicide threat with a specific plan and intent. The COVID-19 precipitating events for the psychiatric crisis were: Loneliness/isolation from friends (N=7), online school stressors (N=7), family conflict due to shelter-in-place (N=4), quarantine anxiety (N=3), loss of usual coping resources (N=2), fear of contracting SARS-CoV-2 (N=2), and loneliness/isolation from family (N=1).

Implications for Translation to Practice: The COVID-19 pandemic and corresponding shelter-in-place orders may precipitate psychiatric emergencies among adolescents with and without existing mental health disorders. Clinicians should be aware that pandemic conditions have potential to precipitate psychiatric crises among adolescents and provide support for adolescents experiencing pandemic-related distress in community, outpatient, and inpatient settings. Mental health nurses caring for pediatric populations during the pandemic should tailor evidence-based interventions to the pandemic context and encourage patients to identify personal, family, or community strengths that can be mobilized to manage psychological symptoms.

Motherscholars during COVID-19: A Qualitative Narrative Study

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Purposes/Aims: To describe the factors that constructed and constrained the experiences of working women academics who were quarantined with their children full-time during the COVID-19 pandemic. Experiences of these motherscholars were documented in order to explore how motherhood and scholarship operate within institutions.

Rationale/Conceptual Basis: The COVID-19 pandemic catapulted traditional academics into online teaching and working. The demands of university teaching, services, and citizenship expanded as the pandemic impacted faculty and students' mental health and well-being. Feminist theory was used to define mothering, distinguish mothering from motherhood, and frame the nature of gendered social norms within this study. Links were made between the institution of motherhood to the institution of academia itself and to the rank and advancement process. Feminist theory incorporates social privileges and the systems through which they are distributed and consumed, providing a framework to examine the impacts of pandemic conditions on motherscholars.

Methods: Reflexive narrative methodology, where investigators collect stories and inductively group concepts, was used. Purposive and convenience sampling was employed to obtain a diverse and representative sampling of women that included marginalized groups such as women of color and women who are sexual orientation and gender minorities. Respondents used a computer-based platform with open-ended questions encouraging participants to share their unique stories in addition to survey questions for collection of descriptive participant data. Inclusion criteria as a "motherscholar" included individuals who (1) identify as women, (2) are currently raising children in the home, and (3) are involved in academic teaching or research in higher education.

Results: Twenty-four motherscholars responded to a computer-based survey with open-ended questions encouraging participants to share their unique stories. Key themes identified include division of labor, self-care, privilege, socialized gender roles, feelings about partners, boundaries, safety, parenting, privacy, and impact on career/productivity. Focusing on participants' personal experiences of privilege or lack thereof, and the interruption of established systems, provided greater insight into how socialized gender roles are intensified during pandemic conditions. Participants reported their feelings and changes in how they prioritized responsibilities as they lost resources or institutions that had previously mitigated social gender roles in their lives. Repercussions of the pandemic on motherscholars were documented by chronicling how, when established systems are interrupted, participants were more fully exposed to the negative impacts of socialized gender roles.

Implications for Translation to Practice/Further Research/Policy: Support structures motherscholars rely upon are fragile, particularly in times of crisis, which is when they are needed most. Institutions should recognize the hardships incurred during the pandemic and consider adjustments to performance expectations. Furthermore, programs and policies supporting motherscholars are warranted, particularly if childcare and schooling option are lost long-term. Future research is needed to determine how best to create stronger structures during times of instability. Lastly, the current study only followed the qualitative experiences of motherscholars; further research should include the perspective of partners as well as quantitative analysis.

PERCEPTIONS AND RESPONSES TO THE COVID-19 PANDEMIC

COVID-19 Pandemic Affects Sleep Behaviors and Insomnia in Parents of Young Children

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Objective: To describe the impacts of the COVID-19 pandemic on lifestyle, sleep-related behaviors, and insomnia among parents with children under 6 years old, and to identify the factors associated with maladaptive sleep behaviors and insomnia.

Background: The COVID-19 pandemic has led to stay-at-home orders globally that have upended lifestyles and livelihoods. Among parents of young children, the impacts on lifestyle and health behaviors, namely sleep, are underexplored.

Methods: An online survey was distributed through social media advertising from 5/21/2020 to 7/01/2020. A subsample of 157 parents with children < 6y (age 35.63±10.15 and 73.2% college-educated), reported on the severity of the COVID-19 impacts on major aspects of family lifestyle (e.g., routine, stress, access to healthcare, family discord), how much the quarantine influenced sleep-wake routine, amount of daily non-work screen time, whether working hours were reduced, the Center for Epidemiologic Studies Depression-10 (CESD-10; range: 0-30; cutoff: 10), the Sleep Hygiene and Practices Scale (SHPS; range: 30-180), which assesses the frequency of engaging in non-sleep promoting behaviors related to sleep scheduling, arousal-associated activities, eating/drinking, and sleep environment, and the Insomnia Severity Index (ISI; range: 0-28; cutoff: 10), which assesses the nature, severity, and impact of insomnia. Univariate associations of all factors with SHPS and ISI scores were conducted with one-way ANOVAs and Pearson correlations. Significant associations ($\alpha<0.05$) were entered into stepwise, multivariable linear regressions to determine the factors associated with SHPS and ISI.

Results: The means of ISI, SHPS, and CESD-10 were 10.4 (SD=6.7, 45.2% clinical levels), 79.2(SD=20.2), and 12.3 (SD=6.6; 60% clinical levels), respectively. Two-thirds of parents (68.8%) reported moderate-to-severe levels of pandemic-related stress and almost one-third of parents (31.2%) reported moderate-to-severe change in access to mental healthcare during quarantine. More than half (51%) reported screen time >5 hours/day. Almost half reported reduced working hours (40.8%) and that their sleep-wake routine was inconsistent with their preference during quarantine (44.6%). The regression model with SHPS score as outcome indicated that greater SHPS scores were associated with greater CESD-10 scores ($\beta=0.57$, $p<0.001$), reduced working hours ($\beta=0.18$, $p=0.007$), and greater non-work screen time ($\beta=0.15$, $p=0.02$), which explained 44.8% of the variance ($F[3,129]=36.68$, $p<0.001$). The regression model with ISI score as outcome indicated that greater ISI scores were associated with greater SHPS scores ($\beta=0.45, p<0.001$), greater CESD-10 scores ($\beta=0.27, p<0.001$), reduced access to mental healthcare ($\beta=0.19$, $p=0.002$), and greater sleep-wake routine inconsistency with their preference ($\beta=-0.13$, $p=0.03$), which explained 59.9% of the variance ($F[4,124]=48.76$, $p<0.001$).

Further Research: Among parents of young children, clinical levels of insomnia and depression symptoms, and engaging in maladaptive sleep behaviors were highly prevalent during the COVID-19 pandemic. Factors most associated with maladaptive sleep behaviors were depression symptoms, reduced working hours, and greater non-work screen time. Factors most related to greater insomnia symptoms were, in order of magnitude, greater engagement in maladaptive sleep behaviors, depression symptoms, reduced access to mental healthcare and disrupted sleep-wake routines. Future interventions for this population may need to target both increasing mental healthcare access and focusing on the prevention of maladaptive sleep behaviors and disrupted sleep-wake routines.

PROMOTING PUBLIC HEALTH IN VULNERABLE POPULATIONS

Interprofessional Collaboration and Groups Increase Access for Homeless Veterans

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Purpose/Aims: The Veterans Administration Palo Alto Health Care System (VAPAHCS) is leading change and transforming the lives of homeless veterans served by combining two evidenced-based practice models to improve overall outcomes for ending veteran homelessness.

Rationale/Background: To increase access to and quality of care for homeless veterans, a structure including Interprofessional Collaboration (IPC) regional teams and Housing Resource Groups (HRGs) was developed to provide coordinated assistance in the communities where veterans reside.

Methods: Evaluation of homeless veteran attendance. A measure of weekly HRGs attendance (2010-2015) was tabulated for veterans across the 3 regions. The measure was constructed from Social Security numbers recorded from each veteran visit. Approximately 50% of tabulations include repeat visits (approximately half of all veterans came a second time for assistance). Table 1. Evaluation of impact on providers. The impact of the change in the program on providers was measured over time, using a repeated measures approach and one established survey tool (AITCS, Orchard, 2010), designed to measure how well teams work collaboratively. Figure 1. All participants at each of the three regional plenary meetings were surveyed on December 2011, January 2013, and January 2015, using a convenience, inclusive sampling technique and paper-and-pencil surveys during all-day annual retreats. Persons who were not present at the plenary retreat meeting were given the opportunity to complete the survey following a personal contact with their regional team leader. Participation was voluntary and surveys were de-identified. The response rate at each data collection point always exceeded 90%.

Outcomes: The redesign was perceived by participants as effective in coordinating service delivery. Specifically, measurement of two key outcomes demonstrated that for those receiving services across a dauntingly large geographic area, housing and services were accessed and used with demonstrably greater efficiencies. Over time, the efficiency of services improved, as veteran visits became characterized as one-stop where multiple needs were met, instead of repeat visits over the course of a year to access disjointed, disconnected services. Outcome measures of the combined practice models indicated increased access to care for homeless veterans, and provider self-report of increased collaboration, coordination, and communication of stakeholders.

Conclusion: The ultimate goal of the program redesign was (and remains) to end homelessness among Northern California veterans. Of course, the project did not end homelessness, yet study outcomes indicate that this project redesign was effective in improving access to services for homeless veterans. Implementation of this practice model change in the counties of the VAPAHCS may underly the 43% decrease in homeless Veterans in this area.

PROMOTING PUBLIC HEALTH IN VULNERABLE POPULATIONS

Living “the Chase:” Experiences of Rural Individuals with Opioid Use Disorder

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Background: The US remains in the midst of an opioid overdose epidemic, with 2.1 million Americans clinically diagnosed with opioid use disorder (OUD). Excessive opioid prescribing and illegal diversion of prescriptions has driven the expansion of the crisis rurally, where morbidity parallels mortality and prescription opioid overdose is twice as likely compared to urban areas. Given that prescription opioids are less intoxicating, more difficult to access due to prescription surveillance, and more expensive when purchased illegally, many rural prescription opioid misusers have transitioned to heroin use. How the experiences of individuals living with OUD contribute to prescription opioid and heroin use has been studied. However, contextual distinctions that likely exist in rural and culturally unique environments are not understood, setting the focus for the current study.

Purpose: To describe the experiences of individuals living in rural NM as they live with OUD and to explore how the structural and representational aspects of their social identity contribute to and influence recovery from OUD.

Methods: A descriptive, qualitative design was used. Twenty participants who had experience with opioid use were recruited by purposeful sampling and interviewed using a semi-structured interview guide. Interviews were recorded and transcribed verbatim. Thematic content analysis was used to identify themes and patterns.

Results: Although initial experiences with opioid use were described as pleasurable, the euphoric effects were short-lived. There were persistent cravings to achieve the high, which over time became more difficult to obtain. As participants became more hooked, “the chase” for opioids was necessary to avoid the sickness and pain of withdrawal. The concept of death was central to their experience, with participants feeling like they were dying even though they were alive. The experience of opioid withdrawal was portrayed as a slow and painful death; waking up sick became an everyday experience. This led to a lifestyle of daily “hustling” to illegally obtain opioids and avoid the sickness of withdrawal. Participants faced legal consequences, physical harms, and psychological trauma. Their social identity, which was situated within conflicting legal and social power structures, contributed to the cumulative effect of social loss and emotional pain. Participants voiced concerns about the healthcare system and pharmaceutical companies, which subsequently influenced their willingness to seek treatment for OUD. They did, however, report that the strong influence of religion, family, and community in their lives was a key factor in their resiliency and opioid use experiences.

Implications: These complex relationships to faith, family, and community are different from the prevailing cultural and historical contexts of the populations explored in previous studies. Thus, they represent important key adaptive factors that could support individual healing and community transformation. These findings suggest an urgent need to reconceptualize opioid use disorder as a broader condition that also encompasses economic and social marginalization, establishing an alternative explanation that defines key impactors driving the expansion of the OUD epidemic.

Funding: American Psychiatric Nurses Association Research Grant

Methodological Challenges of Health Research inside a Jail

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Purpose: The purpose of this project paper is to expand on findings from a mixed-methods study conducted inside a jail to explore the methodological challenges that impacted that study; and to make a case for more research to be done in the correctional setting despite these inherent threats to validity.

Rationale: Following the strict regulations for research with prisoners that arose in the mid-late 20th century, studies that focused on improving the health and well-being of incarcerated persons dwindled to nearly nothing. In more recent years, Institutional Review Boards have begun to strategize ways to conduct fair and ethical research in the jail/prison setting. As such, a new challenge arose: how to address the many methodological challenges that exist when conducting research in a correctional facility.

Process: A mixed-methods study was conducted to understand barriers faced by individuals attempting to access healthcare upon jail release, and to assess the feasibility and success of an intervention to overcome some of these barriers. Throughout the process, many methodological challenges were noted and overcome. Following the completion of the study, these limitations were assessed for how they may have impacted the validity of the study and be improved upon in future research in this setting.

Outcomes: Three main categories of methodological issues were identified: 1) participation, including issues of bias in recruitment, potential coercion to participate, and a self-selection bias; 2) data collection issues, such as randomization, privacy, and individual variability in answers; and 3) dissemination issues, including generalizability and replication of results.

Conclusion: A clear challenge with research in a jail is that the power dynamics in this setting are so strong, and the desire for any incentive so great, that it is challenging to assure that individuals participate freely and in a fair and ethical manner. Despite these challenges, however, researchers have the opportunity to improve the lives of some of the most marginalized members of society if they can learn to adjust to its unique requirements and design studies to overcome the barriers. Inside correctional facilities, assurances of privacy and confidentiality, randomization, and veracity with data are not often feasible, nor are they truly expected. The truth is that conducting a rigorous study in a correctional facility is likely to always require methodological compromises. If we are unwilling, as researchers, to embrace the environment in which our study takes place, we will likely never make progress in settings like this. On the other hand, if we can appreciate the unique microcosm that is a jail or prison and learn to appreciate the many challenges that come with conducting research in these areas, we have the potential to make life-altering discoveries and to improve the lives of those in and newly outside of the walls.

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Chinese College Students' HPV Vaccination Intention: A Path Analysis

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Purpose: This study aimed to (1) examine 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) test a theoretical model regarding students' HPV vaccination intention.

Background: HPV infection, the most common sexually transmitted infection worldwide, is associated with different cancers in males and females. HPV vaccination has been recommended for individuals aged 9-45. Two HPV vaccines are currently approved by the FDA in China. Evidence suggests low HPV knowledge and vaccine awareness in the Chinese population. It is essential to understand key factors associated with Chinese young adults' decision making about HPV vaccination, so theory-driven and culturally congruent interventions can be developed to prevent HPV-associated cancers and diseases.

Methods: we conducted a cross-sectional anonymous survey in two universities in China during 2017-2018. Sample was recruited through university summer programs and instructors' referral. A student was eligible to participate if s/he reads and writes Chinese and submitted the consent online. We developed the survey questions based on several key constructs in the Health Belief Model and the literature. The questions were pilot tested in our prior research and validated by two Chinese speaking researchers with extensive experience working with the target sample. We stored and managed the data using a secure data collection application REDCap and then imported to SPSS 25.0 and Mplus 8.0 for analysis. We conducted descriptive statistics to describe key variables and a path analysis to examine the associations among HPV knowledge, perceived facilitators, barriers, and risks, and HPV vaccination intention.

Results: Out of 217 students (mean age = 21.3; 85% undergraduates, 84% female), about 56% of them received HPV information in the past, but only 18% perceived some risks for HPV infection. The fit statistics for the path analysis indicated an adequate fit (CFI =0.90, RMSEA =0.07, 90% C.I. [0.018; 0.110]). Full Information Maximum Likelihood (FIML) was used to handle the missing data in Mplus version 8.0. The results suggest that students' perceived facilitators (0.34, 95% CI [0.130; 0.485]), perceived barriers (-0.37, 95% CI [-0.564; -0.169]) and perceived risks (0.46, 95% CI [0.143; 0.688]) were significantly associated with their vaccination intention. Furthermore, students who have better knowledge about HPV and the vaccines reported higher vaccination intention through higher perceived facilitators (0.07, 95% CI [0.023; 0.127]) and higher perceived risks (0.08, 95% CI [0.017; 0.185]).

Implications: Our findings suggest that many Chinese college students did not perceive any risks of getting HPV infection even more than half of them learned about HPV. Interventions that provide developmentally, culturally and gender appropriate information about HPV and the vaccines will help them understand the risks (e.g., anyone who is sexually active can get HPV) and available resources. Interventions that address facilitators and barriers associated with vaccination and increase students' perceived risks will increase their intention for vaccination.

Effects of Providing Self-Testing Kits on HIV Testing of Men Who Have Sex with Men in China

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Purpose: To determine whether providing HIV self-testing kits (HIVST) to men having sex with men (MSM) increases their testing frequency and how it effects their partners' HIV testing (PHT).

Rationale/Background: The HIV epidemic in China is largely driven by MSM, many unaware of their HIV positive sero-status. HIV testing remains low in this population. Frequent testing and early diagnosis are essential in order to achieve the aim set by World Health Organization (WHO) and others to diagnose 90% of all HIV-positive persons by 2020. Given the significance of timely testing to control the HIV epidemic and decrease HIV-related morbidity and mortality, the WHO recommends HIV self-testing (HIVST) as a complementary approach to site-based HIV testing (SBHT) services in health facilities.

Methods: This randomized controlled trial, conducted in four cities of Hunan Province, China, included 190 recent testers (men who had at least one HIV test within the past 2 years) and 26 nonrecent testers (men not tested within 2 years or who never had a test). Participants were recruited through flyers, online-chat platforms, and community sites. To be eligible, they had to be 18 years or older, HIV negative at screening and, by self-report, engaging in condomless oral or anal intercourse with men in the past 3 months. Participants were stratified into two groups (nonrecent testers and recent testers); both groups were randomly assigned into intervention (free HIVST and SBHT services) and control (site-based HIV testing services only) arms. Those receiving the intervention were given instructions for the finger-prick based testing procedure and information about support hotlines, and were encouraged to distribute kits to their sexual partners. HIVST kits were delivered through express delivery and SBHT services for 1 year. Participants sent photos of their test result after they used each HIVST kit and then received new kits. Data were collected through online questionnaires at baseline, 3-, 6-, 9- and 12- month follow-ups; outcomes examined included the mean number of HIV tests for MSM and for their sexual partners over the 12-month study period.

Results: The number of HIV tests per person-year was 2.04 times greater in the intervention group (mean=3.71 tests) than the control group (mean=1.82 tests; $p<0.001$). Compared to the control arm, provision of HIVST kits was effective in improving PHT both for recent testers (2.82 vs 1.44 per person-year) ($p<0.001$) and nonrecent testers (1.43 vs 0.21 per person-year) ($p<0.001$), but had a stronger impact on nonrecent testers. Eleven participants reported HIV positive results (3 men in the intervention group and 8 of their partners); all were recent testers and identified by using HIVST kits.

Conclusions/Implications: Providing free HIVST kits significantly increased the frequency of HIV testing among Chinese MSM. Sexual network distribution of kits also positively affected PHT. Our results provide strong evidence for nurses' advocating HIVST as a complementary testing approach among MSM to promote HIV testing coverage and frequency, especially for nonrecent testers living in resource limited areas such as China.

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Concept Analysis of the Operational Definition of a Family Caregiver in Research

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Purpose/Aims: Currently, research on family caregiving uses a broad array of theoretical and operational definitions to identify family caregivers, challenging the generalizability of findings across studies. The purpose of this systematic review was to describe how ‘family caregiver’ has been operationally defined in family caregiving research related to older adults and to identify essential inclusion and exclusion criteria that could enhance the generalizability of family caregiving research.

Background: The term “family caregiver”—commonly used in the literature—can be problematic, as not all people who provide care are related to the care recipient by blood or marriage; neighbors, friends, or families of choice may also provide similar care and can feel marginalized or excluded by the use of the term “family.” Similarly, not all who engage in family caregiving identify as “caregivers.” Instead, they see themselves as simply enacting the role of relative, neighbor, or friend.

Method: A systematic review of the literature was conducted using PubMed, CINAHL, Cochrane Library, and PsycINFO databases to identify family caregiving research articles published between March 2009 and March 2019 according to PRISMA guidelines. The search strategy included a combination of key terms – ‘family caregiver,’ ‘family carer,’ ‘informal caregiver,’ and ‘older adult.’ Research articles on family caregivers of older adults aged ≥65 years were included. A total of 1055 articles were identified. After screening, a total of 27 articles were selected for this analysis.

Findings: The majority of the studies used the term ‘family caregiver’. The other terms used in place of family caregiver included ‘family carer,’ ‘informal caregiver’ and, ‘caregiver.’ The criteria used to operationally define a family caregiver varied across studies and was based on: age of the caregiver, type of support provided to care recipient, relationship with the care recipient, living arrangements with the care recipient, duration in the caregiving role, frequency of and amount of time spent on caregiving, forms and frequency of interactions with the care recipient, compensation for caregiving services, and self-identifying or being identified by care recipient as the family caregiver. None of the studies included the entire family caregiving network for the older adult – each only included one family caregiver per care recipient who may have been arbitrarily identified as the ‘primary’ caregiver.

Discussion and Conclusion: Currently there is no consistent method for identifying who is or has a family caregiver. This means that most of the research on family caregiving uses convenience samples that relate to specific study aims and may not be generalizable to the broader population of family caregivers. The electronic health record could be used to capture this information. However, a consistent definition would be needed to ensure comparability across individuals and health systems.

Funding: Grant from the Gordon and Betty Moore Foundation.

SUPPORTING CAREGIVERS: CHALLENGES AND OPPORTUNITIES

Caregiver Preferences during and Post-Hospitalization of Persons with Dementia

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Purposes/Aims: This presentation will highlight family caregiver preferences and needs for support during and post-hospitalization of persons with dementia. The findings are part of a larger study to develop a support program for caregivers of persons with dementia transitioning from hospital to community.

Background: As American society ages, there is a greater focus on the need for family caregivers. Caregivers for persons with dementia who are hospitalized are dealing with both the underlying dementia and other conditions that precipitated the hospitalization, and may have challenges managing the demands of care. Discharge planning can be complex and hospitalization is commonly a turning point for the decision to pursue alternatives to care at home. Poor patient outcomes are associated with caregivers lack of knowledge and skills needed to provide post discharge care, the experience of burden, and depression.

Methods: We used a cross-sectional, qualitative descriptive approach to collect data through in-depth, guided interviews with a convenience sample (n=10) of caregivers of a person with dementia who experienced a hospitalization. Questions prompted participant perspectives about various types of support resources for caregivers of persons with dementia in transition from hospital, including features that would facilitate or hinder their use of various components in a caregiver support program. We analyzed the data using a content analysis approach and incorporated key elements of trustworthiness throughout data collection and analysis.

Results: Three themes were derived from the interviews. Firstly, '*Caregiver preference for greater access to health care professionals during and post-hospitalization*'. Caregivers struggled with communication and the lack of connection with health professionals, especially as it related to post-discharge planning. Caregivers felt that their perspective about the medical needs of the patient were not always valued by health professionals. Secondly, '*Caregivers unequivocally valued a focus on their own health and well-being*'. Caregivers felt their feelings being validated when a healthcare profession asked about their well-being and addressed their stress with the adjustments related to transitioning their family member from the hospital to home. Lastly, '*Caregiver preferences for tailored support*.' Having the necessary knowledge and professional guidance are critical for caregivers to navigate the stressors of hospitalization. Caregivers emphasized that educational needs of caregivers are not 'one-size-fits-all', and they would greatly prefer a tailored approach to education.

Implications for Translation to Practice/Further Research/Policy: The CARE Act provides an important opportunity to implement and sustain evidence-based interventions for family caregivers of persons with dementia in health systems. Hospitalizations are an opportunity to reassess caregiver needs and promote the relationship between caregivers and health care professionals in the hospital setting. This research supports directions for developing caregiver support programs related to a hospitalization that incorporate attention to communication between health professionals and caregivers, a focus on caregiver well-being, and a tailored approach to educational materials.

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Distress at End of Life: A Concept Analysis

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Purpose/Aims: Distress is a common phenomenon at end of life (EOL). While the concept of distress has been researched and documented in multiple patient populations, contexts, and from specific dimensions (e.g. physical or psychological distress), a complete conceptualization of distress at EOL is limited in the current literature. Using the Walker and Avant (2010) method for concept analysis, the current multidisciplinary literature related to distress was synthesized to define attributes, antecedents, consequences, and an operational definition of distress at EOL. Model and contrary cases as well as empirical referents for validated measures of distress are also explored.

Definition of Concept: Based on the attributes, antecedents, and consequences defined through the literature review, the following operational definition of distress within the context of EOL was formulated: Distress at end of life is a multidimensional (physical, psychosocial, existential, or spiritual) phenomenon involving moderate to severe discomfort, anguish or suffering due to mental and/or physical upset caused by severely unpleasant symptoms or stressors that are reported or observed and quantified by the patient, family, or provider. This distress threatens or causes harm and burden to the person or their family/caregiver and ultimately decreases quality of life.

Implications for Practice: A new operational definition of distress at EOL aids the interdisciplinary team providing holistic EOL care through more timely and thorough recognition, assessment, and intervention for distress in its many dimensions.

Conclusion: This conceptual and operational definition of distress at EOL will support the development and validation of appropriate measures and foster a unified interdisciplinary approach to distress management, EOL research, and ultimately increase comfort and quality of life for patients at EOL.

Nursing Student Home Visitors to Educate Dementia Caregiving in Latino Community

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Background/Aim: According to the 2020 Alzheimer's Association factsheet, Latino older adults are diagnosed with Alzheimer's disease (AD) 1.5 times more frequently than non- Hispanic white older adults in the United States. Research has identified medical and social risk factors for AD in the Latino population, including high rates of diabetes and hypertension, In addition, higher education is considered a protective factor for AD, but Latinos have the lowest education levels of any ethnic/racial groups in the United States: one in 10 Latino older adults has no formal education while over half have 8 years of education or less. Studies have found that Latino families often consider dementia as a normal part of aging and struggle to provide care to their family members. Latino family caregivers have specific barriers to seeking help for dementia care resources, including low English proficiency, limited health insurance or no health insurance, stigma toward AD, and financial issues. To overcome these barriers and to address the significant unmet needs of this community, we developed a home visit model using nursing students to provide cultural and language-specific education for underserved Latino family caregivers of persons with dementia (PWD). The purpose of the community-engaged pilot study was to test the feasibility of the home visit program among Latino caregivers of PWD.

Methods: This pilot study has a pre-post design with a single arm to evaluate the feasibility of a home visit program to provide caregiving education to underserved Latino family caregivers. A geriatric-specialist nursing faculty trained several pre-licensure undergraduate and master's bilingual nursing students to become compassionate home visitors for Latino dementia family caregivers. Trained students who speak fluent Spanish performed 4 home visits for a month. The home visit program includes (1) education on Alzheimer's disease, how to communicate with PWD, how to manage stress, dementia care resources, respite care, safety and legal issues, end of life care; (2) mindful deep breathing exercise training and practice with caregivers; and (3) compassionate discussions with caregivers. Outcomes of caregiver burden, depression, perceived behaviors of PWD, health related quality of life (HRQOL), and caregiving self-efficacy were measured at baseline and after the home visitation pilot was completed. Participants were recruited from a local Latino community partner agency and a snowball method was used.

Results: Eight family caregivers completed a one-month home visit program provided by nursing students. All participating caregivers were women: 4 daughters and 4 wives. Two PWDs had early on-set AD. Caregiver burden, depression, perceived behavioral problems of PWD were decreased and HRQOL and self-efficacy were improved from baseline to post home visits. Caregivers reported that the Spanish written educational materials were helpful, and they appreciated the home visitors' empathy and support.

Conclusion/Implications: The findings demonstrated that a nursing student-led home visitation caregiving program was acceptable and feasible among Latino dementia caregivers. A larger scale study should be conducted to validate long term outcomes for vulnerable ethnic minority dementia caregivers.

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Elements Influencing End-of-Life Communication: Examples from Thailand

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Purpose/Aims: This study explored the lived experience surrounding EoL communication among Thai nurses and caregivers, aimed at identifying elements influencing beliefs, practices, and comfort regarding EoL communication with patients.

Background: In the United States, communication is a crucial component in palliative care (PC) and a central domain of national practice guidelines and competencies. However, a gap remains in the quality of provider communication. Among healthcare professionals, the desire to minimize suffering and support patients and families struggling with serious illness cuts across culture and geography. Thailand's recent national focus on PC has fostered more formal training in medical schools and the country is seeing an increased presence of palliative care services. A unique setting in northeast Thailand providing holistic services for cancer patients, allowed for a rare opportunity to explore cross-cultural shared and divergent experiences surrounding comfort and ease in talking to persons with serious illness.

Method: An interpretive phenomenological approach, structured in accordance with Heideggerian philosophy guided this study. A purposive sample of individuals working with persons experiencing serious illness was recruited from two areas of Thailand: i) Thai graduate nursing students at a large university in Bangkok; ii) professional and lay caregivers at a Buddhist-based palliative care residence in northeast Thailand providing holistic palliative care for persons with advanced cancer. Researchers used an interview guide with *a priori* open-ended questions to conduct focus group interviews. Audio recordings were transcribed verbatim and independently verified for accuracy among both English-and Thai-speaking researchers. Transcripts were then independently reviewed to identify themes, patterns, and meaning, followed by a series of team analysis sessions.

Results: Findings included themes that were situated from an overarching valuing of *building relationship*. Participants spoke of the significant role that *creating time for self-care* played in being fully present with others. In addition, *previous personal and professional EoL experiences*, *mentorship, the surroundings or setting of care,* which *normalized death* and fostered *teamwork*, were key elements contributing toward comfort. Finally, the construct of *empowerment* was important in two ways: nurses and caregivers who received mentorship, practiced caring for oneself, and actively built relationships with patients, reported feeling personally empowered which facilitated empowerment of patients and families.

Implications for Translation to Practice/Further Research/Policy: It is essential to recognize the value of exemplary communication skills in providing quality PC. While structured educational resources equip nurses with communication skills, findings from this study bring into focus other important elements. We may need to re-value the essential role that *caring for oneself* plays in this work and take to heart the importance of a supportive team environment which mentors novice nurses and eases discomfort surrounding EoL communication. Future studies can explore how adjustments to the work environment and formalized mentorship can complement current approaches to developing comfort and skill in PC communication, allowing for meaningful, quality interactions. Future research can explore how nurses are able to build relationships with patients and families in difficult situations and how *empowerment* and *advocacy* are aspects of these engaged and often profound, nurse/patient relationships.

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Sleep Duration and Quality in Dementia Caregivers: Wearable IoT Technology

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Background: Over 5.8 million Americans are living with Dementia (e.g., Alzheimer's disease, AD), a progressive disease with no effective treatment and no cure. In California alone, 650,000 individuals have the AD, the 3rd leading cause of death among older adults. Unpaid informal primary caregivers for persons with dementia (PWD) are mostly family members. Also, a third of the caregivers are aged 65 or older. Dementia takes a significant toll on caregivers, often resulting in chronic stress, depression, poor sleep quality, poor health related quality of life and early mortality. This is due to the round-the-clock care responsibility for PWD. Sleep disturbances often increase as Alzheimer's progresses and can result in increase of behavioral problems of PWD. Little research reports dementia caregivers' sleep problems related to PWD's behavioral problems.

Objective: To monitor dementia family caregivers' sleep quality for a month measured by a wearable Internet of Things (WIoT) technology – a combination of smartwatch-smartphone-cloud.

Methods: This presenting study was a single arm observational study among dementia family caregivers having a 1-month home visitation intervention on caregiving education. Spouse or adult child caregivers of PWD were eligible. Recruitment flyers were posted in local community centers, medical offices, and local Alzheimer's related service agencies in Southern California. Participants were asked to wear a smart watch for a month including day and night times. The intensive longitudinal sleep data (sleep duration, deep sleep duration, awake time duration, number of wakes during sleep) stored in a cloud server were analyzed using a Python program.

Results: Participants (n=34) were mostly female (31, 91%): median age 60, ranging 27- 84**;** spouse caregivers 21, 62%. The stages of dementia of PWD vary from early to late stage (early 13, 38%; middle 19, 56%; late 3, 9%). Health related quality of life of caregivers was Mean (M)=54.5% (SD=21.8). The sleep duration for one-month was M= 7.5 hours (SD=1.16); deep sleep duration was M=1.6 hour (SD=1.8); and awake time duration during sleep M=.35 hour (SD=.3). The number of wakes during the night for a month was M=2.45 (SD=.97). The score of behavioral problems of PWD reported by caregivers was M=19.9 (SD=12.6) (reference 0-96). There was significant correlation between mean number of times participants' waking during the night and behavior problems of PWD (Pearson p-value=.036).

Conclusion/Implications: The results measured by objective WIoT technology showed that family caregivers of PWD had poor sleep quality from frequent wakes during the night mostly due to behavioral problems of PWD. Caregiver intervention programs should include strategies to improve family caregivers' sleep quality and manage PWD's behaviors.

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WORKFORCE CHALLENGES AND OPPORTUNITIES IN TODAY'S NURSING ENVIRONMENT

Reestablishing Competency Following an Error That Has Caused Harm to a Patient

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Purpose/Aims: In this study I explored the nurses' emotional responses to, and recovery processes following a medical error that caused harm to a patient. The primary aim was to investigate the ramifications of committing an error to nurses, and their recovery processes during the investigation, the aftermath, and their perceptions of the error on their subsequent practice.

Rationale/Conceptual Basis/Background: Despite efforts by the patient safety movement, overall error rates in hospitals have not been reduced. Regardless of the watchful care nurses instill in their own practice, it has been estimated that 60% of nurses will experience some type of error during their career. Yet, little is known of the impact and long-term consequences for those involved in unintentional errors.

Methods: Constructivist grounded theory (CGT) was used to investigate the long-term emotional sequelae experienced by nurses following an error, and the factors that facilitate and hinder emotional and professional recovery. Unstructured, in-depth interviews were conducted with 37 participants, who were asked to describe and reflect on their most serious error, and details following the error. Using constant comparison, data were simultaneously collected, coded, and analyzed. Categories were developed and placed on a trajectory of emotional and events following the incident, with the experience of each participant compared with the others. Subsequent interpretive analysis of these data using CGT was conducted, and a coding system according to the circumstances of the error was developed. These types of errors were linked to the cause of emotional recovery and subsequent institutional policy.

Results: The sample consisted of 37 nurses who reported on 45 errors (8 nurses provided an account of more than one error). Five distinct circumstances of error were identified: accidental, unanticipated, distracted, unrecognized/unknown, and external. By linking the error types with the recovery process, *Circumstance of Error Model* was developed. All nurses, regardless of error circumstance were horrified, shocked, and lost confidence.

Theoretical components of the trajectory consisted of the basic social psychological process (BSPP), *Reestablishing Competency,* with five stages: discovering the error, responding emotionally, dissecting the error, losing self-esteem, and moving past the error. Nurses needed to restore their personal integrity, confidence, and trust in themselves following an error. Moving past the error was not always possible, depending on error type and levels of support within the organization.

Implications for Translation to Practice/Further Research/Policy: The *circumstance-of-error model* provides insight in the circumstances surrounding errors which may be a first step in reducing medical errors. The theory of *reestablishing competency* illuminates the care, processes, and procedures that must be implemented for well-being of staff following an error.

Additional research on this model is needed, with a larger national sample, to further confirm and develop the differences between error types and nurse recovery within each error circumstance. Also, error investigations, informal and organizational support systems helpful to nurses in their recovery process need to be further examined. Furthermore, research is needed on ways to support nurses in communicating and apologizing to patients and their families when errors involve serious consequences.

RN Perceptions of Medication Administration: A Quantitative Research Study

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Purpose: The purpose of this study was to explore Registered Nurses (RNs) perceptions of medication administration (MA), specifically related to risk, benefits, frequency, caution and medication errors (MEs) in a culture (work environment) of stress, high acuity, less work experience, high nurse to patient ratios, fatigue and emotional intelligence.

Background: RNs learn the rights of MA. RNs spend 40% of their time administering medication(s) and are responsible for 26% to 38% of MEs in hospitalized patients, subjecting them to ≥2 MEs/day. MEs occur in one of the five rights areas, during administration stages or at the bedside, accounting for 65% to 87% of all MEs. RNs must understand consequences of MEs *and* how to prevent them. MA carries great risk for RNs, especially with deviations from MA procedures. Inherent to safe MA is perception of risk which can influence an RNs clinical decision-making regarding safe practices. RNs should recognize and report MEs, whether they contribute to, observe them, or are the source of the error.

Methods: RNs (N=1475) randomly selected from the Pacific Northwest participated in an online survey with test-retest component (n=272). Measurement tools included Inquiry of Participant Medication Errors, Risk Questionnaire: Perceived Frequency & Perceived Caution and a Pharmaceutical Questionnaire. Analysis was conducted using descriptive, parametric and non-parametric statistics.

Results: We found statistical differences in RN perceptions for not reporting MEs amongst RNs and their peers. The most common reason RNs do not report MEs is not knowing one has occurred (32.5%). The second most common reason is fear of retaliation (RNs, 32.1%; peers, 28.3%). RNs reported (survey question) they were not at all likely to make MEs in the next year (47.9%); however, their peers were very likely to make MEs in the next year (22%).

Implications: Conducting a study of RNs' understanding that MEs correlate with perception of risk contributes valuable evidence to inform nursing practice. Statistical findings related to RN perceptions and thinking during and prior to MA contribute to clinical and curricular relevance. The findings are prompts for creating and implementing improved RN decision-making tools to decrease risk and enhance patient safety.

The Impact of 12 Hour Day vs. Night Nursing Shifts on Patient Care

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Purpose: This study examined the cumulative impact of 12-hour day vs. night shifts on nurse performance within patient care simulations. Nurses were tested on two separate occasions, one immediately following a third consecutive 12-hour shift (on duty condition), and once on a third consecutive day off (off duty condition). Specific aims were to test the impact of (1) shift type (day vs. night shift) and (2) cumulative shifts (on duty vs. off duty) on simulated patient care.
Background: The potential negative impact of shift work and extended work hours on nursing performance and consequent patient safety has been a serious concern for policy makers. Despite potential risks, 12-hour shifts have become increasingly more prevalent for nurses. Experiments that quantify the risks of cumulative 12-hour shifts on nurses' ability to provide safe patient care are critical.
Methods: Ninety-four registered nurses working 12-hour shifts (44 day, 50 night) were recruited from an urban hospital system to participate in this study. Nurses were tested twice (on duty and off duty) with approximately four weeks between test sessions. Conditions were counterbalanced to avoid learning effects. Testing consisted of responding to a patient care scenario using a Laerdal SimMan in a university simulation lab. Performance in the simulations was measured using the Creightons Competency Evaluation Index (C-CEI). Nurses also responded to the Psychomotor Vigilance Test (PVT), the Karolinska Sleepiness Scale (KSS), and were fitted with wrist actigraphy throughout the experiment to measure sleep.
Results: Mixed multi-level modelling revealed a significant impact of shift type on aggregate C-CEI score (f=4.68; df=1, 355; p<.05), with night shift nurses scoring significantly lower (M=0.81, SD=0.14) than day shift nurses (M=0.85, SD=0.14) indicating less competent care. Two subcomponents of the C-CEI score—Communication and Skill—were also found to be significantly lower for night shift nurses. No significant differences were observed between on and off duty conditions in patient care. Both shift type and shift duty significantly impacted sleep and sleepiness, with nurses being better rested while off duty than on duty, and night shift nurses consistently receiving less sleep and experiencing more sleepiness than day shift nurses.
Implications: Our findings suggest that 12-hour night shifts and its related sleep restriction and sleepiness may pose a significant risk to nurses' patient care skills. Individual differences may play a substantial role in ability to adequately cope with night shifts. These finding have implications for patient safety, and hospitals should take this into account when scheduling 12-hour shifts for night nurses.

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Nurses' Absenteeism and Human Resources, Work Relationships, and Management Styles

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Purposes: 1) Explore the perception of absenteeism among nurses; 2) Investigate the relationship between nurse's perceptions of absenteeism and work-related factors such as human resources, work relationships and management styles.
Background: Few studies have investigated nurse's absenteeism in Lebanon, and results reveal that nursing absenteeism poses significant problems in Lebanese health care settings that need further investigation.
Method: This is a cross-sectional study utilizing survey questionnaire distributed to all registered nurses (900) in three medical referral centers in Lebanon, 2 private and one public. The response rate was 59% (N=553).
Results revealed that type of hospital was a significant predictor of the perception that sickness-related absences were a problem at the work area (p<.001); nurses from the public hospital reported more sickness absences (M=3.77, $S.D$= .99) than those from private hospitals (M=3.42, $S.D$=1.09); p<.001. Regarding *human resources*, being satisfied with the opportunities for career advancement (p=.014) and with one's work shift (p=.005) were both significant predictors of absences due to work-related physical illnesses. Nurses who were absent due to work-related physical illnesses were less likely to, believe that they work in a safe environment (p=.039), and agree that the culture at their work is supportive (p=.002). As for *management style*, being satisfied with one's relationship with the nurse head/manager (p=.009), and the belief that there are skillful facilitators to support the nurse's jobs (p=.015), significantly predicted absences due to work-related stress. Nurses who agreed that work-related stress was a reason for their absence were: (1) less likely to report that there were skillful facilitators supporting their current job (p<.001); (2) less likely to report that their nurse manager had excellent ability to solve work-related problems (p=.002); (3) less satisfied with their relationship with the nurse manager (p=.004); and (4) were less satisfied with the recognition received from their superiors (p=.006). As for *work relationships*, feeling valued at one's current job was a significant predictor of absences due to work-related physical illness (p<.001). Nurses who were absent due to work-related physical illnesses reported gaining less recognition from their colleagues than those who were not absent due to work related physical illness (p=.013). Additionally, feeling valued at one's current job was a significant predictor of absences due to work-related stress (p=.008).
Conclusion: Human resource management, work relationships and management styles all had significant impacts on absences due to work-related physical illnesses.
Implications for Practice: Understanding the perceptions held by nurses about their absenteeism and their related factors informs the nurse managers and administrators understanding of best ways to manage sickness absence for better nurse productivity and patient care outcomes.

Virtual Breaks to Break Exhaustion and Burnout

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Purpose: To assess the feasibility of implementing Virtual Reality Breaks (VRB) in acute care settings (ACS) and evaluate their impact on healthcare personnel's (HCPs) perceived quality of breaks (PQB), work associated wellbeing (WAW), and burnout.

Background: Healthcare personnel experience occupational stress and burnout. Mindfulness-based interventions delivered through emerging technologies can improve the quality of HCP's breaks and wellbeing and decrease their burnout. Virtual Reality enables users to have modified experiences of reality and enhances their adaptation. VR has been successfully used to improve patients' outcomes but has minimally been utilized to affect HCP's outcomes.

Methods: A pre-post repeated-measures study involved HCPs in an Advanced Spine and Brain Unit in a southern California Magnet hospital. A private room, designated as the VRB room, was equipped with a recliner chair and a VR head-mount display unit with various guided VR meditation experiences. Participants engaged in 10-minute VRBs during their shifts over 8 months period. Participants' PQB was measured using three items that measured mental detachment during break, preference and effortlessness. WAW was assessed using 5 items that assessed levels of concentration, physical tension, energy, stress, and motivation. Burnout was assessed using Maslach Burnout Inventory (MBI) which assesses burnout on three subscales, Emotional Exhaustion, Depersonalization, and Personal Accomplishment. Participants completed the PQB and WAW short surveys immediately after each VRB. Additionally, participants completed the PQB, WAW, and MBI at baseline and at follow up (8 months). Data was analyzed using SAS software.

Results: Implementing VRB was feasible. A total of 86 employees used the VRB at least once, most users were RNs, of those 43% (n=37) completed the surveys at baseline, after VRB use, and at follow up. A few lessons were learned about best practices to overcome barriers to participation in VRB in ACS. Significant improvement over time was noted in the detachment from work item on participants' PQB ($\beta = 0.08$, t-test =3.32, $p = 0.029$). Simple linear regression showed a statistically significant increase in participants' level of concentration on the WAW (average of 0.117 points, t= 3.16; p=0.025). Also, a significant drop was noted in mean stress [-1 (SD=1.095), t=5.08, p=<*0.001*] and physical tension [-.74 (SD=1.15), t=-3.58, p=0.0012] on WAW between baseline and follow up. To assess the effect of VRB on burnout, we grouped participants into those who used VRB once or less, and those who used VRB 2 or more times. *Within group* analysis showed that those who used VRB $\geq$ 2 had a statistically significant improvements in burnout; Emotional Exhaustion and Depersonalization dropped (t=-3.11, p=0.005 and t=-2.15, p=0.04 respectively; and Personal Accomplishment increased (t=3.21, p=0.004). *Between group* analysis showed a significant difference favoring those who used VRB $\geq$2 on their Personal Accomplishment subscale (p=0.0045).

Implications: VRBs are feasible and effective in improving wellbeing and quality of breaks and counteracting work associated negative outcomes including burnout in busy acute care settings. Further research is needed to improve uptake among HCPs of interventions delivered through emerging technologies and to improve implementation of such technologies in busy healthcare environments.

Powering through Together: Nurses Working While in Pain

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Aims: To explore the experiences of nurses working while in pain, specifically the frequency, locations and severity of their pain; the impact of pain on their performance at work and lives outside of work; and their strategies for coping with pain.

Background: Internationally, the nursing profession is recognized as an occupation with a high occurrence of pain and injuries, in particular, musculoskeletal. These can lead to decreased functional health and performance at home and work, and consequences for patient care, co-workers and healthcare systems. In the United States registered nurse (RN) population, we currently lack understanding of the prevalence and severity of direct care nurses' pain, how that impacts their performance at work, and how they are coping with their pain.

Methods: Our sample consisted of 20 direct-patient care RNs in the US, who completed a survey and agreed to participate in a follow-up interview. The survey and interviews included questions on participant demographics, locations and severity of pain, impact of pain on performance at work, and coping strategies. Conventional content analysis of interview transcripts was completed.

Results: All participants described experiencing pain daily since onset and work was an aggravating factor for their pain. Our sample consisted of 84% females (*n=16*), ranging in age from 24 to 64 years of age, and the majority reported having a Baccalaureate degree (*n=13*, 68.4%). The primary work setting was the hospital (*n=15*, 78.9%) followed by other settings (*n=2*, 10.5%). The majority of participants reported 2 to 4 of locations of pain on their bodies (*n=15*, 79%) with an average pain level of a 5 on a 10-point scale. Frequent locations of pain included the back, knee, neck, hand, leg, and feet. At work, participants described "powering through" their pain at work and trying very hard to shield their patients from any consequences. However, pain did impact their mood, teamwork, and speed of movement and thinking. Their pain did have a significant impact on their life outside of work where they spent a significant amount of time recovering from pain aggravated by their shifts. Strategies to cope included medications, modifying the work environment whenever possible, and taking time to recover.

Implications: Pain in nursing is viewed as part of the job and nurses' career plans were impacted by their pain. Workplace tools (e.g., patient lifts) were described as helpful, but not used regularly, often due to lack of staffing necessary to utilize the tools. Workplace interventions to reduce nurse pain that are feasible for use in resource-poor healthcare environments are key to sustaining the aging workforce. Nurses described minimizing the direct impact on their patient care, but admitted that there was an impact on teamwork and thinking which have been linked to negative patient outcomes. The true impact of pain on patient care and nurse health needs further exploration.

Longitudinal Relationship between Sensory Loss, Psychosocial Factors, and Cognition

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Aims: This study aimed to understand the inter-relationships between sensory loss, psychosocial factors including loneliness and social support, and cognitive function. Specifically, we examined if loneliness mediated the associations between sensory loss (i.e., hearing or vision loss) and cognitive decline as people grow older; (2) if social support moderated the associations between sensory loss (i.e., hearing or vision loss) and cognitive decline as people grow older.
Background: Cross-sectional and longitudinal studies have found that both hearing and vision loss can be independently associated with cognitive function, but the mechanisms were not well understood. It has been hypothesized that loneliness and social support may connect or alter the relationship between sensory loss and cognitive function. Specifically, loneliness has been widely hypothesized to mediate the relationship between sensory loss and cognitive function; and social support has been hypothesized to moderate the relationship between sensory loss and cognitive function based on the stress-buffering hypothesis. However, prior studies testing this hypothesis were very limited.
Methods: This is a longitudinal study using data from the Health and Retirement Study (HRS) and its supplement: The Aging, Demographics, and Memory Study (ADAMS). Data from the HRS and ADAMS can be merged using household and participant IDs. In our study, we used one wave of objectively measured hearing and vision data from ADAMS, one wave social support and loneliness data from HRS, and five waves of cognitive function data measured in HRS in 2006, 2008, 2010, 2012, and 2014 (N = 232).

The longitudinal mediation effects of loneliness and the moderation effects of social support on the relationship between sensory loss and cognitive function were examined using the two-step longitudinal parallel-process (LPP) approach, one type of structural equation modeling (SEM). The effects of both hearing loss and vision loss were estimated in the same model to account for the potential confounding effect of each modality of sensory loss to the other. We used age model with age variable centered at its mean age of 82. Data analyses were performed using SPSS AMOS.
Results: In the most parsimonious model, loneliness fully mediated the association between vision loss and the average cognitive status at age 82 ($p < .05$). Social support moderated the association between vision loss and the average cognitive status at age 82 ($\beta = .14$, $p < .05$). No moderation or mediation effect was found for the psychosocial factors on the associations between hearing loss and cognition. The SEM model with path coefficients are shown in below.
Implications: Our study found that older adults with vision loss tend to be lonelier, and thus have lower cognitive function. Therefore, besides providing treatments, nurses and other healthcare providers should pay attention to help older adults with vision loss preserve a healthy level of socialization.

For future research, including information on the time and reason of sensory loss in the models may help to gain more insights into the inter-relationships between sensory loss, psychosocial factors, and cognitive function among older adults.

WORKING WITH OLDER ADULTS

Social Networks Promoting Self-Care in Older Adult Caregivers

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Purpose: Explore the role of social networks promoting self-care among older adult caregivers. Understanding the power of social networks from the perspective of caregivers is significant in conceptualizing and developing relevant interventions to promote self-care.

Background: By 2050, one fifth of the U.S population will be 65 years and older, with increases in chronic conditions and social and medical needs. Sixty-five million adults serve as informal caregivers, many themselves suffering from chronic conditions. The National Institute of Nursing Research and the National Institute of Aging have advocated for research that includes the development of conceptual frameworks and methods advancing interventions to support the informal caregiver. While contemporary research perspectives have characterized the burden of caregiving, little is known about caregiver strengths and resources fostering self-care and well-being. Research advancing interventions to promote self-care in informal caregivers is of critical importance. New paradigms for self-care are needed which reflect the lived experience of older adult caregivers.

Methods: Recruitment occurred through community-based agencies serving informal caregivers. Focus group and individual interviews explored social networks and self-care to data saturation. Twenty-one informal caregivers participated, 16 (76%) women, mean age 71.8, 19 Caucasian (90%). Secondary analysis using qualitative descriptive design explored social networks in promoting self-care among informal caregivers. Trustworthiness reflected objectivity, dependability, credibility, and transferability.

Results: Social contextual resources reflected patterns of attachment among individuals and groups, assisting older adults to manage life challenges, difficulties and transitions. Social networks were powerful sources of reinforcement, resource, and motivation promoting self-care. Participants shared the power of social networks in themes ***connecting***, ***bearing witness***, and ***sharing strengths***. *Connecting* reflected reciprocity in giving and receiving support, fostering inner strength and growth, promoting self-care. *Bearing witness* reflected the caregiving community serving as witness to the experiences of one another. Caregivers often felt isolated as friends or family withdrew due to changes in the care recipient. However, caregivers were able to share similar experiences with one another, validating or bearing witness in both happy and difficult times. In doing so, honored the caregiving journey, creating a safe space for engaging in self-care. Mutuality inherent in *sharing strengths* was a powerful source of support for participants. Sharing strengths reflected mutuality between caregivers and supports, providing hope, comfort, and resources promoting self-care. By discussing alternatives related to self-care and the caregiving process, participants became aware that they were able to participate in change and self-care decisions.

Implications: This research advances understanding of social networks promoting self-care among informal caregivers, framing theory-based intervention fostering engagement in social networks consistent with self-care. Building upon individual strengths and social networks will advance approaches to promoting continued growth among older adults while simultaneously guiding care for their changing and diverse needs. Exploration of approaches to caregiving, ways of living, and values representing and promoting self-care and well-being among older adult caregivers is essential.

Funding: This research was funded by Arizona State University College of Nursing and Health Innovation, Hartford Center of Gerontological Nursing Excellence at Arizona State University.

Process Evaluation of a Community-Based Activity Program for People with Dementia

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Purposes/Aims: The purpose of this study is to conduct a process evaluation for Momentia Mondays (MM), which is a community-based activity program for people with dementia (PWD) in Southeast Seattle. The aim of this evaluation is to address the following questions: 1) who are the participants in the program? 2) how much the participants liked or disliked the program? 3) how would participants describe their experience in the program? 4) How do participants experience the impact of participation in the program on their health and social network?

Rationale/Background: Frequent participation in social activities may serve a protective role against cognitive decline. Many innovative community-based activity programs for PWD are focusing on improving participants' level of social engagement. The effectiveness of various community-based programs designed for PWD is often measured using quantitative methods. Although there are qualitative studies focusing on participant experience in community-based activity programs, those studies only explored the caregivers' experience in the program rather than the care recipients. Therefore, little is known about the experience participating in community-based activity programs from the perspective of PWD. In addition, many community-based activity programs are developed by stakeholders in the community. Very few programs are initiated by the participants themselves who are living with dementia.

Undertaking/Best Practice/Approach/Methods/Process: A conceptual framework was developed based on the evaluation questions and review of current literature on the main concepts related to this project. Cross-sectional design was used for collecting quantitative data, including the participants' demographic information and their satisfaction to the program. A focus group was conducted to collect qualitative data on the participants experience in the program, and how their experience influences their health and social network.

Assessment of Findings/Outcomes Achieved: Seven participants in the Momentia Mondays program were included. The majority were female (n = 5), age range from 65 to 90, Black/African American (n = 5), currently married (n = 4), self-reported as having diagnosis of dementia. The majority heard about the program from a friend (n = 5). All the participants think the program met their expectation. All the participants liked the activity called "Reignite the Mind/Improve Class" among the other activities. Several key themes emerged in the participants' description of their experience in the program: (1) being present (2) optimism and acceptance (3) social connectedness (4) independence and self-worth (5) motivation for taking charge of one's life.

Conclusions: Community health workers and nurses are in a critical role to improve the health and well-being of communities. Results from this evaluation offer new insights to community health workers and nurses for future development of community-based activity programs for PWD and lead to a better understanding of participants' experience in such programs. Future nursing research should give more attention to small scale community-based activity programs among various racial/ethnicity groups, especially focusing on evaluation of these programs to gain inspiration for future intervention development to support PWD and their caregivers.

Funding: This project was supported by UW Healthy Brain Research Network Scholarship.

WORKING WITH OLDER ADULTS

Perceived Barriers to Early Mobilization among Healthcare Providers in the Hospital

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Purpose: The purpose of this study is to determine how perceived barriers to early mobilization of hospitalized, non-acutely ill adults differ among multidisciplinary healthcare providers.

Background: Early mobilization of hospitalized patients supports many positive outcomes such as maintenance of muscular strength, functional independence, and reduced hospital length of stay. While studies support the important benefits to early mobilization, many barriers persist which prohibit healthcare professionals from consistently providing early mobilization. Patient mobilization is facilitated by members of the interdisciplinary team, including registered nurses, nursing assistants, occupational therapists, physical therapists, and providers such as medical doctors or nurse practitioners. The degree of perceived barriers to early mobilization for non-critically ill adults among various interdisciplinary members of the hospital team is not clearly known. Interventions to support early mobilization require an understanding of perceived barriers from the perspective of all members of the interdisciplinary hospital team.

Methods: The Patient Mobilization Knowledge, Attitudes, and Behaviors survey (PMKAB) was administered to hospital workers across eight locations from two different states in the United States at a single time-point. The PMKAB contains 26 items, each scored on an ordinal scale of 1-5, with a total global score of up to 130 (higher scores indicate higher levels of perceived mobility barriers). Survey scores are further divided into 3 subcategories including Knowledge, Attitudes, or Behaviors associated with perceived mobility barriers. Respondents were grouped by clinical role: registered nurse (RN; n=386), nursing assistant (NA; n=110), provider (n=58), occupational therapist (OT; n=41), or physical therapist (PT; n=31) for a total of 626 respondents. Kruskal-Wallis tests with pairwise comparisons and Bonferroni correction were conducted with SPSS version 26.

Results: The average PMKAB global score among all clinicians was 64.052 ± 11.61. Results from the Kruskal-Wallis test showed a significant difference in global scores between clinical roles ($H_4=120.60$, $p<0.001$). Furthermore, there were significant differences between clinical roles for Knowledge ($H_4=133.84$, $p<0.001$), Attitude ($H_4=98.13$, $p<0.001$), and Behavior ($H_4=80.63$, $p<0.001$) sub-scores. Pairwise comparisons revealed no significant differences in global scores or sub-scores between PTs and OTs ($p>0.99$); however, PTs and OTs each scored significantly lower (better) in global scores than RNs, NAs, and MDs ($p<0.007$ for all).

Implications for Translation to Practice: Results of this study show that both PTs and OTs have less perceived barriers to early mobilization of hospitalized patients compared to RNs, NAs, and providers involved in mobility activities. These findings indicate the need for targeted interventions for clinicians, especially nurses and providers, to optimize early patient mobilization. Future work, in partnership with PTs and OTs, is needed to determine, integrate, and assess appropriate interventions for healthcare providers to reduce perceived barriers in attitude, knowledge, and behaviors towards early patient mobilization in hospital settings.

Predictors of Intent to Leave among Long-Term Care Nurses

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Purpose/Aims: The purpose of this secondary data analysis was to describe factors which contribute to a nurse’s intent to leave their current position, as reported by licensed nursing staff in the long-term care environment.

Rationale/Conceptual Basis/Background: Intent to leave and subsequent turnover among nurses in long-term care is expensive in terms of both financial and human cost. Workload, staffing inadequacy, and job dissatisfaction have been linked to intent to leave and turnover among nurses. Missed nursing care has been posited as an operant mechanism linking these variables. The Missed Nursing Care Model predicts that work environment, including staffing, workload, and teamwork influence missed nursing care. The omission or delay of care, referred to as missed nursing care, may then contribute to nurse dissatisfaction and intent to leave one’s position.

Methods: This secondary analysis was performed using data collected within a cross-sectional descriptive study that included a convenience sample of 139 licensed nursing staff (RNs and LPNs) who reported providing direct resident care. These participants were recruited from 16 long-term care facilities in the state of Oregon. Eligible participants were asked to complete a confidential paper and pencil survey that included items related to demographic information, unit characteristics, facility characteristics, and measures of the perception of workload, staffing adequacy, teamwork, missed nursing care, and intent to leave one’s current position. These variables were measured and analyzed at the individual nurse level. Bivariate correlational analyses, were completed to identify relationships among the variables of interest.

Results: Intent to leave one’s current position within the next year was statistically related to perceived workload ($r = .56$, $p < .001$), staffing adequacy ($r = -.32$, $p < .001$), missed nursing care ($r = .26$, $p < .001$), and teamwork ($r = -.2$, $p < .01$). Increases in perceived workload and missed nursing care were positively associated with intent to leave, while adequate staffing and teamwork were inversely related with intent to leave.

Implications: Multiple factors influence nurses’ intent to leave care in the long-term care environment. While the data from this sample support the missed care model with a mild association between missed nursing care and intent to leave, the perception of staffing adequacy and workload were stronger predictors of intention to leave. In order to limit intent to leave retain nurses, interventions to improve staffing adequacy, workload, and teamwork must be implemented. Addressing these issues may also help to minimize missed nursing care and its negative effects on both nurses and patients. Together, these strategies have the potential to improve the quality of care and adverse outcomes for these most vulnerable residents.

Be Wise: A Health Literacy Skill Building Program

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Purpose: The purpose is to describe the “Be Wise” healthy literacy skill building program and present participants’ evaluation of the program.

Background: Health literacy has been found to be the strongest predictor of health status influencing one’s ability to monitor health, understand providers’ recommendations, and productively engage with the health care system. Without adequate health literacy, consumers may not understand and evaluate the myriad of choices confronting them. In prior studies, the research team found that older rural residents tend to use self-prescribed complementary therapies (CAM) and gleaned information about these therapies primarily by word of mouth or from the media. Some used CAM inconsistently and some did not seek information about the effects or risks from reliable sources.

Brief Description: The intent of the Be Wise program was to enhance health literacy among older rural dwellers. The program was based on The MSU Conceptual Model of CAM Health Literacy. Prior to implementation, a pilot was conducted to finalize the content and delivery logistics. The program involved four skill-building sessions delivered over seven weeks at senior centers in eight rural communities in two western states. Survey data were collected at T1 (beginning of program); T2 (at end of 4th session), and T3 (5 months after T2).

Assessment of Findings: There were 127 useable questionnaires at T1, 67 at T2, and 52 at T3. Participants were Caucasian, primarily women, with a mean age of 76 years, and most had an associate/baccalaureate degree. At T2 three questions were worded to directly ascertain satisfaction with the program, usefulness of the information, and willingness to recommend the program to others. All three had strong mean scores indicating satisfaction with the Be Wise program. The likelihood of using the program information was assessed with four questions and scores on all were most favorable providing a solid reflection on the usefulness of the information provided. At T3 the question regarding the usefulness of the Be Wise program in managing health received at mean score of 3.55 on a 5 point scale. A majority of the written comments on the T2 and T3 questionnaires were very favorable. In addition, participants’ general and CAM health literacy scores increased significantly following the program.

Conclusions: Although evaluation scores and data following the Be Wise program were very positive overall, long-term exploration is necessary to know how exposure to the skill-building content might enhance participants’ future health care decisions. Delivering programs for older adults living in small rural communities has special challenges and rewards. Based on prior experience, the investigators know that rural seniors strongly prefer face-to-face interaction rather that distance delivery. This requires adequate financial support for extensive travel. Other unique challenges involve acquiring a large enough sample from sparsely populated areas, retaining older individuals in projects, and dealing with seasonal scheduling issues. Despite the challenges, older adults are enthusiastic about learning more about making informed health care choices and thus be more engaged in their health. There is a compelling need for continued program development and long-term outcomes evaluation.

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ABSTRACTS OF POSTER PRESENTATIONS

Managing Pediatric Atopic Dermatitis in the Allergy Clinic: Use of an Eczema Action Plan

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Eczema, or atopic dermatitis, is a complex and chronic condition that affects approximately 10% of children throughout the United States (Brown et al., 2018). The American Academy of Allergy Asthma & Immunology (AAAI) (2017) estimates the average cost of eczema management for each patient is approximately $3,302 per year. The complex nature of atopic dermatitis indicates a need for individualized treatment plans. Research has shown that standardized patient teaching, written education materials, and Eczema Action Plans (EAP) reinforce patient teaching, parental understanding, and improve quality of life. This evidence-based practice project introduces the use of a written EAP, using the template created by the American Academy of Dermatology (AAD), for patients less than 18 years of age at multiple allergy clinics in California and Washington. The implemented clinical intervention included providing an individualized EAP, in addition to standardized written education materials about eczema and its treatment compiled into one handout from the National Institute of Health (NIH) and the AAAI to the parent or caregiver of the pediatric patient. Patient outcomes were measured using the University of Nottingham's validated Patient Oriented Eczema Measure (POEM) form and parental outcomes were measured using Parental Self-Efficacy Care Index (PAESCI) survey at the introduction of the EAP and again at 6-8-weeks post-intervention. Results are pending. Benefits of EAPs along with written education materials include reduction of patient costs on office visits and medications due to flares, improved medication adherence, improved patient and caregiver understanding, and improved patient quality of life. Use of an EAP within an allergy clinic can also allow for better continuity of care between the patient's primary care providers and the allergists.

Keywords: eczema action plan, pediatric atopic dermatitis, allergy, caregiver self-efficacy, POEM, PASECI

The Effect of Adolescent Sleep Quality on Dietary Intake, Appetite, and Body Mass Index

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Purpose and Background: Several factors have been associated with excess weight gain in adolescents, including loss of sleep. The purpose of this study was to examine the effect of sleep quality, sleep quantity, sleep latency, and sleepy hygiene on food group intake, appetite, and BMI of adolescents.

Theoretical Framework: Orem's Self-Care Deficit Theory guided this study to examine the relationship of adolescent's sleep on their food group intake, appetite, and BMI.

Specific Aims:

1. To determine the frequencies for demographics, sleep quality, sleep quantity, sleep latency, food group intake, appetite, and BMI levels of adolescents.
2. To analyze sleep quality, sleep quantity, sleep latency, sleep hygiene and determine the relationship to food group intake, appetite, and BMI levels of adolescents.
3. To determine to what extent sleep quality, sleep quantity, sleep latency, and sleep hygiene affect food group intake, appetite, and BMI levels of adolescents.

Sample: Adolescents aged 12-18 years from upper Midwest churches were recruited. A sample of 76 participants completed the study. Participants were encouraged to sleep their usual sleep pattern at their usual place of sleep and consume their usual dietary intake. Data collection of sleep was measured for five days and nights.

Method: This study used Fitbits ($\alpha \geq 0.88$), and the Pittsburgh Sleep Quality Index ($r = .85$) to measure sleep quality, sleep quantity, and sleep latency. BMI levels were assessed by the participant weight in kilograms divided by the square of height in meters. An Appetite Visual Analog Scale ($\alpha = 0.84$) measured adolescents' appetites. The Block Kids Food Screener ($\alpha = .88$) measured food group intake. The Adolescent Sleep Hygiene Practice Scale ($\alpha = .84$) measured the adolescents' sleep hygiene practices.

Analysis: Sleep quality, sleep quantity, sleep latency, demographics, food group intake, appetites, and BMI levels were reported as frequencies. Correlations and regression analyses were used to determine the effects of sleep quality, quantity, latency and hygiene on the participants' food group intake, appetite, and BMI levels.

Results: Among participants, 39.5% reported poor sleep quality, 77.6% reported inadequate sleep quantity, and 73.7% reported short sleep latency. Sleep quality was associated with increased appetite ($r = .26$, $p < .05$) and increased vegetable intake ($r = .28$, $p < .05$). Sleep hygiene factors were negatively associated with appetite ($r = -.28$, $p < .01$), and inconsistent weekday and weekend sleep was negatively associated with appetite ($r = -.30$, $p < .05$). Mean minutes of sleep was associated with increased BMI ($r = .04$, $p < .05$). Sleep latency (B = .24, $t(57) = 2.11$, $p < .05$) predicted increased appetite. Environment sleep hygiene factors (B = .34, $t(57) = 2.54$, $p < .05$) predicted increased appetite; sleep hygiene stability (B = -.28, $t(57) = -2.36$, $p < .05$) predicted increased appetite. Sleep stability scores predicted increased BMI (B = .29, $t(57) = 2.03$, $p < .05$).

Study Implications: This study has laid framework for future nursing interventions studies to explore sleep hygiene practices for improvement of overall health.

Funding: North Dakota EPSCoR Faculty STEM Seed Grant Program

CHILD AND ADOLESCENT HEALTH

Yoga & Mindfulness in Children

***Monica C. Godwin**, Pacific Lutheran University, Yelm, WA*

Purpose: To implement a yoga and mindfulness intervention in a fourth-grade elementary school online classroom and measure the effect on children's anxiety levels.

Background: Elevated stress levels can lead to anxiety. Anxiety is the most common diagnosis in children, and there is a lack of mental health providers in Washington State. Long term effects of stress are linked to chronic diseases that are expensive to treat. Current research suggests anxiety levels may be lessened if children are provided with tools to help manage life stress.

Methods: Design: pretest-posttest quasi-experimental pilot study. Subjects: Students assigned to a fourth-grade classroom with appropriate consent/assent. Setting: South Puget South elementary school fourth-grade online classroom and children's home. Timeline: October 2020-December 2020. Measures: Spence Children's Anxiety Scale will be administered online pre and post-intervention, measuring anxiety levels as a whole number. Intervention: A 10-week yoga and mindfulness program called Yoga Ed. The students and the researcher will participate in one weekly professionally-led online session lasting approximately 30 minutes. Additionally, on Monday through Friday, the children will participate in a shorter 5 to 8-minute session.

Outcomes: The expected outcome would be a decrease in overall anxiety scale score. Outcomes will be measured by comparing pre-intervention anxiety scale scores with post-intervention anxiety scale scores. Information will be presented using descriptive statistics, frequency distribution, central tendency, and variability. Tests: Wilcoxon signed-rank test and Pearson or Spearman will be used.

Conclusion: This project's findings will be used to assess whether this program could be implemented throughout the school as a tool to decrease anxiety levels of the children within this school. Future undertakings include implementation of the program school-wide in the children's physical education class. The program could be then be implemented throughout the school district. Additional research could measure depression scores, behavior in school, and conduct at home using school teachers and parents' surveys.

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CHILD AND ADOLESCENT HEALTH

Theoretical Framework of True-Belonging in Children with Physical Differences

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Purposes/Aims: Children with visible physical differences (VPD) are challenged with negative peer reactions including social stigmatism and exclusion. These interactions can have a negative impact on a child's developing psychosocial health. Psychosocial health is defined as a state of mental, emotional, social, and spiritual well-being. The intent of this concept analysis is to improve psychosocial development amongst children with VPD using an emerging theoretical framework of True-Belonging.

Description of Framework: Developed from an intermodernism perspective, inspired by Social Cognitive Theory, the emerging theoretical framework of True-Belonging (defined as a fully realized intimate relationship with oneself, that can only occur once the child has embraced their own physical differences) was created. The framework suggests a positive asymmetrical, sequential relationship between the concepts. Starting with the concept of influential forces, including both, internal (examples: self judgements, self-evaluations) and external forces (examples: relationships, social roles, perceived social judgements), which influence the development of self-efficacy and self-image in a linear pattern. This suggests that if influential forces are positive one might infer that self-efficacy and self-image will be positive and vice versa. The asymmetric, linear sequential pattern continues as self-efficacy (opinions about one's abilities and talents to exert control over one's own motivations, behaviors, and social environments) and self-image (perceptions of oneself a physical body and as an individual) predict self-concept (internal sense of who they are). Sequentially, self-concept has a positive, symmetric linear relationship with self-acceptance (positively embracing one's unique individual talents, capabilities, strengths and weaknesses, and is the belief that "you are enough)." As a strength of character, self-acceptance provides children with VPD a way of looking at the world, in particular, how they consider their self-concept, which is associated with heir emotional regulation, resilience, as well as their willingness to experience life and grow. Lastly, for children with VPD, true-belonging is, the highest form of self-acceptance.

Conceptual Approach: Using Walker & Avant's approach to synthesis of evidence and conceptual ideas, the relationships between true-belonging and self-acceptance were formulated. Statement derivation was a key strategy used in theoretical framework development. These ideas and derivations used in this framework were then reformulated to align with the science of nursing. These theories combined with the need for improved psychosocial development amongst children with VPD inspired the newly defined framework of True-Belonging. Ethical knowing of the psychosocial challenges facing children with VPD fueled the process of developing the concept of true-belonging from a concept into a theoretical framework.

Logic Linking to the Research Problem: The newly purposed framework redefines the concept of true-belonging, and challenges previously held beliefs about belonging, self-acceptance, and self-actualization. This framework evolution has become essential as children with VPD continue to face increasingly difficult social challenges that negatively affect their psychosocial wellbeing.

Conclusions: Application of the True-Belonging framework may help to increase the development of positive psychosocial health in children with VPD by encouraging the evaluation and assessment of self-concept and self-acceptance. Ultimately, this may assist in identifying children with the greatest need for additional psychosocial support.

Pediatric Primary Care Depression Screening Using PHQ-9 Modified for Teens

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The aim of this evidence-based project is to improve depression screening among adolescents between the ages of 12 and 18 using the PHQ-9 Modified Scale for Teens in an urban pediatric primary care clinic in Southern California. Depression is a cause of considerable morbidity and mortality among the pediatric population. The literature supports the use of depression screening tools in a variety of settings, including pediatric primary care; their use has shown an improvement in detection of depression in adolescents. The American Academy of Pediatrics (AAP) and the U.S. Preventive Services Task Force (USPSTF) both recommend the use of tools to screen for depression in adolescents beginning at the age of 12. Screening tools for depression, specifically PHQ-9 Modified for Teens, help to identify depression in both the adult and pediatric populations. With its use in pediatric primary care, the PHQ-9 scale has been shown to have a sensitivity of 94.7% and a specificity of 86.5%. In a pediatric primary care clinic, four clinicians including physicians and nurse practitioners will be educated about AAP depression screening guidelines, on the use and scoring of PHQ-9 Modified Scale for Teens. The screening tool will be used for every well-child visit with patients between the ages of 12 and 18 for a period of 3 months. Baseline, pre-intervention data will be collected retrospectively comprising of a 6-month period and compared to the 3-month period of post-intervention data obtained from electronic medical record (EMR) charts. The findings will demonstrate whether there is an increase in detection of depression in adolescents seen during a well-child visit post-intervention compared to those same adolescents seen for a previous well-child visit pre-intervention. If successful, this evidenced-based project could be applied in other pediatric primary care clinics to improve screening and care of the adolescent patient with depression.

Keywords: adolescent depression, depression screening tool, PHQ-9, PHQ-9 modified for teens, AAP depression guidelines, GLAD-PC

Mycophenolate REMS: Education for Pediatric Transplant Providers

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Background: Mycophenolate is an immunosuppressive agent commonly prescribed to prevent rejection in patients that have received an organ transplant. While mycophenolate revolutionized post-transplant care as a potent immunosuppressive, it still has serious teratogenic risks involved with its use. These risks led to the development of a federally mandated risk evaluation and mitigation strategy (REMS) program. Unfortunately, knowledge of this program is not widely disseminated in pediatric settings, posing serious risks to adolescent females taking mycophenolate. This risk is exacerbated in pediatric patients with chronic illness, as discussions surrounding contraception and teratogen use is particularly lacking. With 87% of adolescent pregnancies in the US occurring unintentionally, adolescent patients who are taking mycophenolate should be assumed to be at an equally high risk of unintended pregnancy (Sedgh et al., 2015). All pediatric transplant providers should be appropriately educated on mycophenolate REMS and its specific recommendations on how to minimize risk to this vulnerable population.

Aims of Quality Improvement: The Iowa Model of Evidence-Based Practice to Promote Quality Care led to the identification of the problem focused "trigger" of an absence of mycophenolate REMS use within the pediatric transplant programs at Phoenix Children's Hospital. The purpose of this project was to increase knowledge of mycophenolate REMS for all providers involved in the care of solid organ transplant patients at Phoenix Children's Hospital.

Details of Innovation: A one group, pre-experimental, pre-test – post-test design on a convenience sample of thirteen pediatric solid-organ transplant care providers was used to compare if knowledge regarding mycophenolate REMS increased after an evidence-based educational intervention. After a review of current literature, no existing intervention was found that addressed the needs of this project. An evidence-based educational intervention was developed based on the guidelines and recommendations identified in the *Mycophenolate REMS Healthcare Providers Brochure* and was presented as a PowerPoint in a webinar format. The pre-test, post-test, and intervention were reviewed and approved by content experts consisting of pediatric pharmacists specializing in transplant medications.

Outcome: The intervention led to a statistically significant improvement of mycophenolate REMS knowledge in pediatric transplant care providers following an educational intervention, $z= -3.18$, p-value= 0.001, with a large effect size ($r= -0.62$). This project additionally found that providing transplant care providers an educational intervention on mycophenolate REMS recommendations increased their reported comfort with contraception counseling. As research shows that increased comfort with contraception counseling is correlated with increased frequency of teratogen education and pregnancy screening in patients, these results are encouraging (Cooper et al., 2019).

Effects: While this project successfully increased provider knowledge of mycophenolate REMS, it also identified gaps in current practices and opportunities for future quality improvement projects. The results suggest that standardized educational resources focused on the risks associated with pediatric teratogen use and appropriate mitigation strategies would be highly beneficial to pediatric transplant care providers. In addition, organizational support through the creation of a mycophenolate REMS protocol and EMR integration of recommendations could play a role in long term implementation.

Improving Pediatric Provider Preparedness for Postpartum Depression Screening

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Purpose: The purpose of this project is to improve pediatric provider preparedness to screen for PPD at a large multi-site pediatric group practice in Southern California. Improved provider preparedness will lead to increased screening, and therefore, increased detection and treatment of PPD.

Background: Postpartum depression (PPD) is one of the most common complications of childbirth, affecting approximately 20% of mothers within the child's first year of life. Postpartum depression can adversely affect both mother and child, leading to developmental delays in the infant and poor attachment and bonding between the pair. Pediatric primary care physicians are in a valuable position to screen mothers for PPD, due to their frequent contact over the infant's first year of life. For this reason, *Bright Futures* of the American Academy of Pediatrics (AAP) recommends screening mothers for PPD at the 1, 2, 4, and 6-month well-baby visits. Although screening is strongly recommended, less than half of pediatricians are screening for PPD at well-baby visits. Barriers to screening for PPD include lack of provider preparedness, lack of knowledge of resources, and inadequate time during patient visits.

Details of Innovation: This project's core intervention was provider education regarding the *Bright Futures* recommendations for postpartum depression screening at the well-baby visits between 1 and 6 months. The provider education also included information regarding pediatric provider responsibility in identifying PPD, resources to support a positive diagnosis of PPD, and an overview of PPD diagnostic criteria. This project assessed five major categories of provider preparedness using a 5-point Likert Scale via online survey. The survey was sent out pre-education and once more directly post education. This project was completed using the Johns Hopkins Nursing Evidence-Based Practice Model and Guidelines (JH-NEBP).

Assessment of Findings: Implementation of provider education increased self-reported preparedness to screen for PPD at well-baby visits. Each assessment category saw an average increase on the Likert scale score.

Conclusions: Implementing provider education regarding screening for PPD at well-baby visits is a simple and cost-effective intervention. Improvement of provider preparedness not only increases identification of PPD in newborn mothers, but also improves overall outcomes for mothers and babies. In addition to improved outcomes for mothers and patients, family satisfaction will increase due to better services. Providers may also be able to bill for these screening services, depending on the guidelines of their practice. This project clearly displays that providing education can increase provider preparedness to screen for PPD in the pediatric setting. Provider preparedness has an overall positive impact on patients and families. Future projects should assess the longer-term effects of this intervention.

Timing of Therapeutic Hypothermia & Short-Term Infant Outcomes

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Purpose/Aims: The purpose of this research is to examine timing of Therapeutic Hypothermia (TH) (initiation time & time to target temperature) on short-term outcomes (neonatal seizure; brain injury) of infants greater than or equal to 35weeks, with suspected hypoxic-ischemic encephalopathy (HIE), receiving TH.

Background: HIE is the most common cause of neonatal seizures. Despite medical advances, HIE can result in devastating long-term neurological morbidity and/or death. Current evidence recommends initiating TH, as early as possible, however, any research specifically describing TH initiation and time to target temperature in relation to short term infant outcomes is limited with mixed results.

Conceptual Framework: The conceptual framework for this study is derived from the literature and based upon the concepts of maternal factors, clinical characteristics, TH initiation time, time to target temperature, and short-term infant outcomes.

Methodology: A retrospective, cross-sectional, correlational research design examining data extracted from the electronic health record (EHR) of suspected HIE infant cases receiving TH therapy and born at a large urban women's health medical center located in southern California from November 1, 2012- March 31, 2020. Descriptive and inferential statistics will be performed to address the study aims.

Results: Pending

Implications: Timely recognition of HIE and early initiation of TH is critical. Nurses play a central role in the identification of HIE infants, as well as, TH initiation and management. Nurses provide early neuroprotective care and are a consistent observer of the infant's neurological status. Deeper understanding of timing may optimize TH, establish more consistent management, increase the ability to anticipate complications, and ultimately, improve infant outcomes.

Improvement Science: Increasing HPV Vaccination Rates with Consistent Messaging

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Purposes/Aims: The purpose of this quality improvement project is to increase initiation and completion rates of human papilloma virus (HPV) vaccination for 11- to 12-year-olds in a pediatric primary care clinic.

Rationale/Background: Each year in the U.S., about 34,800 cancers of the throat, cervix, anus, vulva, penis, and vagina are caused by the HPV virus. These cancers are preventable with the successful completion of the HPV vaccination series. By age 13, young adolescents are advised to have completed four immunizations (TDaP, 2 doses of HPV, and Meningococcal). However, in our practice 37.7% of 13-year-olds have completed these with noted lag in HPV rates. In the literature, there is an association with a strong and consistent provider recommendation and an increase in HPV vaccination rates.

Brief Description of the Undertaking/Best Practice: Approach. The Institute for Healthcare Improvement's Model for Improvement was used as the framework to design the first Plan, Do, Study, Act (PDSA) cycle.

Methods: Well-child visits with 11- to 12-year-olds were observed to determine medical assistants' and providers' style and strength of the HPV vaccination recommendation, as well as patients' acceptance or declination. This will be followed by didactic education to staff which includes an overview of HPV vaccination, local vaccine rates, and practice recommendations to include strong, consistent messaging. Once education has been completed, direct observation of well-child visits for 11-12-year-olds will continue for evidence of uptake and its impact on vaccination rates. A run chart will be used to provide visual feedback.

Assessment of Findings/Outcomes Achieved: It is believed that providing language style suggestions for medical assistants and providers will increase initiation and completion rates of HPV vaccination for 11- to 12-year-olds.

Conclusions: With growing confidence that consistent messaging increases HPV vaccination rates, there is the beginning of a group culture that strongly and consistently recommends HPV vaccination at age 11 and 12. The next PDSA cycle will include developing a standard practice for new hire education and annual education. An additional strategy to improve vaccination rates is to require HPV vaccination for those attending public schools. Pediatric nurse practitioners are well positioned to advocate for legislation that requires HPV vaccination for those attending public middle schools.

Educational Intervention for Parents of Children 3-5 on a Balanced Family Media Use Plan

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Rationale/Background: Children are growing up in a digital world where screen time occupies much of their time. Some of the benefits of digital media are access to knowledge, daily information, social interaction, and support. The media usage risks are learning difficulties, obesity, sleep impairment, inattention, including lack of concentration, and aggressive behaviors.

Early life experiences (first five years of life) affect the future trajectory of development and wellbeing. By age 4, children from higher-income families have been exposed to an average of 30 million more words than children coming from lower-income families. Being exposed to fewer words is directly related to learning fewer words. "The word gap" is an early indicator of the child's future disparities in education, career, and possibly financial earnings.

Parents' digital media use influences their children's media use and set the tone for the entire household's media use. Parents shape their children's screen-viewing behaviors, and the behaviors developed during early life will become lifelong habits.

Purposes: Provide education and practical skills to parents about establishing a more balanced family media use plan and become role models of healthy media use for their children.

Theoretical Framework: The theoretical frameworks used for the proposed educational intervention are The Social Cognitive Learning Theory, the Family Approach Model, and Lippitt's Model of Change. The Social Cognitive Learning Theory reports that learning behavior is a result of observing behavior. The Family Approach Model addresses changes in family habits within the home environment. Lippitt's Model of Change is used to transfer knowledge to practice through the assessment, planning, implementation, and evaluation process.

Methods

The Design: Mixed Method*:* pre-test and post-test design.

The Subjects: A convenience sample of 150 parents of children aged 3-5 years from multiple Head Start locations in King and Pierce County. The data will be collected in January 2021.

A Pre-intervention Questionnaire to assess needs

1. A) The intervention consists of a 30 minutes YouTube educational video addressing the following topics:

- 1) Brain development
- 2) Screen time benefits and risks
- 3) Screen time recommendations based on age
- 4) Role-playing demonstration on how to mitigate parental challenges when setting media use' rules.
- 5) Demonstration of healthy parental role modeling when using media
- 6) Non-screen activities that can be done at home
- 7) How to choose high-quality programming (educational and prosocial)

1. B) Create a "Family Media Plan"

A post-intervention questionnaire evaluates the increase in knowledge regarding the topic and application of the information learned in everyday life.

Results/Conclusion: This educational intervention is expected to increase parents' recognition of positive vs. negative media effects on children; use media as a tool to improve child development; learn about screen time recommendations based on the child's age; how to mitigate parental challenges when setting media use' rules; how to choose high-quality programming; role model healthy media use; examples of non-screen activities that can be done at home.

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School-Based Health Centers in Rural Areas: Community Members' Perspectives

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Purpose/Aims: The purpose of this project is to provide preliminary data obtained from a needs assessment to support the implementation of school-based telehealth in Grays Harbor County and connect community needs with the interests of Summit Pacific Medical Center.

Rationale/Background: School-aged children in underserved communities lack access to essential healthcare services**.** School-Based Health Centers (SBHCs) and telehealth provide an opportunity to increase access. Telehealth has remained a growing model for the delivery of care. It has played a significant role ins the expansion of SBHCs, particularly in low-income, medically underserved, or rural areas where transportation and provider shortages are substantial barriers to access. The broader implementation of internet services and innovative lower cost telemedicine equipment make it an affordable means of delivering high-quality healthcare. Nearly all schools that used the telehealth-exclusive model were eligible for the Title I program (92%), which provides financial assistance to schools with a high percentage of children from low-income families, and 78% of the children were eligible for free or reduced lunch. Amongst the 15 Grays Harbor County (GHC) high schools, nine of them are designated as Title I, and it is estimated that 23.1% of the children live in poverty. The ratio of the population to primary care physicians is 2,910:1, dental providers are 2,000:1, and mental health providers are 340:1, all below the state average. With 40.1% of the county being rural, it can create another barrier to healthcare access. These statistics are indicative that GHC schools would be ideal for a telehealth SBHC.

Methods: The study will be conducted by distributing a cross-sectional survey of Grays Harbor County school district members which consists of active administrators, faculty, parents, and students. Descriptive statistics will be used to analyze demographics, closed-ended, and ranked questions. Regression analysis will be performed to assess differences in health issues across school districts. Open-ended questions will undergo a thematic analysis with a second reader for validation. The responses may reveal how school district members perceive student health needs and the implementation of a telehealth School-Based Health Center (SBHC). The results and comments will be used to determine possible sites for establishing an SBHC and what services will best serve the students

Assessment of Findings: To be determined.

Discussion: The use of SBHCs and telehealth are growing models that bring accessible and cost-effective health care services to where children spend most of their time. SBHCs also offer the potential contribution to a positive relationship between health and academic outcomes for school-aged children. The development of SBHC requires a thorough assessment of needs, community partnerships, an interdisciplinary approach, and an informed business plan with measures to evaluate outcomes for successful sustainment.

Funding: HRSA T94HP30874

Cognitive Function and Diabetes Self-Management: A Meta-Analysis

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Background: Cognitive dysfunction is a complication of diabetes, which creates excess challenges for patients struggling to manage the disease. A better understanding of the relationship between cognitive function and diabetes self-management will help in tailoring critical aspects of education and support for patients with Type 2 Diabetes Mellitus (T2DM).

Purpose: The purpose of this meta-analysis is to examine and describe the effect of cognitive function on diabetes self-care behaviors in adults with T2DM.

Methods: Databases searches of MEDLINE and CINAHL and an ancestry search of a recent pertinent literature review yielded 57 peer-reviewed, English articles. Eleven of these studies met the eligibility criteria and were included for final analysis. The standardized regression coefficient, b, was used as the effect size statistic. Adjusted and unadjusted values of b were calculated from data reported in the eleven studies.

Results: The combined adjusted b was 0.151 with a 95% confidence interval of [0.008, 0.295] indicating that cognitive function is positively associated with diabetes self-care behaviors when accounting for other covariates (e.g. age, gender, education, etc.). The combined unadjusted b was 0.439 with a 95% confidence interval of [0.198, 0.680] indicating that cognitive function is positively associated with diabetes self-care behaviors irrespective of covariates.

Implications: This meta-analysis provides empirical evidence consistent with previous study findings which suggest that cognitive function impacts diabetes self-care. Since people with T2DM are at greater risk of cognitive dysfunction, exploring the relationship between cognition and self-care behaviors would inform whether improving cognition can significantly reduce adverse diabetes health outcomes. The public health implications of such a relationship can be important as these results would help refine current interventions and improve the delivery of care for patients with T2DM.

Descriptive Epidemiology of Advanced Illness in Chaldean Americans

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Background/Rationale: Arab-Americans are one of the most understudied immigrant populations and have been reported to have a higher prevalence of serious chronic conditions than native-born Americans. California has the largest population of Arab Americans in the United States and understanding the epidemiology of common chronic illnesses is a public health priority. The prevalence of diabetes, heart failure and cancer has not been described in the large Chaldean (Iraqi Catholic) population, which has been estimated as the largest religious group of Arab immigrants to the U.S. There is a dearth of research relating to the Chaldean population, compounded by lack of accurate descriptors on health intake forms. Access to care barriers contribute to advanced stage at diagnosis, avoidable use of emergency services and poor health outcomes. Improving early diagnosis of illness and provision of supportive care can improve quality of life and healthcare utilization.

Study Population: The study population consists of adult Chaldeans in San Diego, California, who received care at an integrated health system from 2016-2019. Subjects have one or more of the following diagnoses: advanced stages of breast, color or lung cancer, Stage III-IV heart failure or Type I or II Diabetes Mellitus.

Purpose/Aims:

1. Identify the prevalence of Type I/II diabetes, Stage III/IV heart failure, and advanced lung, colon or breast cancer.
2. Describe group differences in healthcare utilization including 30-day readmission and Emergency Department utilization and inpatient mortality.
3. Analyze relationships between diagnosis, palliative care consultation, resuscitation status, and Emergency Department use.

Methods: This descriptive epidemiology study analyzed a sample of Chaldean Americans, an ethnic minority population geographically concentrated in southern California. Data was extracted from the health system's electronic databases from 2016-2019. ICD-10 codes, preferred language, race and religion were used to identify the sample. Descriptive statistics were analyzed to characterize the sample. Chi-square and Fisher's exact tests were used to detect differences in groups. Bivariate analysis was used to identify significant associations for the logistic regression model.

Results: In progress

Implications: This novel descriptive epidemiological study of the Chaldean American population provides valuable information to direct future research. The prevalence of chronic, serious illness in this population within an integrated health system has not been described before and constitutes a significant number of inpatient admissions and other healthcare utilization measures. Future studies to understand medical decision making for serious illness in the Chaldean population can facilitate culturally meaningful communication and treatment planning. Implications for clinical practice include improving access to palliative care services across the continuum. Expanded education to a variety of care providers, along with community outreach can minimize access to care and communication barriers that can improve quality of life.

COPD: Increasing Self-Management Strategies through Nurse-to-Patient Education

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Purpose: The purpose of this study was to measure patient understanding of COPD self-management strategies after completion of nurse-to-patient education.

Background: Chronic Obstructive Pulmonary Disease (COPD) is the third leading cause of death in the United States and the fifth leading cause of hospital readmission. Annually, emergency admissions for COPD are estimated to exceed $800 million dollars in acute care hospital costs. Approximately one in three patients admitted for a COPD exacerbation will be readmitted within 90 days of discharge. Educational programs have been shown to reduce hospitalizations and Emergency Department (ED) visits in this patient population.

Methods: This study used a post-test only design and was conducted at a primary care office in Northern Nevada. Participants were recruited by provider referral. The investigator collected participant demographics and medical history data through chart audit. The education session, developed by a pulmonary rehabilitation nurse specialist, consisted of a PowerPoint format handout covering COPD pathophysiology, risk factors, diagnosis, complications, and self-management strategies including medication compliance, signs and symptoms of an exacerbation, and exacerbation management. The nurse specialist met with COPD patients for a single appointment, one-on-one 30-minute education session. Following the session, participants completed a post-test to evaluate their understanding of the COPD disease process, common complications of COPD, proper use and administration of inhaler medications, and signs and symptoms of exacerbations. Data was analyzed using descriptive statistics.

Results: A total of 23 participants, 60-83 years of age, attended the education session and then completed the post-test. 100% of participants correctly answered questions about the COPD disease process and common complications of COPD, while only 78% of participants correctly answered proper use and administration of inhaler medications. 96% of participants correctly answered signs and symptoms of exacerbations. Participants reported that the educational session helped them to better understand their inhaler medications and early warning signs of an exacerbation. Providers at the primary care practice reported that participants voiced benefit from the educational session.

Implications for Translation to Practice and Future Research: Nurse-to-patient education is beneficial for helping patients improve their knowledge of the COPD disease process and better understanding of appropriate self-management strategies. Limitations of the study include the small sample size and low response rate of patients not returning phone calls and no-show appointments. More research is needed to better understand the role of education in managing COPD. Future randomized-controlled trial studies should test the efficacy of a COPD self-management education intervention compared to usual care to inform clinical practice to improve outcomes for this vulnerable group.

Sleep Deficiency and Symptoms of Pain, Fatigue, and Mood in Youth with SLE

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Purpose: This study aims to characterize sleep patterns, sleep deficiency and symptoms of pain, fatigue, anxiety and depressed mood in 11-to 18-year-old youth with Systemic Lupus Erythematosus (SLE).

Background: SLE is a chronic, inflammatory autoimmune disorder characterized by recurrent episodes of pain, and is often comorbid with fatigue, anxiety, depression and sleep deficiency. Sleep deficiency is highly comorbid in adults with SLE, but less is known about sleep in youth diagnosed with SLE, leaving a critical gap in care for this population.

Methods: Twenty-three youth (n=21 girls) with SLE (mean age=14.7 ± 2.2) and their caregivers participated in the study. Youth wore actigraphy and completed electronic sleep diaries for 10 days and completed self-report surveys (PROMIS Anxiety-Child, Center for Epidemiological Studies Depression Scale, PedsQL Multidimensional Fatigue Scale, and PROMIS Pain Interference). Caregivers competed completed Children Sleep Health Questionnaire. Descriptive statistics were used for the analysis.

Results: Of the sample, 61% of caregivers reported disturbed sleep in youth. Mean Total Sleep Time (TST) was 7 hours and the mean Sleep Efficiency (SE) was 78.8 ± 5.9%. Of the sample, 80% of youth obtained less than 8 hours of sleep and 75% had poor SE (≤ 85%). In comparison to non-Hispanic youth, Hispanic youth had shorter TST (6.9 ± 0.6 h; 7.2 ± 1.1 h respectively). Sleep deficiency was worse in youth with anxiety and depressed mood (TST, 6.2 ± 0.5 h). Of the sample, 43.5% of youth had a high score for pain interference, and moderate levels of fatigue (mean 59.2 ± 17.3SD).

Implications: Sleep deficiency was common particularly in Hispanic youth. Comorbid symptoms of pain, fatigue, anxiety, and depressed mood were also common. Further studies are needed to untangle the effect of sleep deficiency and comorbid symptoms of pain, fatigue and mood. Clinicians should routinely screen for sleep deficiency in youth with SLE, and those with comorbid anxiety and depression.

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New Theoretical Framework to Support Holistic Approaches for Chronic Pain Opioid Users

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Purpose: Amid our nation's opioid epidemic, adults with chronic pain are experiencing a crisis in obtaining adequate care. Opioids are typically prescribed long-term for analgesia as a primary, and often, the singular approach for chronic pain. Busy providers rarely address the whole-person and primarily treat the biological factors of pain, while often neglecting the social, psychological, and spiritual aspects. Literature supports that psychosocial variables: mood, values, cultural, social support, spirituality are strongly linked to the transition from acute to chronic pain disabilities. Studies indicate that psychosocial factors have more of an impact on health than biomedical factors. As a mechanism to improve chronic care management for opioid users, a patient-specific, holistic theoretical framework is proposed by combining the Roy's Adaption Model (RAM) with the Theory of Unpleasant Symptoms Model (TUSM).

Description of Theories: Holistic care is defined as care for the whole-person, addressing one's biological, social, psychological, and spiritual needs. Sister Callista Roy developed RAM of Nursing in 1976. The four modes of RAM are physiologic, self-concept, role function, and interdependence modes. The RAM posits that people are biopsychosocial beings in continuous interaction with a changing environment. Elizabeth Lens developed the TUSM in 1995. TUSM is a middle-range theory used to comprehensively explore multiple facets of the symptom experience, including factors influencing a symptom, like pain, and the consequences of a symptom.

Internal Consistency of Theories: The metaparadigm concepts of RAM are person, environment, health, and nursing. Using RAM, healthcare professionals can optimize care and foster adaptive healing by evaluating the biopsychosocial components to health. TUSM identifies three influencing factors: physiological, psychological, and situation, affecting a patient's symptom experience. Symptoms include four dimensions: timing, intensity, quality, and distress, which may affect a patient's care-seeking behaviors or quality of life. RAM and TUSM, emphasize the importance of biopsychosocial approaches to health; however, TUSM uniquely incorporates a multi-facet exploration of a symptom, like pain.

Logic Linking to Research Problem: Chronic pain may affect several areas of one's health: mood, sleep, function, and quality of life. Opioids only treat the physical factors of pain and may cause hyperalgesia, hypogonadism, and addiction. Using TUSM to optimize overall health, it is necessary to evaluate and address the influencing psychosocial factors to chronic pain, rather than focus solely on the physical components of health. Using RAM, treatment should be personalized and holistic, recognizing that no two patients are alike, and neither is their pain. Utilizing RAM's modes of adaptation, combined with TUSM's identified influencing factors, serves as a new holistic theoretical framework to improve chronic pain management for opioid users.

Conclusion: To acquire a healthier and better future for chronic pain sufferers, research requires an overarching holistically informed theoretical framework, supporting biopsychosocial aspects to chronic pain. Integration and proper utilization of the RAM and TUSM are an attempt to holistically tailor a treatment model designed for the chronic pain opioid-using communities.

Efficacy of Integrative Health Approaches for Chronic Pain Opioid-Users

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Purpose: This project systematically reviewed the published literature regarding the efficacy of integrative health approaches (IHA) for managing chronic pain conditions and reducing opioid use.

Background: Chronic pain remains one of the most common and costly health conditions nation-wide. In addition to our nation's opioid epidemic, patients with chronic pain also face a crisis in obtaining adequate care. Opioids are typically prescribed long-term for analgesia as a primary, and often, the singular approach for chronic pain. Although the U.S. makes up only 5% of the global population, our nation consumes 80% of the world's opioids. The dependency, misuse and abuse of prescription opioids have escalated the crisis. Abruptly tapering opioid prescriptions without an effective, alternative treatment has exacerbated the problem with a shift in patterns from prescription opioid use to illicit substance abuse. Over 66% of the total overdose cases in 2016 were opioid-related. Opioids only address the physical factors of chronic pain, IHA aim to address the whole person holistically. The use of IHA for pain has developed slowly within healthcare. Some data supports IHA as a first-line treatment to manage various types of pain-related conditions. IHA may include: acupuncture or neurostimulation, mindfulness-based stress reduction, spirituality, Tai Chi, yoga, massage, and manipulative therapies. There is minimal exploration of the clinical efficacy, safety, and implementation of IHA to treating chronic pain and reducing opioid use.

Methods: A search of the PubMed database (2011-2020) using keywords "Complementary Therapies," "Cognitive Behavioral Therapy," "Chronic Pain," and "Analgesics, Opioid" yielded 100 articles. Only original nonduplicated articles were selected for further analysis. A Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) model is guiding the project. The 100 studies will be screened for reliable full-text articles that address factors surrounding IHA, adults with chronic pain, and opioid use. Each study's methodologies, results, and implications will be reviewed to summarize the evidence on the topic.

Results: Among the studies under review, specific IHA will be identified as effective, or associated with chronic pain relief and mitigation of opioid use. The long-term effectiveness and adverse effects will be explored and identified. This review will classify specific data regarding the implementation of IHA, demographic characteristics of participants, the amount of opioid reduction reported, treatment effectiveness, and duration of treatment utilization. The results of the review will summarize the efficacy and safety of IHA for the chronic pain opioid-using population.

Executive Function and Medication Adherence: A Scoping Review

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Purpose/Aims: The purpose of this scoping review was to identify and examine the research pertaining to executive function and medication adherence in chronic disease populations.

Background: Medication adherence is a multi-faceted activity that represents a complex cognitive task in which individuals must develop a plan for adherence, adapt the plan as needed, encode the intention to take the medication, remember to take the medication, and continuously assess whether doses were taken.[1] Executive functions consist of processes that are used in the organization of human behavior, and include skills such as inhibition, attention shifting, and monitoring.[2,3] These processes, which are often linked to the prefrontal cortex of the brain, are ultimately important for the regulation of behavior, including self-management behaviors like medication adherence.[2]

Methods: The Arksey & O'Malley[4] framework for conducting scoping reviews was utilized, wherein a question was generated, relevant studies were identified and selected, and a summarization of the results was completed. The search utilized PubMed and included the terms "medication adherence" and "executive function." We retained articles focused on medication adherence and executive function or cognitive function. This search captured 23 papers that met initial inclusion criteria.

Results: There is strong evidence that a relationship exists between executive function and medication adherence across a wide range of chronic disease states. The literature on HIV has been foundational in articulating the role of executive function in adherence, with executive function found to be strongly predictive of medication adherence in this population.[5] In older adults, better executive function is associated with medication adherence and executive dysfunction is associated with increased risk for hospital readmissions.[1,6]

Implications: A relationship between executive function and medication adherence has been identified in several chronic disease populations. Interventions that have included consideration for cognitive processes like executive function in their design have been effective at improving adherence when compared to simple educational initiatives or reminders.[7] Incorporating knowledge about the importance of executive functions in the regulation of self-management behaviors will be important for future intervention development, particularly technology-mediated intervention development that incorporates human factors considerations.

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Thematic Analysis of End-of-Life Treatment Practices for Veterans on Dialysis

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Purpose: To describe the treatment practices and decision-making considerations about life-sustaining treatments among Veterans on chronic dialysis who died in VA facilities.
Background: Decisions about whether to stop maintenance dialysis treatments before death appear to shape family ratings of end-of-life care and receipt of hospice services. However, very little is known about the detailed clinical context in which decisions to stop dialysis (or not) unfold.
Methods: We selected a random sample (*N*=225) of a cohort of 3369 patients who were treated with chronic dialysis and died in Veterans Affairs facilities nationally from 2009-2015. We used a text search tool to identify mentions of stopping dialysis treatment, palliative and hospice care, and death or dying in the electronic health records of all patients. We conducted a content and thematic analysis of these mentions and the surrounding clinical notes to gain a detailed understanding of the clinical context of patients' deaths. We compared patterns in themes between those who stopped vs. continued dialysis until death.
Results: Patients' mean age at the time of death was 70 (*SD*=10) years, nearly all patients were men (99.5%), the majority were white (65%). There was documentation of a decision to stop dialysis in 92 (41%) cohort members a median of 2 days before death. In one third of cases there was documentation to suggest that patients were involved in the decision to stop dialysis. In nearly all other cases, family members were involved but clinical teams often appeared to initiate these decisions. Nearly all patients who stopped dialysis (94%) had a DNR order in place compared to only 65% of those who continued dialysis. Four dominant themes emerged from qualitative analysis: 1) dialysis treatment status as an imperfect marker for overall intensity of care (decisions to stop dialysis as a proxy for de-escalation of care, continuing dialysis treatment as inconsistent proxy for continued intensity of care); 2) intensive care as the default (clinician, patient, and family ambivalence and prognostic uncertainty, and aggressive care against patient wishes); 3) loss of decision-making capacity and refusal of dialysis treatment; 4) inconsistent flexibility in care delivery that incorporates patient values and preferences (stretching the models of palliative care or dialysis).
Implication for Translation to Practice/Further Research: End-of-life decision-making processes in this patient population mirrored broader clinical practices of transitioning from aggressive to comfort-oriented care as treatment options narrow. Decisions to stop dialysis were a marker for de-escalation; if these decisions were not made, patients often received aggressive care right up until the time of death. There was limited documentation to indicate the extent to which decisions about end-of-life care were aligned with patients' values and preferences. Future research is needed to identify the how clinical decision-making can more consistently integrate patient values and goals into the end-of-life care of members of this patient population, especially when prognosis is uncertain or patients' have lost their decision-making capacity.
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Pediatric Sickle Cell Transition to Adult Care

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Aim: The two aims of this practice innovation are: 1) Create a standardized transition program and tool that pediatric hematology providers can use for addressing transition during visits with sickle cell disease (SCD) patients. 2) Implement and utilize the transition tool in a pediatric hematology/oncology clinic for sickle cell transition planning.

Background: Sickle Cell Disease is a chronic autosomal recessive disease that is known for vaso-occlusion of organs by dysmorphic red blood cells. Pediatric SCD patients who enter into adult healthcare, have increased utilization of acute care services. In the first two years after transition, patients have an increased mortality, higher rates of rehospitalization, and receive less preventative care. Many of these challenges are a direct or indirect result of poor transition from pediatric to adult care.

Method: This project utilizes the Social Ecological Model of AYA Readiness for Transition (SMART) theoretical framework, which is validated as an effective model for transition. A transition to adult services policy and timeline will be developed for children 12-21 years old with sickle cell disease seen in the pediatric hematology/oncology clinic. After creation and implementation of an electronic health record transition tool, standardized transition planning will commence. Each patient and family will complete a readiness survey via a tablet that syncs to the electronic medical record. Patients will be provided with educational modules pertinent to areas of weakness identified in their transition appointments. Lastly, training providers on the Epic transition tool and creation of transfer notes will follow.

Outcome/Findings: Measurement of data and findings will consist of assessing the percentage of eligible patients who are asked transition questions, percentage of hematology visits where the transition tool is used, percentage of hematology providers who utilize the transition tool during the project period, and proportion of SCD patients who transfer and establish care with an adult hematology provider.

Conclusion: Utilization of the SMART model has been validated as an effective means for transitioning pediatric patients to adult services. Evaluation of outcomes will determine the effectiveness of this practice innovation in improving transition planning and providing a standardized tool for transition. The clinical implications of this practice innovation are an improved and standardized transition process for providers, improved transition for SCD patients, potential for a decrease in acute care service utilization, possible decrease in mortality and morbidity, and increased utilization of adult care services by SCD patients. Recommendations for future research on this topic should address patient education, emotional, and developmental preparedness for transition planning. More importantly, providers must effectively assess for the key indicators of readiness, implement standardized transition planning, and evaluate and follow-up to guarantee successful transfer of care.

CHRONIC ILLNESS

The Influence of Weight Surveillance in Wound Healing Rates in Pts with Heart Failure

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Purpose: This project aims to examine the outcomes of consistent weight checks with every wound care visit in patients with non-healing leg wounds and heart failure comorbidity with potential for referral back to heart failure clinic and identify the effect on wound healing rates.

Background: In patients with heart failure, the inability of the heart to pump blood to the body and/or to the lungs leads to fluid overload on the periphery translating to fluid retention, rapid weight gain, pulmonary and peripheral edema. Fluid retention and peripheral edema from heart failure can lead to non-healing leg wounds. Leg ulcers are an expensive, time-consuming problem and a threat to patients' quality of life with comorbid heart failure. In an urban wound healing center, it is noted that those with heart failure have decreased wound healing rates, and there is a need to tailor interventions to control leg edema in patients with heart failure. Subtle weight changes are associated with early signs of heart failure exacerbation. Little is known if subtle changes in weight in patients with comorbid heart failure would impair wound healing.

Methods: This is a quasi-experimental study with an analysis of pre- and post-intervention wounds of individuals currently enrolled in the outpatient wound healing center. These individuals have been treated for non-healing leg ulcers for at least six weeks of pre-intervention and will be assessed for weight change and heart failure symptoms for six weeks. The intervention includes a weight check performed by a staff member using a digital scale and heart failure self-assessment with every visit using the standardized assessment tool "Self-Check Plan for HF Management," proposed by the American Heart Association. Patients identified with heart failure exacerbation will be referred out.

Outcomes: Statistical analysis will evaluate the correlation between fluctuation in weight, reports of heart failure exacerbation, and the impact on wound healing rates. Information about gradual weight change might help clinicians to identify those at risk for increased fluid overload from heart failure decompensation. Once a correlation is established, clinicians can be more aggressive to intervene.

Conclusion: There is a lack of literature exploring the outcome of weight surveillance and heart failure management in chronic wound healing. It is vital to implement more effective preventing strategies to minimize or avoid many risk factors leading to edema. Future findings of this project will provide insight into the development of tailored interventions for patients with non-healing wounds and comorbid heart failure, thus ensuring more satisfactory experiences.

Keywords: Edema, leg edema, chronic wounds, ulcers, heart failure, congestive heart failure, weight check.

Funding: HRSA ANEW

Care Partner Support Following a DSMES Intervention: A Mixed-Method Study

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Purpose/Aims: The purpose of this study is two-fold: 1) to understand care partner (CP) perceptions of an interdisciplinary diabetes education intervention for people with diabetes (PWD) and CP dyads, and 2) to explore how CPs support diabetes self-management following a dyadic diabetes education intervention.

Rationale/Conceptual Basis/Background: Studies have shown improvements in the PWD's quality of life and health outcomes with diabetes self-management education and support (DSMES). However, there is a gap in the literature on the impact of DSMES on CP and their role in diabetes management.

Methods: A mixed-methods study was conducted following a DSMES intervention, which included a chef demonstration, for the dyad. A survey was conducted (N=16), which included demographics and the Family and Friend Involvement in Adults' Diabetes measurement tool (FIAD; scored 1-5 with the highest number being the most helpful/unhelpful in supporting PWD with self-management). Those who completed the survey were invited to participate in a semi-structured interview (N=11) focused on perceptions of the DSMES intervention and involvement in PWD self-management. Participants were recruited by phone, email, and in-person. Data was analyzed using descriptive statistics for surveys and thematic analysis for interviews.

Results: Survey participants were romantic partners (62.5%), female (75%), reported living with type 2 diabetes themselves (37.5%), stated no previous diabetes education (62.5%), and had an average age of 60 ±16.4 years. All participants indicated the program increased their diabetes knowledge and were satisfied with the intervention. The chef demonstration was especially favorable with all participants.

Overall, CP were most involved with meal preparation and planning (87.5%) and physical activity (56.3%). While some partners did assist with medication management (31.3%), glucose checking (31.3%), and diabetes technology use (43.8%), these areas were a secondary focus for partners. The FIAD helpful score was 3 ±1.1 with the most emphasis on planning and preparing meals. The unhelpful score was 1.8 ±0.7 with the most emphasis on pointing out in front of others when the PWD is eating unhealthy foods.

This study resulted in three main themes. First, CPs highlighted the need for DSMES to obtain and retain information, to stay motivated, and acquire tools to support PWD. CPs also expressed a desire for ongoing education to improve their ability to support PWD. Second, DSMES enhanced the CP's ability to provide a variety of social support for the PWD (emotional, tangible, appraisal, informational, and invisible). However, there were instances of unsupportive behaviors. Finally, participants reported DSMES improved the dyads ability to work together on behavior changes to find middle ground in diabetes management.

Implications for Translation to Practice/Further Research/Policy: In this pilot study, we identified the value of dyads participating in DSMES. CPs positively enhanced the self-management of diabetes in PWD, although additional training and support may be needed to avoid unhelpful behaviors. Future research should identify differences in support provided by CPs based on relationship type, length, and quality. Our study provides preliminary evidence that CPs should receive initial and ongoing DSMES to improve support for PWD across the lifespan.

Funding: This study was supported by a grant from the University of Utah Driving Out Diabetes: Larry H. Miller Family Wellness Initiative.

Mood and Cognition in Patients with Type 2 Diabetes

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Purpose: Our objective was to examine mood and cognition in type 2 diabetes mellitus (T2DM) patients in comparison to non-diabetic healthy controls. Our hypothesis was that patients with T2DM will have worse depression (higher Beck Depression Inventory Scores [BDI-II]), greater anxiety (higher Beck Anxiety Inventory scores [BAI]) and decreased cognition (lower Montreal Cognitive Assessment [MoCA] scores) in comparison to non-diabetic healthy controls.

Background: Diabetes is a complex yet prevalent disorder where 90-95% of cases are T2DM. T2DM-related factors, such as inflammation, hyperglycemia, atherosclerosis, and blood-brain barrier disruption, can lead to brain alterations in regions which control mood (depression and anxiety) and cognition. Over 25% of the diabetic population is affected by depression, yet depression has been a commonly overlooked comorbidity. Prior studies among persons with T2DM have shown that depression and cognitive disorders are associated with poorer metabolic control, decreased quality of life, and increased medical morbidity and mortality. However, it is unclear how these symptoms varies in T2DM patients compare to non-diabetic healthy people.

Methods: We administered the Beck Depression Inventory (BDI-II) and Beck Anxiety Inventory (BAI) to evaluate depressive and anxiety symptoms and Montreal Cognitive Assessment (MoCA) to assess cognitive deficits in 9 T2DM patients (age, 58.2±4.7 years; BMI, 30.3±5.0 kg/m2; A1C, 7.6±0.8%; 3 males) and 9 controls (age, 58.1±4.1 years; BMI, 27.4±3.9 kg/m2; 4 males). BDI-II, BAI, and MoCA scores of T2DM patients were compared with non-diabetic healthy controls using ANCOVA (covariates; age and sex).

Results: BDI-II and BAI scores were higher (more depression and anxiety in T2DM; T2DM vs controls; BDI-II, 6.94±3.11 (n=7) vs 2.49±3.10, p=0.016, effect size=1.43; BAI, 13.05±6.32 vs 2.50±6.32, p=0.003, effect size=1.67) and MoCA scores were lower in T2DM patients (cognition was worse in T2DM; MoCA, 24.37±1.88 vs 27.41±1.88, p=0.004, effect size=1.62) over controls.

Implications: T2DM patients have significant mood and cognitive issues, which may result from brain changes in those regulatory areas. Recognition and treatment of mood and cognitive issues in T2DM patients are clinically relevant as depression and cognitive decrement are rising and prevalent co-morbidities that can have negative impact on disease self-management among diabetic patients. The identification and increased knowledge of diabetes-related mood and cognitive decrements in the brain can help clinicians identify individuals at-risk and direct future studies to further explore the mechanisms that underlie these conditions and identify efficacious treatments.

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CHRONIC ILLNESS

Primary Care Provider Chronic Pain Webinar Training to Increase Patient Self Efficacy

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Purpose: To evaluate among adult patients with Chronic non-malignant pain (CNMP), the effectiveness of a primary care provider evidence-based chronic pain management webinar training on patients' pain reports of self-efficacy, pain intensity, and pain interference over 2-3 months, compared to patients whose providers did not participate in the activity.

Background: (CNMP) is a common issue with numerous biopsychosocial health implications in addition to tremendously high healthcare and societal cost. CNMP has been linked with an increased incidence of anxiety, depression, obesity, sedentary lifestyle, nicotine dependence, and hypertension. Current evidence supports using a holistic, individualized, multidisciplined (when possible), stepped care approach starting with drug-free modalities, then pharmacological and reserving opioids as the last option based on guideline recommendations. There is, however, a scarcity of research that directly examines the effectiveness of CNMP guidelines on patient outcomes related to pain intensity, function and coping.

Methods: A nonequivalent control group pretest-posttest design at primary care clinics in Southwest Washington. Patient inclusion criteria include 18 to 89, ability to speak and/or read English, and having a diagnosis for a CNMP condition (chronic pain, chronic low back pain, chronic knee pain, chronic hip pain, chronic headaches, osteoarthritis, fibromyalgia, neuralgias, and neuropathies) and/or chronic opioid use. Recruitment will occur through stratified convenience sampling. Eligible CNMP patient participants will receive a preintervention and postintervention measure for chronic pain self-efficacy (PSEQ), pain intensity and pain interference (PEG). Patients will also be asked about the following covariates, current and past pain treatments and sociodemographic data. Covariates will be used to analyze study population demographics and related pain comorbidities, compare actual and recommended treatment practices, and identify barriers in care. Providers will self-select to receive the training intervention. The training consists of five half-hour webinar training on guideline recommendations for non-pharmacological and pharmacological treatment, essential practice pearls, patient education and includes handouts for reference. Postintervention results will be measured between one and three months.

Results: Univariate analysis of ANOVA, post-hoc, and paired sample t-test will be performed between provider education and patient self-efficacy, pain intensity and pain interference. Multivariate analysis using ANOVA and linear regression will be conducted between the training and continuous assessment tools.

Implications for Translation to Practice: Anticipated results are that participants who see a provider who received the educational training will report improved self-efficacy and decreased pain intensity and interference (PEG scores) compared to participants who see a provider that did not receive the training. This project will provide evidence for the use of provider interventions to improve patient outcomes.

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The Effect of Education on Participation in Colorectal Cancer Screening

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Purpose: The purpose was to determine if or to what degree the implementation of an educational session using the American Cancer Society materials on participation in CRC screening would improve the level of awareness, behaviors, and knowledge when compared to current practice among non-Hispanic Black adults age 50-75 in an urban clinic in Los Angeles over four weeks.

Background: Providing colorectal cancer (CRC) education including lifestyle risks, screening measures, and treatment modalities can reduce the risk of late-stage outcomes and mortality from CRC, especially for underserved populations.

Methods: Quantitative, quasi-experimental, quality improvement (QI) project that utilized Piaget's cognitive learning theory, Rosenstock, Hochbaum, Kegeles and Levanthal's the health belief model, and the social cognitive theory by Albert Bandura. The total convenience sample size of participants was 37. Data were analyzed using a paired t-test and multiple logistic regression analysis and $p<0.05$ is statistically significant.

Results: Results showed a statistically significant improvement in patients' awareness (mean=-0.7; SD=0.6; p=0.001) and behavior (mean=-0.5; SD=0.91, p=0.003). A multiple logistic regression analysis showed a higher knowledge score post education [adjusted odds ratio =10.88; 95% CI (1.32–89.71); p=.027].

Conclusions and Implications: Results indicate that intervention may increase the awareness, behaviors, and knowledge of patients age 50-75 regarding CRC screenings. Therefore, it is recommended that this project remain at the site and be duplicated at other clinical sites within the same population to ensure statistical and clinical significance.

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Improving Pain Management in Patients through the Use of Essential Oils

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Purpose: This quality improvement project will explore the feasibility and effectiveness of essential oil aromatherapy in outpatient pain management in patients suffering from acute or chronic pain syndromes.

Background: Pain is one of the most frequently heard complaints from patients within a healthcare setting and can be difficult for patients to communicate effectively, creating a highly complex symptom to treat and manage for many healthcare providers. Additionally, pain management has led to substantial controversy from ailments of narcotics associated with traditional pharmacological interventions, such as; addiction, high costs, respiratory complications, delayed recovery and even death. Furthermore, the use of pain medications can also lead to increased drug tolerance and hyperalgesia, creating additional difficulty in pain management. These serious issues have created a necessity for alternative therapies to help reduce pain in patients that do not have adverse side effects.

Data suggests that evidence-based essential oil protocols improved quality of life and resulted in optimization of pain control in diverse patient populations.

Methods: The visual analog scale (VAS) will be utilized to assess patient pain levels in conjunction with the Knowledge to Action (KTA) framework in order to facilitate this quality improvement project, and assist with the adaptation of evidence-based research implementation at the practice site. Key stakeholders within the clinic include patients, clinicians, practice management and leadership. Following a brief 30- minute on site clinician and staff educational session, patients presenting with headache or musculoskeletal pain will be asked to participate in the essential oil intervention. The literature supports the reliability and validity of the VAS tool to accurately assess patient pain levels immediately prior to and following the essential oil intervention. Potential participants will choose a random 4 digit code to de-identify their completed surveys. A paper copy of the VAS Likert scale tool and demographic survey will be distributed to each potential outpatient clinic participant.

Outcomes Achieved: Data collection and descriptive statistics analysis is planned for May 2021 with a goal of 50 potential patient participants. The pre and post-intervention VAS scores and questionnaires will be compared to determine essential oil pain management effectiveness.

Conclusions: Despite the known safety and analgesic effectiveness of essential oils insufficient numbers of studies have investigated this integrative approach. Although this project will evaluate the temporary effect of pain management through the VAS tool and questionnaire, the results may reveal lasting advantages such as improved patient outcomes and a decrease of opioids. If effectiveness is supported, organizational adoption of this protocol, may improve patient outcomes while adding to the mounting evidence of the advantages of essential oils in pain management.

Need Platelet-Rich Plasma Standardized: Surgical Shoulder Pain and Quality Outcomes

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Introduction/Background: Platelet-Rich Plasma (PRP) offers a solution to shatter the opioid epidemic by reducing orthopedic surgical pain and healthcare costs associated with avoidable and lengthy treatment durations. PRP could potentially improve quality care outcomes and patient quality of life (QoL) related to pain management satisfaction, shoulder functionality, and a faster recovery with return to daily activities. However, previous evidence has not consistently demonstrated significant benefits of PRP, especially with orthopedic injuries. Therefore, it is still not an approved treatment regimen by the Food and Drug Administration (FDA).

Purpose: The purpose of this project is to investigate the impact of interoperative PRP injections on pain management with orthopedic surgical interventions within six-months postoperatively. A secondary aim is to identify quality care indicators related to healing speed, joint functionality results, patient-reported QoL, surgical tendon retear rates, and infection control in adult shoulder repairs within six-months postoperatively.

Methods: A comprehensive review of the literature was conducted. EBSCO database searched included CINAHL, Medline, SPORTDiscus, Academic Search Premier, and MasterFILE Premier, in addition to Cochrane. The keywords used were: “PRP injections,” “pain,” and the use of Boolean operator with truncation “surg*” OR “oper*.” Modifiers included: adults, English language, peer-reviewed, articles within the last five years (January 2015 to December 2019), human, and finding related words. Eighteen relevant articles were selected based on adherence to this project’s research purpose.

Results: Seven studies suggested PRP improved pain management; four studies proposed PRP improved healing, functioning, and QoL indicators; and three studies advised PRP decreased surgical tendon retear rates. One study suggested PRP improved vascularity. Another study proposed PRP caused reduced cellularity and vascularity with increased apoptosis. Two studies noted infections related to PRP.

Conclusion, Nursing Practice Implications, Future Research, and Policy Recommendations: PRP inconsistently improved pain and quality care indicators. Standardization is the greatest limiting factor associated with PRP utilization. Protocols need to be designed to include administration techniques and specific indications for selected populations. PRP standardization could align with the triple aim goals by significantly impacting quality outcomes with alternative surgical pain interventions and patient experience while reducing costs. Nursing pioneers should be knowledgeable and educate patients on narcotic alternatives, like PRP, for pain management, timely improved QoL interventions, and cost reductions. Once PRP’s efficacy is established, nursing leaders can advocate for FDA and insurance coverage policy changes, which will improve patient outcomes and decrease costs of wasteful treatment regimens.

Decision-Making Strategies and CBPR: A Scoping Review

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Objective: The aim of this scoping review was to explore which decision-making strategies have been described in Community-Based Participatory Research (CBPR) reports and examine their commonalities.

Introduction: Shared decision-making is an essential component in Community-Based Participatory Research (CBPR). However, there is little information in the literature about what specific decision-making strategies have been implemented in research projects.

Inclusion Criteria: The Cumulative Index to Nursing and Allied Health Literature (CINAHL) Pub Med databases and grey literature were searched with the key words Community-based participatory research AND decision-making AND strateg*. Sources of evidence including both key words were selected for further review.

Methods: The researcher developed a protocol using the Joanna Briggs Institute method for scoping reviews to guide this study. The Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) was used to guide the reporting.

Results: From 130 sources identified, eight documents were selected for final review. Decision-making strategies addressed in some of the sources included: Written agreements for decision-making, focus groups, Delphi technique, snow card activities, and empowering community members in key roles.

Conclusions: The reporting of strategies for decision-making in Community-Based Participatory Research (CBPR) is limited. In addition to ensuring transparency in the decision making process within CBPR projects, strategies for shared decision-making should be incorporated in CBPR project reports in order to provide CBPR practitioners (specially novice ones) with tools that will help them be successful in this field.

Management of Mild Abscesses in Adult Patients

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The aim of this evidence-based project is to improve the management of purulent skin and soft tissue infections (SSTIs), specifically skin abscesses, by standardizing the use of the Infectious Diseases of America (IDSA) guideline among clinicians in an all-male adult detention facility in California. Over the past decade, the emergence of multi-resistant pathogens has contributed to an increase in the incidence of SSTIs. Many risk factors for the spread of infection exist among the prison population, including overcrowding, intravenous drug abuse (IVDA), and poor hygiene (Haysom et al., 2018). In 2012, the total cost of SSTIs in the USA alone was $13.8 billion; hospitalizations accounted for most of it (Yeroushalmi et al., 2020). The IDSA guideline supports the use of incision and drainage of mild abscesses without the use of broad-spectrum antibiotics when clinically appropriate. Eight physicians and five nurse practitioners will individually be provided with education on appropriate management of mild abscesses. Pre-intervention, retrospective, baseline data will be collected for a period of three months for any patient diagnosed and treated for a skin abscess. Medical records will be reviewed and compared with recommendations listed in the IDSA guideline in order to determine the appropriateness of antibiotic usage. Three months of post-intervention data will be collected to assess adherence to the guideline. Additional data collected will include recurrence of abscess-related visits during the pre- and post- intervention periods, failed antibiotic treatment, and common microorganisms. The result of this project will be a reduction in unnecessary use of antibiotics when clinically appropriate among a vulnerable population.

Keywords: abscess, antibiotic stewardship, detention, incision and drainage, purulent, SSTIs

Reducing Obesity Rates among Adult Patients 18 Years and Older in a Primary Care Setting

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Purposes/Aims: The evidence-based practice (EBP) project aims to implement a patient tailored evidence-based nutritional assessment tool and motivational intensive behavioral counseling in a primary care setting. The ultimate goal is to reduce body mass index (BMI) among selected overweight and obese patients by 5%.

Rationale/Background: Over 60% of adults in the United States meet criteria for being overweight or obese. The estimated obesity-related health care costs are between $48 to $66 billion annually. Despite the alarming health risk and increasing health care cost, the rates of screening and counseling for obesity in the primary care setting are only at 30%. This project outlines a weight-management nutritional assessment tool and motivational counseling strategies.

Undertaking/Best Practice/Approach/Methods/Process: The Iowa Model has been used to identify opportunities/problems and utilize evidence-based problem-solving tools. A step-by-step approach for implementing a well-developed nutritional assessment tool and motivational interview strategy has helped guide the best research into practice to improve health outcomes. This project's target population will be patients 18 years of age and older with a body mass index above 25. Study participants (N=20) will be recruited and enrolled from July 2020- December 2020. Participants will complete a nutritional assessment interview and behavioral counseling sessions at the clinic or via phone call during the project. His/her electronic records will be accessed for patients' medical history, weight, height, and calculated BMI. A trained multidisciplinary team of nurse practitioners, physicians, and medical assistants will help implement customized behavioral counseling for patients with BMI over 25 (overweight and obese). Clinic follow-up, phone call interviews, and behavioral counseling will be performed on selected patients once a month for six months. The patient's height, weight, and BMI will be recorded in the electronic health record (EHR) every month for data collection and result evaluation. Level I evidence: Systematic Review/Meta-Analysis and Practice Guidelines has shown that nutritional assessment and behavioral counseling can reduce BMI by 5%-10% and assist in weight-loss. Some of the added benefits of weight loss seen in patients are a significant risk reduction in developing cardiovascular disease, improved diabetes, and blood pressure reduction.

Assessment of Findings/Outcomes Achieved: After six months of implementing the EBP project, the expected outcome is to achieve 5% reduction in BMI among 50% of selected patients.

Conclusions: Patient tailored nutritional assessment tool and motivational counseling strategies demonstrated success in BMI rate reduction, reduced weight, and health improvement in the selected patient population. The sustainability of the project will result in significant health care cost savings.

Web of Whole-Person Wellness: A Neighborhood Health Conceptual Analysis

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Purposes/Aims: The purpose is to explore the concept of neighborhood health within the context of a proposed neighborhood health model based on the socio-ecological model (SEM). The aim is to find conceptual fit of neighborhood health within the proposed model.

Definition of Concept: The original contribution to knowledge this theoretical work provides a definition of the concept of Neighborhood Health (NH), exploring the antecedents and attributes of NH, and proposing a theoretical foundation for practical application of the concept of NH. This work provides the conceptual analysis results for NH conducted on August 8, 2020. ***Neighborhood Health*** is defined as the multi-layers of conditions and practices that promote whole-person wellness among neighborhood citizens.

Conceptual Approach: Roger's evolutionary model for conceptual analysis/theory development informed this work. Research literature was reviewed using the database CINAHL. The literature is clear that contributors to NH span the full socio-ecological spectrum. Surrogate terms included neighborhood characteristics, built environment affecting health, and neighborhood effects. Antecedents such as place of residence and local/regional policies in the context of health were found. Two domains of physical environment and social environment include attributes. Interpersonal attributes such as belonging were identified alongside attributes such as access to essential episodic health services. NH attributes, such as healthy food access, span the full socio-ecological spectrum from individual needs to public policy. Related concepts of NH are whole-person wellness and the healthy neighborhood. Consequences of NH possible examples are decreased place based health disparity and mental health burden, access to health services and healthy food, and increased healthy behaviors.

Concept to Nursing Practice: Nursing includes the care of people and communities within the nursing metaparadigm of person, health, environment, and nursing. In order to practice at the community neighborhood level to promote health and prevent disease, the concept of neighborhood health must be understood. NH is the web that lies at the intersection of individual determinants of health, such as genetics, biology, personal and familial health choices, and social determinants such as ecological factors, access to health services, and economic status. This work categorizes NH as a concept and its attributes within the multiple layers of the SEM. The development of the NH socio-ecological model also provides a representation of the web of relationships that collectively contribute to the concept of NH.

Conclusions: Concept for Nursing Practice or Research: Scholarly literature indicates that the more levels of the SEM that are addressed by a health intervention, the stronger the positive response to the health intervention. The concept of Neighborhood Health is a good fit for the NH socio-ecological model. It provides a clear picture of how a place can affect health so that the development of an instrument for nursing research at neighborhood population-health levels can be used to help measure health and health promotion interventions can be developed based on where people live.

School-Based Health Centers: Assessing Community Need

***Laura Brownsmith**, Pacific Lutheran University, Tacoma, WA*

Purposes/Aims: A community needs assessment will be conducted to establish the school community's perception of need for a new school-based health center. It is not yet known how likely the community would be to utilize a new healthcare service, and the level of interest that exists among community stakeholders.

Background/Rationale: School-based health centers are growing in popularity as a means of increasing access to quality healthcare for high-poverty youth. Among socioeconomic markers identified by the national school based health alliance, this county ranks higher than average in 9 of 12 measured markers. Additionally, the Healthy Youth Survey results show youth in this county are more at risk for poor health outcomes related to poorer social determinants of health. There also exists a lack of primary care providers in the area based on health department data.

Methods: A mixed-methods descriptive study of written surveys and focus group discussions will offer new information on the perceived needs and assets of the community. Parents, guardians, students and school-staff will be given a written survey in English or Spanish to measure their perceptions of students' healthcare needs and the likelihood of using a school-based health center either in person or via telehealth. Community stakeholders will be engaged and qualitative focus group information will be gathered to gauge their knowledge of school-based health centers, and their perception of community needs as well as barriers and facilitating factors to establishing such a clinic.

Outcomes: Data from the surveys will be examined to identify correlations between various independent variables and the likelihood of using a school-based health center. Focus group information will be analyzed for themes and outliers.

Conclusions: This background data will inform recommendations to the school district concerning progress with establishing a school-based health center, and may suggest potential school sites with higher needs, high-demand services to consider, and identify areas of needed outreach to build support.

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The Effect of an Animated Video on HPV Vaccination Intent among College Students

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Purposes/Aims: The purpose of this study is to examine the effect of an animated educational video on HPV vaccination intent among college students aged 18-26.

Background: HPV infections and related cancers are significant public health issues for both males and females in the United States and globally. HPV vaccine has been shown to effectively prevent cancers; however, the vaccination rate in young adults including college students remains low. As the risk of acquiring HPV can be high among college students due to risky sexual behaviors, it is imperative to develop culturally and contextual congruent education to address this issue in this population.

Methods: We will conduct a two-group randomized control trial (RCT), and recruit 400 (n = 200 each group) English-speaking college students aged 18-26 that have not been vaccinated against HPV. The sample will be recruited via Amazon Mechanical Turk (MTurk). Participants that meet the inclusion criteria based on an online screening form will be invited to the study. Once eligible participants consent to participate, they will complete a pretest (T0) online via REDCap, be randomly assigned to intervention or control group, and then complete a posttest (T1) after viewing their assigned intervention. Participants assigned to the intervention group will watch a brief animated video while participants assigned to the control group will view a HPV education brochure created by CDC. Guided by the Theory of Planned Behavior (TPB; Ajzen, 1991), survey questions will measure HPV-related knowledge, attitudes, perceived behavioral control, subjective norms, vaccination intent (T0 and T1) as well as sociodemographic characteristics and health history (T0 only) of participants. Descriptive statistics will be used to summarize the sample and the variables. Repeated-measures ANOVA will be used to examine between-group differences in vaccination intent (primary outcome) and patterns of change for TPB constructs.

Results: We will start research activities as soon as receiving IRB approval in October 2020, and plan to complete the activities by March 2021.

Implications: The results from this study will inform the effect of a brief, animated educational HPV video in increasing college students' intention to be vaccinated against HPV. If the findings are promising, this non-invasive and easy-to-deliver educational video has the demonstrated potential to increase HPV vaccination rates and reduce HPV-associated cancers in college students.

Funding: Arizona State University

COMMUNITY AND PUBLIC HEALTH

Preventing COVID-19 within a Skilled Nursing Facility

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Purposes/Aims: The purpose of this study is to describe: (a) effective strategies for COVID-19 prevention and (b) COVID-19 surveillance within a skilled nursing facility from March 1st through August 31st.

Background: Residents who are living in long-term care facilities, including skilled nursing or assisted living facilities are acutely affected by the COVID-19 pandemic. Residents' advanced age, underlying health conditions, and shared living environments contribute to a high-risk setting for rapid spread and adverse health outcomes from COVID-19.

Methods: An observational, retrospective study of a skilled nursing facility with a capacity of 178 residents and 200 staff was conducted. The facility is the largest long-term care facility in the state's second-most populous county. Residents in the facility include people who need both short-term and long-term care, with 75% occupancy from residents who need long-term care. Data were extracted from internal COVID-19 planning and policy documents and resident charts using a standardized template. The standardized template was developed based on literature describing COVID-19 prevention strategies, clinical characteristics that could increase vulnerability for adverse health outcomes, and COVID-19 symptoms. Data were analyzed descriptively using an epidemiological approach.

Results: In March, leadership developed policies for mandatory mask use, sick leave, admissions, caring for residents with COVID-19, and cancelation of communal activities and visitations. The infection control nurse met with staff in small group settings and residents individually to discuss the COVID-19 pandemic, misinformation, and facility strategies for preventing COVID-19. On the facility property, staff are required to wear masks and residents wear masks as tolerated. Staff receive new masks for each shift and residents receive new masks several times a week. Activity innovation due to the cancelation of visitors included virtual pen-pal meetings with nursing students.

A total of 326 residents resided in the facility during the study period. Over 1,500 tests were administered to both staff and residents, which included testing for people with symptoms or known exposures and five facility-wide surveillance testing days. There were six isolated cases of COVID-19 identified among four staff and two residents. Among the staff, two were asymptomatic with a known exposure to a positive person, one was symptomatic, and one was pre-symptomatic. Residents were identified during separate facility-wide surveillance testing days. Both residents who tested positive were asymptomatic and cared for in an isolated wing of the facility. Roommates of the two positive cases were placed under quarantine with droplet and contact precautions, re-tested for COVID-19 multiple times within the 14 days following exposure, and remained COVID-19 negative. All cases returned to work or their room after testing negative for COVID. All cases had full recoveries.

Implications: This project makes a significant contribution to healthcare by improving understanding of effective infection control strategies for COVID-19 within a skilled nursing facility. Early adaptation of facility-wide mask use, education, activities innovation, testing, and isolation of positive cases have been effective at preventing COVID-19 within a skilled nursing facility. More research is needed to understand the lived experience of residents and the sustainability of COVID-19 prevention strategies.

Application of the Transcultural Interprofessional Practice Model during COVID-19

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Purpose: The purpose of this multidisciplinary project is to improve community and healthcare worker resilience during the coronavirus disease 2019 (COVID-19) pandemic with the Andrews/Boyle Transcultural Interprofessional Practice (TIP) conceptual model. The tenets of the TIP model, as they apply to our current project focused on Mexican-origin adults, include: respect for the *context* from which people's health-related beliefs emerge; *effective communication* among the *interprofessional healthcare team* of scholars; and use of a *scientific problem-solving process* to address challenges. We can draw from our clinical, education and research experiences, along with the nursing-derived TIP model, to improve health and well-being in an underserved community in Arizona.

Background: Long-standing health inequities have put underserved populations, especially Mexican-origin adults, at an increased risk of COVID-19. Furthermore, frontline healthcare workers are at risk for negative physical and mental impacts. Innovative and culturally sensitive approaches to improve resilience are needed. In response to the emerging demands created by the COVID-19 pandemic, the Arizona Area Health Education Centers (AzAHEC) Scholars program was tasked to develop a special one-year endeavor to improve outcomes related to the COVID-19 pandemic.

Approach: Our AzAHEC Scholars subgroup began by identifying community stakeholders and establishing partners who largely work with Mexican-origin communities in Tucson, AZ. Initial meetings with partners allowed thoughtful sharing of information, establishing the needs of the local healthcare network while maximizing existing resources. A two-arm approach was developed to support the needs of two distinct groups in the local community. First, a COVID-related educational speaker series was created for Spanish-speaking adults affiliated with the community health center partner. Second, a weekly interactive resilience workshop was developed to support a group of twenty frontline workers at a homeless shelter impacted by the pandemic. Culturally relevant educational materials were created and continue to be delivered using a variety of methods including Facebook Live, Zoom, telephone, e-mail, flyers and the postal service.

Assessment of Findings/Outcomes Achieved: Goals for the community members include increasing knowledge about COVID-19 and maintaining preventive care during the pandemic. Goals for the frontline workers include increasing knowledge of techniques to manage stress and stay connected with others. To measure the impact of the project on Mexican-origin community members and frontline workers, innovative techniques such as community members' and frontline workers' self-report via Facebook polls and pre-and post- questionnaires will be utilized. Findings from the polls and surveys will be used to determine the utility of the AHEC implementation with these underserved communities.

Conclusion: While this project will measure the short-term impact of a theoretically driven, culturally sensitive program in one rural Arizona community, the results may yield long term benefits such as sustained community resilience. Policy implications may include adaptation of this project to other underserved populations. Future research may benefit from these findings through the creation of customized, culturally relevant educational materials. The replication of this project in other frontier states with large expanses of rural areas, such as Montana, will be the next step in disseminating these resilience training resources during the COVID-19 pandemic and beyond.

Comparison of AORK and ORK-10 Scale in Understanding Obesity Knowledge

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Background: Limited research has evaluated whether parents of younger children realize there are future risks associated with weight status. In available findings, there is evidence of a knowledge deficit regarding how early life weight issues can increase the risk of health issues. However, this is not well understood. This study thus sought to better understand parental knowledge of obesity health risks, including factors that affect knowledge and how knowledge is related to the accurate weight perception of children.

Methods: Parents (N =198) of 2- to 5-year-old preschoolers were surveyed regarding child weight and understanding of parental knowledge related to obesity risk. The knowledge was measured by both the Obesity Risk Scale and the Adolescent Obesity Risk Scale. Accuracy of parental weight assessment was measured as correct/incorrect based on their selection of child weight on a five-point Likert scale and the actual child weight/height. This was a cross-sectional study with convenience sampling done at standalone preschools and daycares with preschools. Analyses included frequencies, point biserial correlation, and logistic regressions.

Results: The average parental weight and height converted to an average BMI of 27.20 (*SD* = 6.03), which is considered overweight by CDC guidelines. The median adult BMI was 25.8, which is considered healthy. Weight break down of children participants included healthy weight (*n* = 118, 59.9%) and overweight (*n* = 47, 23.9%). Parental obesity risk knowledge results showed that they scored higher on the AORK (*M* = 7.03; *SD* = 1.83) than the ORK-10 (*M* = 4.01; *SD* = 1.97). A small, but significant relationship was found between the total score on the ORK-10 scale and parental ability to correctly classify child weight using the Likert scale, r_{pb} = .17, *p* = .015. This relationship indicates a small tendency for higher ORK-10 scores to relate to accuracy in the classification of child weight. No significant relationships were found between the total AORK score and correct classification based on the Likert classification, r_{pb} = -.03, *p* = .65.

Conclusion: These findings suggest that the AORK scale may not be as valid as the ORK-10 scale. The parental results on the ORK-10 were similar to previous research and representative of a non-expert sample. Meanwhile, the AORK scores were higher in this study than in previous research. Findings show that parents with lower ORK-10 scores were more likely to misclassify child weight. The overall results show parents displayed low knowledge of risk and poor recognition of abnormal weights which can both be barriers to preventing and decreasing childhood obesity levels.

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Coffee Shop: Creating a Sense of Community in a Virtual World

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Purposes/Aims: Teach mindfulness activities while creating a sense of community for online nursing students.

Rationale/Background: Nursing students and graduate nurses are notoriously stressed, with high impact exams and the need to learn mass amounts of information plus clinical skills, creates an area ripe for tension (ACHA, 2019). Add in a pandemic halfway through the semester, and anxiety levels increase even more. Once they graduate, however, this stress does not go away, it often intensifies for the first couple of years post-graduation (Marthiensen, 2019). Only 18% of nurses feel they are prepared with adequate self-care skills to manage the effects caused from day to day events of the work environment. Nursing school curriculums typically do not help prepare students to deal with the stressors of their jobs, only 6% of nursing schools provide any type of mindfulness skills in the curriculum. (Penque, 2019; Mealer et al, 2006). With the current pandemic, and loss of the sense of community, the students have lost part of their identity that helps in the creation of the nurse persona.

Process: Once a week, a virtual session called the “Coffee Shop” has been implemented, as an optional safe place for students to come hang out in a semi-structured environment. The didactic course that this was implemented in was a research course, so all of the activities have been based in nursing research. Topics are focused on self -care, mindfulness, and fun, traditional nursing school topics are not included. Taking the Father of Mindfulness’s approach, we take time and together enjoy a cup of coffee, we take a moment to enjoy being.

Each week a topic is chosen for the Coffee Shop that is self-care or mindfulness related, such as meditation, yoga, or pets, and introduced on Monday. During the week the students and faculty engage in the written discussion on a platform similar to traditional social media, post pictures and have a discussion about the topic. Then towards the end of the week we gather on a virtual platform and do an activity and conversation based on the topic.

Assessment of Findings/Outcomes: Classroom engagement has increased. Discussion Board posts were 1001 for 16 weeks last Fall- this Fall over 2000, first 4 weeks.

Conclusions: The students loved this, there was so much feedback on the discussion board and in the final course evaluations, about how nice it was and how good they felt afterward. One student called and said she wished we could have it every week, another wrote to me about her experience, and thanked me for helping her develop a self-care skill which she felt she had been lacking and would use from now on. The students learned some new skills and reinforced the idea that meditation can help improve cognition, insight and improve awareness (Spadaro, 2016).This fall we will be performing a study with nursing students, one Egyptian cohort and one US cohort to compare similarities in mindfulness. There is no cost to the activity, there are many free activities to choose from.

Trust That Nurse - Rural Nurses

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The understanding of nurse's experiences living in rural communities can lead to the realization of factors impacting rural nurses' employment decisions. In this study about nurses' decisions to commute away from their rural, home communities for employment, one consistent experience shared by all rural nurses participating in the study was an appreciation of feeling valued by the community members in their rural, home communities. With this new knowledge, an intangible nursing asset, trust, can be actualized to impact recruitment and retention strategies for rural healthcare facilities, while impacting health outcomes for rural populations.

Purpose of Study: Describe and better understand the phenomenon of commuting away, as experienced by RNs, living in rural communities, who commute to non-rural communities for employment

Aims: 1) describe the context of living in a rural community, experienced by nurses who commute away to a non-rural community for employment, 2) describe factors involved in RNs' decisions to commute away from their rural home communities for employment, and 3) describe how commuting away affects the RN's personal and professional life

Background: The rural population lacks access to adequate healthcare in part because of a lack of sufficient healthcare workers in rural communities. Describing rural RN's experiences commuting away for employment is integral to understanding how to increase the number of RNs practicing in rural areas and provide adequate, quality healthcare to the rural population.

Methods: A descriptive phenomenological research approach led to the description of nurses living in rural communities. Purposeful sampling with snowballing was used to recruit 16 RNs from the Midwest, with participant variations in experiences including residential and worksite histories, along with diverse professional nursing and educational backgrounds. Semi-structured interviews facilitated candid expressions of experiences.

Results: Multifaceted reasons for nurses to commute for employment to non-rural settings surfaced. One experience shared by all participants was the trust conveyed to them by rural community members. These nurses did not experience similar feelings of trust in the non-rural communities where they were employed.

Implications: Nurses felt valued, and trusted, by members of their rural, home communities. An appreciation of feeling valued, and trusted, by rural community members was shared by all participants. Implications for rural healthcare employers include the need to acknowledge the trust placed in rural nurses by their community members, in and out of work settings. Implications for nursing practice, and nurse educators, include the responsibility that goes along with trust experienced in the rural communities.

COMMUNITY AND PUBLIC HEALTH

Changes to Birth Plans Due to COVID-19: A Survey of Utah Midwives and Doulas

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Study Purpose/Aims: Recent research indicates that up to 45% of women made some changes to their birth plans because of the 2020 SarsCOV2 pandemic (Gildner, 2020). This study seeks to understand the experiences of Utah midwives and doulas caring for patients during the pandemic. Specifically, we want to describe the impact on the out of hospital birth system and explore differences in Personal Protective Equipment (PPE) use in both in-and out-of-hospital birth.

Background: The 2020 SarsCOV2 (COVID-19) pandemic necessitated sudden and significant changes to hospital visitor policies. While these changes were important to reduce infection transmission, conserve essential PPE, and reallocate staff to COVID-19 units, they had unintended consequences for women giving birth. These changes include shortening a planned hospital stay or transferring care to an out-of-hospital birth setting. Most out of hospital births are attended by certified professional midwives, licensed midwives, or direct-entry midwives, while in hospital births are attended by Certified Nurse-Midwives. Outcomes for women who choose home or birth center births are typically good. However, women who plan out of hospital birth are also less likely to have characteristics associated with poor pregnancy outcomes such as smoking, obesity, known multiple gestations, or known pregnancy complications. We do not know if women who switched from planned hospital birth to out of hospital birth due to the pandemic were also at low background risk.

There is also little information on the impact on out of hospital birth providers due to patients switching to out of hospital birth later in pregnancy. The patients who are changing their birth plans near delivery may be a burden on the out-of-hospital birth system. This burden could be related to patient characteristics that increase the risks associated with delivery/birth outcomes or related to the increased patient load for out of hospital providers. The risk could also be related to SarsCOV2 exposure among out of hospital birth providers, as out of hospital providers may have less access to adequate PPE than in-hospital providers. It is also unknown if the out-of-hospital birth system can respond appropriately to patients or support persons with a current SarsCOV2 infection. This descriptive study seeks to begin to define some of these impacts.

Methods: This survey research will recruit certified nurse-midwives from licensing data and certified professional midwives, licensed midwives, and direct-entry midwives, who are known by the Utah Department of Health from prior birth certificate data. We will also contact doulas from a local Doula professional group. Participants will be invited to complete an anonymous survey. Descriptive statistics parametric and nonparametric statistical tests will be used for comparison between groups.

Results: We will report results on changes in patient volume and characteristics during the pandemic as well as access to and use of, PPE during deliveries. Additionally, we will report on task-shifting from professional support to paraprofessional support during deliveries and the impact on professional doulas.

Assessment on Satisfaction of Online vs. In-Person Health Information Acquisition

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Purpose: The purpose of this study is to investigate patient satisfaction in health promotion in adults when obtaining online health information versus seeking health information in the traditional way, such as visiting a healthcare provider (HCP).

Background: In the past decades, the traditional approach of the doctor-patient relationship has shifted to a more patient-centered one. This influx has caused patients to become more active in making decisions about their health. Thus, it is necessary for healthcare providers to adapt to the evolving healthcare environment and be aware that more patients are utilizing online health information.

Methodology: This research was performed using a descriptive, exploratory, quantitative methodology by means of SurveyMonkey® to the public. Participation was anonymous and voluntary. Research questions focused on health acquisition perceptions and practices of adults to fill the gap on knowledge deficit and barriers. Data was downloaded and analyzed by the researchers.

Results: A total of 96 participants responded through SurveyMonkey®. Of the participants, 22.82% were 18-25-years old, 41.67% were 26-35-years old, 3.13% were 36-46-years old, 2.08% were 46-55-years old, and 1.04% were over 65-years of age. Among them, 14.58% were high school graduates, 42.71% had some college, 32.29% had a bachelor's degree, and 10.42% had a graduate degree. Of the 96 participants, 55.21% used both the Internet and their HCPs to obtain health information, while 27.08% sought information solely from the Internet and 17.71% sought information from their HCP. When asked regarding satisfaction with the information obtained, 81.25% of adults were strongly or somewhat satisfied with the information from their HCP, while 63.75% were strongly or somewhat satisfied with the information obtained from the Internet. The vast majority (96.87%) used both the Internet and their HCP. About 80.21% of the participants utilized the Internet before a visit with their HCP mainly to confirm or validate information (50%). Comparatively, 22.92% sought health information needs through the Internet because their HCP was not available, while 18.75% managed their healthcare needs via the Internet due to the lack of health insurance or money. Furthermore, 42.71% of adults used the Internet after an HCP visit to search for more information.

Nursing Implications: Healthcare providers are still a source for health information satisfaction. Results from our study provide supporting data that a majority of the respondents were satisfied from their HCP visit. Additionally, our study shed light on a demographic that may benefit from universal health care and on the importance of education on health promotion and health maintenance. The Internet may be used to supplement information received from HCPs, especially if a HCP is not available in a timely manner.

DIGITAL HEALTH/eHEALTH

Development of a Game-Based Intervention to Promote Adolescents' HPV Vaccination

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Purpose: This qualitative research aims to develop a developmentally and gender appropriate game-based intervention to promote Human Papillomavirus (HPV) vaccination in adolescents.
Background: Ranking as the most common sexually transmitted infection, about 79 million Americans are currently infected by HPV, and it continues to increase with an estimated 14 million new cases yearly. Certain types of HPV have been significantly associated with cervical, vaginal, and vulvar cancers in women; penile cancers in men; and oropharyngeal and anal cancers in both men and women. Despite HPV vaccination being one of the most effective methods in preventing HPV-associated cancers, vaccination rates remain suboptimal in adolescents. Game-based intervention, a novel medium that is popular with adolescents, has been shown to be effective in promoting health behaviors.
Methods: *Sample/Sampling.* We used purposeful sampling to recruit eight adolescent-parent dyads (N = 16) which represented both sexes (4 boys, 4 girls) and different racial/ethnic groups (White, Black, Latino, Asian American) in the United States. The inclusion criteria for the dyads were: (1) a child aged 11-14 years and his/her parent, and (2) ability to speak, read, write, and understand English. *Procedure.* After eligible families consented for their participation, semi-structured interviews (each 60-90 minutes long) were conducted with each adolescent-parent dyad in a quiet and private room. Each dyad received $50 to acknowledge their time and effort. *Measure.* The interview questions consisted of two parts: (a) those related to game design, functioning, and feasibility of implementation; (b) those related to theoretical constructs of the Health Belief Model (HBM) and the Theory of Planned Behavior (TPB). *Data analysis.* The interviews were audio recorded with permission and manually transcribed into textual data. Two researchers confirmed the verbatim transcription. We use pre-developed codes to identify each participant's responses and organize data and develop themes based on the HBM and TPB constructs. After the analysis is completed, two of the researchers in the team will review the results and discuss the discrepancies until a consensus is reached.
Results: We have completed data collection and are currently analyzing the data. Study activities will be completed by February 2021.
Implications: Findings of this study will inform a game-based intervention that incorporate key concepts of HPV and vaccine, and desired features of design for young adolescents and their parents. The long-term goal is to promote HPV vaccination in vulnerable and underserved adolescents and prevent HPV-associated cancers.

Funding: Arizona State University

DIGITAL HEALTH/eHEALTH

Digital DSMES Intervention for Adults with T2DM and Low Health Literacy

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Purpose: A pilot study to evaluate the feasibility of a digital diabetes self-management education and support (DSMES) program designed for rural and medically underserved adults with Type 2 Diabetes Mellitus (T2DM) and low health literacy. Participants will receive an Mp3/Mp4 device preloaded with educational content, customized for preferred language (Spanish or English), cultural congruence, and easy comprehension.

Background/Rationale: T2DM and its associated complications place enormous social and economic burdens on individuals, families, and communities, particularly those in rural or medically underserved areas. Rural adults in general tend to be poorer, sicker, and older, and have increased rates of T2DM than their non-rural counterparts. Although proven to be beneficial and effective, low utilization of DSMES occurs in this vulnerable population due to the presence of significant health determinants and inadequate access to health care. Low health literacy adversely affects a person's ability to obtain, understand and apply health information to make decisions for themselves, and is associated with poorer outcomes for people with T2DM. Currently, there is a gap in knowledge of experiences of the target population with digital DSMES services that do not require a personal mobile device or internet access. This investigator will evaluate acceptability and usability of the intervention, and its impact on targeted treatment outcomes, including relevant biometric and laboratory data and adoption of specific AADE7 self-care behaviors: healthy eating, being active, monitoring, taking medications.

Methods: This quantitative study will recruit 20 rural-dwelling, English and Spanish- speaking adults ages 40-75 with T2DM and low health literacy (as evidenced by a score of <14 on the Short Assessment of Health Literacy- Spanish and English) from a federally qualified health center, using a convenience sampling strategy. The digital intervention will be 10-modules accompanied by a printed handbook. Each module will last 20-30 minutes, with participants receiving a reminder prompt each week encouraging review. Data will be collected pre-and post-intervention on 1) biometric and laboratory data, including HGBA1C and lipid profiles from medical records, and 2) Usability and feasibility using a survey based on the Technology Acceptance Model, 3) changes in diabetes-related knowledge, 4) measure data about healthy behaviors, physical activity and taking medications. Statistical analyses of the data will be conducted, and the results will be disseminated to stakeholders and used to inform future intervention development and testing.

Results and Conclusions: Data collection and analysis are in progress. It is anticipated that improvements in diabetes-related knowledge and self-care behaviors will occur post-intervention. Usability and feasibility will be established.

Implications: This study will inform future personalized digital DSMES interventions to improve access to DSMES for rural or underserved adults with low health literacy and T2DM to improve outcomes. Asynchronous digital tools can assist nurses and healthcare providers with providing timely, appropriate education to their at-risk patient, reducing healthcare system burden. Enhancing access to digital interventions for people with T2DM and low health literacy can reduce the adverse impacts of health disparities and inequities.

DIGITAL HEALTH/eHEALTH

Students’ Utilization and Perception of Telehealth at a University

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Purpose: The purpose of this assessment study of students is to gain an understanding of how they perceive and utilize telehealth at their university, especially in how it relates to their mental health. This will be used to inform the school as to whether the telehealth service should continue to be offered, and if so, what changes should be made to benefit the students.

Background: A small liberal arts university in the south Puget Sound region has contracted with a telehealth company to offer their students telehealth services at no cost, delivered as a program called Lute Telehealth. This is the first year the school will be offering telehealth, coinciding with the outbreak of COVID-19; which has prompted several in-person healthcare services to offer telehealth as an alternative service delivery method, helping to maintain continuation of care for those who would otherwise have decreased access to healthcare or are socially or medically vulnerable

Methods: In order to assess students’ perceptions and utilization of telehealth, all students will be requested to complete a survey that solicits whether they have and how often they have used Lute Telehealth or other telehealth services, what aspect of telehealth is appealing to them, why they have not considered Lute Telehealth to meet their health needs, and a screening of their mental health status. The results from this survey will be used to determine if Lute Telehealth has had an effect of decreasing students’ visits to other healthcare services and if using Lute Telehealth has had a positive impact on depression and anxiety for students; the survey will also provide insight into ways the service can be improved in order to appeal to more students.

Assessment of Findings: Findings are in-progress as the survey will be administered November 1, 2020.

A Multimodal Analgesic Virtual Reality Program

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Purposes/Aims: The purpose of this doctoral project was to implement and blend two multimodal analgesia (MA) and virtual reality (VR) into an evidence-based practice program. These two non-opioid approaches were used to decrease opioid exposure and usage after a robotic hysterectomy procedure for patients undergoing same day surgery in the Preoperative and PACU clinical settings.

Rationale/Background: The opioid crisis continues to be a public health concern. Patients are often exposed to opioids after surgical procedures where an opioid-centric approach is used, traditionally, to treat postoperative pain. However, emergent evidence promotes the use of non-opioid analgesia and non-pharmacological interventions, such as VR, for pain management.

Framework: The Model for Improvement Framework was used and involved reviewing pre- and post-implementation data after structured education was provided on MA and VR protocols.

Assessment of Findings: A total of 64 patients in the pre-implementation group were included. A total of 22 patients received both multimodal analgesia and VR in the post-implementation group. There was no statistically significant difference in total opioid consumption converted as morphine milligram equivalents (MME) between the pre-implementation group and the post-implementation group. However, the project guided the stakeholders to maintain patient-centered approaches. Additionally, the post-implementation group of participants received multimodal analgesia 100% of the time, compared to almost a third of the time (32.8%) in the pre-implementation group. The data also revealed a remarkable difference in a separate group of participants not originally identified in the evaluation plan. In a group of 27 participants who received multimodal analgesia medications, but refused to utilize the VR technology due to numerous reasons, such as lethargy, nausea, and dizziness, the opioid consumption was substantially lower (13.59 MME) than the pre-implementation group (20.52 MME).

Conclusion: The implementation of a Multimodal Analgesic VR program allowed for nursing adoption of novel evidence-based practices (EBPs) that promoted the use of non-opioid and non-pharmacological interventions. Although the combination of multimodal analgesia and VR did not reduce opioid consumption, it is recommended that VR be considered for other areas of the perioperative setting. Also, multimodal analgesia shall be standard practice for all robotic hysterectomy patients undergoing same-day surgery.

A Structured Evaluation of Mobile Yoga Applications for Wellness and Self-Care

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Background: Yoga comprises a set of eastern healing traditions that promote the unification of mind and body. A growing body of literature supports the physical and mental benefits of yoga for healthy populations and those with health conditions. Previous yoga studies have shown that yoga may positively affect people with cardiovascular diseases, musculoskeletal diseases, depression, stress-related disorders, and cancer. For some individuals, especially older individuals and those suffering from chronic illnesses and physical limitations, barriers to attending in-person yoga classes may include transportation, scheduling, cost, or concerns about the appropriateness of the class for a particular illness. Mobile yoga applications may offer appropriate instruction, increased convenience, and access at a lower cost for these individuals. There are hundreds of mobile phone-based yoga applications. However, few have been studied to assess their usefulness and usability systematically. Thus, a well-informed evaluation may assist patients and clinicians in selecting appropriate mobile yoga applications for health and wellness interventions.

Objective: The objective of this study was to review existing mobile yoga applications and assess their functionality and quality for potential use in addressing self-care for older adults and individuals with chronic illness.

Method: We conducted a systematic review of existing mobile yoga applications. We ran a search in the Google Play store using the term ‘yoga.’ We limited the search to applications that focused on yoga practice and were offered in English. Since our purpose was to identify a promising application for adult patients, we excluded applications specifically designed for children and teens. While selecting our final applications, we considered other existing information in the Google Play store (ex: star rating, last update, number of raters). Two reviewers independently applied the Mobile Application Rating Scale (MARS), which includes domains of engagement, functionality, aesthetics, and the reliability of the information, to assess the quality of the selected apps (Stoyanov et al., 2015).

Results: Our search in google play store extracted two hundred fifty apps, and after applying inclusion and exclusion criteria, we included twenty apps in our final MARS review. Two raters evaluated twenty apps, and our study showed excellent inter-rater reliability (Two-way mixed ICC=.89; 95 % CI .85-.91). Most apps performed well on aesthetics (Mean=4.24;SD=.39) and functionality (Mean=4.64;SD=.33) compared to the information (Mean=3.78;SD=.79) and engagement (Mean=3.76;SD=.62) domain. Our findings indicate the necessity of improvement in the engagement and information domain of these applications.

Conclusion: This study contributes an understanding of the functionality and quality of mobile yoga applications that can be integrated into health interventions to support the wellness and self-care needs of both healthy and sick individuals.

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Virtual Prenatal and Postpartum Care Acceptability among Maternity Care Providers

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Background: Incorporating virtual visits into traditional prenatal and postpartum care delivery is safe, effective, and satisfactory to patients. Despite this, prenatal and postpartum care at our institution has remained largely unchanged and in person. Efforts to control the spread of COVID-19, necessitated the incorporation of virtual visits into prenatal and postpartum care essentially overnight. With some guidance from the American College of Obstetrics and Gynecology (ACOG) and the Society for Maternal-Fetal Medicine (SMFM) a plan for incorporating virtual prenatal and postpartum visits was hastily adopted by obstetric providers at the University of Colorado School of Medicine (UCSOM) and College of Nursing (UCCON).
Problem: The processes and impacts of introducing telehealth technologies are complex. Uptake of telehealth technologies is multifaceted and clinician acceptance is critical for success. Clinician acceptance is impacted by concerns around decreased quality of care, technical issues, and increased workloads. A gap exists in describing maternity care providers acceptance of telehealth technologies, specifically incorporating virtual visits into prenatal and postpartum care
Methods: Using the RedCap platform, maternity care providers were surveyed in July 2020 and October 2020. Participants were queried about the appropriateness, feasibility, acceptance of, and perceived barriers of providing virtual prenatal and postpartum care. Measures of Frequency and the chi-square for independence test was used to describe association between variables and acceptance of virtual care.
Results: Representative response rate of 50.4% (n=56) demonstrated that 75% of providers had never provided virtual care prior to the covid-19 pandemic. After the stay at home order, 91% reported using telehealth to provide maternity care services on average 4 days/month. Overall 94% of providers agreed that virtual maternity care is feasible. 80% and 84% of providers agreed that virtual prenatal and postpartum care is appropriate. 73% agreed that prenatal telehealth is acceptable. 76% agreed that postpartum telehealth is acceptable. Statistically significant differences were demonstrated in terms of provider type, division, and years in practice. CNM providers and providers who had been in practice longer were less likely to agree that virtual maternity care was feasible ($p<0.01$). MFM providers were less like to agree that virtual postpartum care was acceptable ($p<0.01$). More experienced providers were also less likely to agree that virtual prenatal and postpartum care was acceptable ($p<0.10$). The top three barriers identified by respondents impacting their ability to provide virtual prenatal and postpartum visits were 1) Patient lack of essential tools, 2) Inadequate clinic support, and 3) Patients prefer in person visits. Patient lack of essential tools was the only barrier that was statistically significant to impact agreement with any of the three measures being evaluated. Data from the second survey will be compared in terms of feasibility, appropriateness, and acceptability over time.
Conclusions: Virtual prenatal and postpartum are is feasible, appropriate, and acceptable. Provider type and experience impact these measures. Comparing these measures over time with data from the second survey will provide direction for future inquiry.

Improving Care Coordination through Cloud-Based Multidisciplinary Care Plans

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Purpose/Aims: The purpose of this study is to understand pediatric nurses' perspectives on the use of a multidisciplinary care plan—Cloud Care—in their practice as a means to facilitate care coordination. The specific aim to explore the acceptability and usability of Cloud Care among nurses employed in five areas that are most frequently involved in communicating across settings and with families in the care of children and youth with special healthcare needs (CYSHCN): primary care, ambulatory specialty care, home health, school, and emergency department/urgent care.

Background: CYSHCN represent >20% of the pediatric population, yet they continue to have poorer health outcomes compared to children with routine healthcare needs, often due to lack of care coordination. Cloud Care is an emerging multidisciplinary care plan designed to address the challenges of communication and documentation in care coordination. It is a user-tailored cloud-based care plan with interactive links to help parents and providers efficiently find information to guide care. Preliminary studies indicate that Cloud Care is appealing to families and providers. However, Cloud Care has not been vetted with nurses across a variety of settings, although nurses would be a major user of this technology as they facilitate communication across the healthcare, school and home settings.

Methods: A convergent parallel mixed-methods study design is being used to understand nurse perceptions and experiences using Cloud Care. Fifty registered nurses (10 each from ambulatory care, emergency department/urgent care, primary care, home health and schools) are being recruited through email solicitations, using snowball sampling. Eligibility criteria included nurses who care for CYSHCN, are licensed as a Registered Nurse, and have worked in the targeted area for a minimum of 2 years. Participants are given a hypothetical patient and asked to navigate Cloud Care by inputting and accessing information that nurses would typically need. Participants then completed an acceptability survey, which includes questions such as its appeal, ease of use and time it took to enter/access information. After survey completion, participants are interviewed via phone/Zoom, using a structured guide. Participants will then be invited to participate in an online focus group discussion to validate and provide additional feedback. One focus group will be held in each nursing area. All nurses receive a $25 gift card for their participation. Interviews will be recorded and transcribed. Acceptability surveys will be analyzed using descriptive and summary statistics. Interview and focus group data will be analyzed using general thematic content analysis. Quantitative and qualitative data will be examined for convergence, complementarity, and contradictions.

Findings: Summary statistics describing Cloud Care's functionality and ease of use will be reported. Themes derived from the interviews and consensually validated by the research team will be reported. Areas of alignment between interviews and focus groups will be highlighted.

Implications for Translation to Practice: Findings will inform the further development of Cloud Care to strengthen its usability across a variety of settings and by multiple health care team members caring for CYSHCN.

Funding: University of Washington Research and Intramural Funding Program

Virtual Clinical Supervision in Nursing: An Integrative Review

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Background: Clinical site visits (CSVs) are critical in student assessment during preceptored clinical experiences. The Commission on Collegiate Nursing Education endorses use of technology to accomplish CSVs. However, the Oregon State Board of Nursing interpretive statement on clinical faculty roles and specifies "meaningful presence" and on-site CSV during final practicum experiences, but does not include a position regarding the role of virtual CSVs (VCSVs). This creates a discrepancy between accrediting bodies and regulatory bodies regarding clinical supervision.

Objectives: To investigate the existing literature to determine feasibility of using technology to conduct efficient and effective virtual clinical site visits (VCSVs)

Design: Integrative Review

Method: Databases: CINAHL, Scopus, PubMed

Key words: *virtual clinical supervision, virtual clinical supervision, nursing, clinical evaluation, virtual site visit*

Number of articles n= 3, using PRISMA flowchart to organize and detail literature search process

Results: VCSVs are an innovative strategy for using technology to supervise students. The use of VCSVs decrease faculty travel time and expense, and are cost effective. VCSVs provide an alternative to face-to-face visits to effectively evaluated student performance. Overall students, faculty, and preceptors reported satisfaction with VCSVs. There are currently no published studies to date on VCSVs and baccalaureate nursing students.

Conclusions: VCSVs are feasible, effective, and efficient. Stakeholders should aim towards congruence between accrediting and certifying nursing bodies in regards to CSVs. Additional research is needed to further determine the effectiveness of VCSVs in nursing, using larger controlled studies, across multiple institutions and settings, as well as determine effectiveness in baccalaureate nursing programs.

Optimizing Best Clinical Telehealth Practices among APRNs

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Background: In April 2020, about half of all Medicare primary care visits were done through telehealth due to the COVID-19 pandemic. Telehealth evoked a strong positive response among patients, which created a new niche in healthcare. To effectively leverage its value, one of its key goals is the promotion of best clinical practices (Agrawal, 2020). However, very little information was found about programs that address NP training in telehealth. There are no standard competencies to date, and telehealth among APRNs has been mostly through experiential learning (Sharma, 2019). Therefore, a study geared toward the promotion of best telehealth practices is necessary to optimize its value.

Problem Statement: There is a need to develop and expand telehealth training among APRN students to improve telehealth clinical practice. If not addressed, this will deter the optimization of the value of telehealth. Research has shown that the lack of standardized core competencies and the limited research on APRNs' telehealth training led to the necessity of advancing telehealth competencies. Perhaps, a study that investigates the level of preparedness among the APRNs, the core competencies used, and their recommendations will upgrade telehealth training and promote best clinical practices in the field.

EBP Model/Frameworks: This project initiative will utilize the data-driven policy framework by Weinke and Shin (2004). The data derived from this study will intensify the need to develop, restructure and find best practices in telemedicine training among APRNs.

Methodology: This will be a retrospective review of non-identified survey data. The survey data will be conducted among APRN students, new graduates, and licensed professionals to evaluate telehealth best practices. The context of the questionnaire is derived from the core competencies used in training virtual practitioners, proposed by Sharma et al. (2019). It gauged the level of preparedness among APRNs for each competency and solicited recommendations for cultivating best practices in each field. The data set includes twenty-seven domains and six non-identified demographic fields.

Results: Pending review of the completed data set.

Clinical Importance/Conclusion: This study will charge openness among institutions who have implemented telemedicine training to share experiences, stimulate research on best practices, and develop standard core competencies to be implemented in the curricula. The evidence will support in lobbying integration of telemedicine in APRN education and launching medical virtualism accreditation and certification.

DIGITAL HEALTH/eHEALTH

mHealth Feasibility: Assessing Oregon'S SBIRT App for Primary Care Self-Screening

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Purpose: The purpose of this quality improvement project is to assess the feasibility, adoptability, and patient end-user experience of self-screening for risky substance use using the Oregon SBIRT app in the University of Arizona (UA) College of Nursing (CON) Telehealth Learning Center (TLC).

Background: Unhealthy substance use is a health crisis in the United States. Mobile health applications (mHealth apps) are popular innovations for engaging patients in self-management of care. Substance use interventions delivered via mHealth overcome obstacles by improving access, especially for rural patients, and allowing a nonjudgmental interaction with technology that may reduce stigma and biases often perceived during in-person exchanges. To date, the Oregon SBIRT app is the only patient-facing app to offer screening using the validated SBIRT model.

Methods: The Empowerment Informatics framework supports this quality improvement project's aim of app assessment from the patient's perspective within a condordant patient-provider relationship. Participants will be seleted from the UA CON TLC, a virtual clinic of paid, professional patients developed in response to the COVID-19 pandemic closure of physical clinical access sites. Participants will be emailed a consent form, questionnaires on health literacy and demographics, and a link to a scheduled group Zoom video session. Participants will be emailed a pseudonym and one of three fictional patient scenarios with low, medium, and high risk substance use habits to guide participant responses to the app. The Zoom session will begin with a brief PowerPoint reviewing the project's purpose, the SBIRT model, and the Oregon mHealth app. Participants will be provided a link to download the app to a personal Internet-connected device. Participants will be asked to respond to the app in a manner consistent with their fictious patient scenarios but utilizing their actual ages. Participant responses will be compared to the anticipated scenario responses to determine consistency of app results. Participants will engage with the app on their personal devices during the Zoom session. Data to be collected during the Zoom session will include participant app completion time, number of questions asked by participants while using the app, and any observed verbal or nonverbal reactions. To assess user experience, participants will complete the System Usability Scale (SUS) evaluation survey, including open-ended subjective reports. This final survey will contain an option to receive an email with project results.

Outcomes: Pending project implementation in November 2020.

Conclusion: Time constraints of outpatient office visits frequently result in a lack of assessment of patients' substance use risk. Doctorally-prepared advanced practice nurses are well positioned to advance mHealth innovations to improve substance use assessment in primary care. Published literature on patient usability and provider feasibility with mHealth platforms is scarce. Quality improvement focusing on mHealth self-screening for the primary care setting is even more rare. Patient end-user input should be prioritized in the design and development of mHealth technologies. A quality user experience, especially within the under-researched mHealth domain of substance use, promotes technologically functional and therapeutically useful innovations.

Response to COVID-19: An Innovative Hybrid Virtual Nursing Simulation

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Purposes/Aims: The aim of this project was to meet the educational needs of senior baccalaureate nursing students during the COVID-19 pandemic.

Rationale/Background: The COVID-19 pandemic had an immediate and significant impact on nursing education. Traditional face-to-face clinical education was halted. Many universities closed their physical campuses, no longer allowing for in-person simulated experiences. However, the demand for educating the next generation of nurses was as crucial as ever. Rapid innovation and creativity were required to meet the educational needs of senior baccalaureate nursing students.

Brief Description: In response to the COVID-19 pandemic, nursing faculty and staff at a Texas university created and conducted hybrid virtual simulated sessions with senior baccalaureate nursing students. Each session incorporated a pre-briefing session, two simulated experiences, and debriefing. Sessions included a rapid response managing an acute upper gastrointestinal bleed, and cardiac arrest. Simulations held over a web-based audio-video communication system (WBAVCS), connected students into the nursing simulation lab via webcam. The use of high-fidelity simulators and virtual monitors created a realistic experience. During each simulated activity, five students were each assigned a role: primary nurse, airway management, operating the monitor/defibrillator, IV/medication nurse, and recorder. Simulation faculty and staff at the nursing simulation lab took direction from the students via a WBAVCS and performed the actions as directed by students. The facilitator guided the experiences, assigned roles, voiced the patient and healthcare provider, and operated the virtual monitor. During the two scenarios, brief demonstration and review sessions occurred on cardiopulmonary resuscitation, operation of a defibrillator, preparing and administering crash cart medications, code documentation, and preparing a patient for a procedure.

Assessment of Findings: Following the simulations, student feedback was obtained via an online survey to improve future hybrid virtual simulations. Survey items covered helpfulness of the simulation, willingness to participate in similar activities in the future, aspects of the simulation that went well, and areas for improvement. Data were analyzed using descriptive statistics. Approximately 115 students participated in the simulation and 76 students completed the survey. Of the 76 students surveyed, 88.16% felt the virtual code scenarios were extremely helpful, and 75.68% strongly agreed that they would participate in similar activities in the future. When asked what aspects of the virtual code went well, students commented, “The scenario itself was very interactive even though I was not there physically and the participation of various colleagues in the scenario made the simulation immersive,” “They were realistic. Expressed a sense of urgency. We need to have more of these not only in code situations but day-to-day care of patients.” When asked what aspects of the virtual simulation could be improved in the future, common responses included improved audio and video.

Conclusions: Rapid implementation of hybrid virtual simulated activities allowed didactic and clinical objectives to be met. Successful implementation of virtual simulations in the face-to-face program increased awareness of opportunities for implementing similar experiences to students in distance undergraduate nursing programs.

Design and Piloting an EHR Taskbar to Engineer System Resilience for Clinical Practice

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Purpose/Aim: This study aims to design, build, bench-test and pilot an electronic health record (EHR) taskbar device to engineer system resilience for nursing clinical practice during documentation and use of the EHR in clinical practice.

Rationale: Resiliency is defined in human factors engineering as the ability to recover and recuperate quickly when work is disrupted. In this context, strategies to provide nurses with resiliency opportunities during patient care can significantly impact patients' outcomes and productivity. Workflow interruptions are problematic and the consequences in healthcare, can dramatically impede nurse cognition, leaving patients' needs unmet and tasks incomplete. To assume that interruptions during patient care can be completely mitigated is impractical creating longstanding challenges to curtailing nurse interruptions indicating that a more systems approach is needed to help nurses regain time lost to duplicating tasks and performing alternative activities. Nurses often need to switch among individual patient flowsheets, rooms, and workstations on a moment's notice adding to the complexity in establishing documentation resiliency. An EHR "taskbar" device that recalls a nurse's most recent logged flowsheet notation may save time by allowing quicker recovery including eliminating time spent searching for incomplete documentation.

Method: Taskbar development and testing will be done using human factors design principles and in collaboration with information technology (IT) analysts. The pilot study of the EHR taskbar will use a qualitative descriptive approach of semi-structured clinical nurse interviews following the use of the optimized taskbar system in a simulated environment. This method will help determine the taskbar effectiveness as well as provide opportunities for nurses to express their feedback and recommendations. Once designed, the taskbar will be evaluated for usability. Documentation completeness, satisfaction, and time in the record before and after the taskbar is added will be evaluated to quantify any differences. Qualitative interviews will be analyzed using content analysis to classify contextual themes.

Anticipated Results: Although pending, we anticipate results will show that the taskbar improves time efficiency in the EHR, enables more complete documentation and improves satisfaction once used by nurses. We anticipate nurses will offer recommendations to improve the taskbar that will be used to optimize its usability and usefulness.

Implications and Future Research: Although rare EHR implementations exist that include features to quickly resume documentation once interrupted, they are not widespread. To our knowledge, features that offer patient task (checkoffs) notifications of missed or incomplete documentation, lab alerts, and forthcoming activities providing nurses are not available but could be the topic for other design optimizations for the EHR. These optimizations could help nurses to establish margin in their work processes. Future research is needed in collaboration with system engineering and healthcare technology researchers to study hospital workflow to adapt methods and strategies that would minimize nurse interruptions, support nursing cognitive decisions, and support system resilience in clinical practice.

A Guide for Intentional Home Telehealth Assessment: Patient and Caregiver Perceptions

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Purpose: Describe the perspectives of seriously ill older adults and their caregivers on the usability of the Comprehensive Patient Assessment for using Telehealth at Home (CPATH) utilizing technology for advanced practice nurses (APRNs) to remotely meet and assess patients in their own homes.

Background: Palliative care provides symptom and care management for patients with life-threatening serious illness. Access to care is difficult for seriously ill older adults who are frail, homebound or live in rural settings. Telehealth has gained broad popularity during the COVID19 pandemic. Per Novice-to-Expert Theories, the use of a guide to direct a skilled intervention, such as a remote home visits, is necessary. The CPATH is a comprehensive approach for an intentional remote patient meeting that provides a high-quality patient encounter when using remote technology. The Sociotechnical Systems Theory and Technology Acceptance Models are used as the basis for evaluating patients' perspectives on the use of the CPATH. For patients to perceive the technology as usable, there is a need for balance between technical usefulness, ease of use, and human need. Evaluation of a guide such as the CPATH assures a usable approach to technology that most approximates in-person visits and facilitates assessment of the patient and their environment.

Methods: Participants included seriously ill older adults receiving in-home palliative care and their caregivers. The experiences of participants were explored using a qualitative description. Semi-structured interviews were conducted with a purposive sample of participants recruited from a large hospice agency in southwestern Arizona after the APRN conducted the CPATH visit using Zoom. Questions explored participants' user experience of the telehealth appointment. The audio-recorded interviews were transcribed, from which the team inductively extracted themes. Three research team members coded each transcript. Initial agreement ranged from 80 to 100% and complete agreement was reached. Interviews were conducted until saturation of themes occurred.

Results: The participants (n=9) were between 60-99 years old, male (78%), non-Latinx white (67%); and had a 2 year degree or higher education (67%), and female caregivers (89%). The over-arching theme of participants' experiences with the CPATH intervention was of a continuum of acceptance of technology use. Participants felt a combination of in-person and telehealth visits were ideal, and telehealth visits were appropriate for routine visits. In-person assessments would be necessary if the communication was not adequately received through remote technology. Other themes were satisfaction and detractors, usability of the technology, ideas to improve the technology, privacy and confidentiality, and timing of the telehealth visit.

Implications: Seriously ill older adults would prefer an initial visit to be in person and telehealth to be used to build a caregiver relationship between a patient and their caregiver. Subsequent visits could be conducted using telehealth as appropriate per the patient's health conditions and willingness to engage with the technology. Telehealth presents new opportunities for patients to engage and connect with providers, allowing them to seek care in the comfort of their own home. Finally, telehealth is appropriate in some circumstances but is not a permanent replacement for in-person visits.

Funding: Casa de la Luz Foundation, Tucson, Arizona

Parkinson Disease Nursing Student Ambassador Program: A Program Evaluation

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Background: Considering the growing number of people with Parkinson disease (PD), preparing nursing students with proper training on PD is essential for quality health care and outcomes.

Purpose: The purpose of this project is to evaluate effectiveness of the "Parkinson's Disease Nursing Student Ambassador Program" on undergraduate nursing students' knowledge of and competence with PD care and their ability to synthesize evidence-based practice in case-study based manuscript development.

Methods: In this program evaluation project, the PD Nursing Student Ambassador Program includes two parts: one for juniors and one for seniors. Didactics and two case studies on both motor and non-motor symptoms of PD are incorporated in Health Assessment and Intervention course for junior nursing students. Six senior nursing students who are interested in learning of neurology are selected for one-day intensive education on PD. The one-day intensive program includes both motor and non-motor symptomatology, medical and surgical management, basic and clinical research, and case studies offered by neurologists trained in movement disorders, a neurosurgeon and a PD-trained nursing faculty. Knowledge of and competency level with PD care will be measured with two-item Likert scale before and after the one-day intensive program. After the intensive PD program, two groups of three students will develop an evidence-based manuscript on management of non-motor symptoms of PD (depression or anxiety, insomnia: most commonly seen non-motor symptoms in clinical setting) based on a case study under guidance of the PD-trained nursing faculty over a month.

Results: Pending

Discussion: Well-trained nurses will play a critical role in promoting quality outcomes in PD care and evidence-based synthesis activities will well facilitate evidence-based PD care.

Funding: This project is supported by Parkinson's Foundation Grant PF-NFA-2002.

A Person-Centered Care Intervention on a Medical Surgical Unit

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Background: When a patient is admitted to an acute care setting, there is minimal information about who that person is, what he or she likes to be called, their favorite activity, or past occupation. A way to know each individual can be through a communication board that is visible to all caring for that patient.

Purpose: Evaluate whether using "All About Me Boards" (AAMB) can change workplace climate perception among registered nurses (RN)s and increase patient satisfaction.

Method: Pre-post design, 28 bed Adult Medical Surgical, 25 RNs.

Outcomes: Person Centered Climate Questionnaire Staff, and Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient perspectives on care.

Intervention: RNs completed a pre survey followed with education on the purpose and use the AAMB to personalize patient care and interactions. The AAMB tool displays information about what patients liked to be called, what made them feel calm, favorite music, past occupation, hobbies, and names of family members and pets (figure 1). The AAMB was placed in patient rooms and made visible to the patient, family, and staff. The nurse caring for the patient explained the purpose of the AAMB and patients, family, and nurses were asked to complete items on the AAMB. Staff were asked to present one item from the AAMB during shift report.

Result: Statistically significant increase in, "My workplace is a place where it is neat and clean" ($t(25) = 2.419$, $p < .024$), "My workplace is a place where it is easy for patients to keep in contact with loved ones" ($t (25) = 2.682$, $p < .013$), and "My workplace is a place where patients have someone to talk to" ($t(25) = 2.622$, $p < .015$). There was an increase for "always" for the HCAHPs, "During hospital stay how often did nurses listen to you" from three months pre (84% to 86%) post implementation, (80% to 95%) and " During hospital stay how often did doctors listen to you" increase for "always" from three months pre (78 to 87%) post implementation (84% to 95%).

Recommendations: A PCC approach is used in nursing homes and people with dementia. With an increase in older adults future use of a PCC approach in acute care settings is needed to guide health care and support realistic individual outcomes.

Implications: When staff entered a patients' room they would see the poster and mention one thing to start a conversation to engage patients. Knowing what was important to patients and what they valued established trust between nursing and patients. One patient reported he felt heard and was not a number. When the AAMB was introduced to nursing and they were asked to complete, some nurses felt this was one more task. It was suggested at unit huddle other healthcare providers caring for the patient could add information to the AAMB. Nurses who participated felt a PCC approach was successful in engaging patients and their family as partners in care and promoting effective communication, patient safety, and coordination of care.

Organizational Dementia Care Coaching: Evaluating Acceptability and Feasibility

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Purpose: The purpose of this pilot study was to evaluate the acceptability and feasibility of pairing trained Dementia Care Practice Recommendations (DCPR) coaches with assisted living (AL) teams to implement the Organizational Dementia Care Coaching (ODCC) intervention within AL communities.

Background: Of the one million people living in assisted living (AL), 42% have Alzheimer's or other dementias. Person-centered care practices have shown beneficial effects on wellbeing, behavior, and psychotropic medication use for persons with dementia, as well as reduced stress and burnout among professional care providers. To facilitate the adoption of person-centered dementia care, the Alzheimer's Association (AA) developed the DCPR based on a review of evidence, best practice, and expert opinion.

Methods: The study was planned to be a single-group, pre- and post-test design. The ODCC intervention was based on the DCPR and supports AL communities to adopt the DCPR through ongoing consultative coaching. Two trained coaches utilized the online DCPR toolkit including a self-assessment, coaching, and action planning tool. Each AL team included three to five professional care providers in each of three AL communities. Professional care providers completed demographic, employee satisfaction, and organizational readiness for implementing change (ORIC) surveys. The coaches participated in phone interviews focusing on recruitment and adoption in the AL communities.

Results: Baseline and ongoing data were collected November 2019 through March 2020. Due to COVID-19, the study was halted 3-months early. Nine care community members from three AL communities completed the baseline survey. Mean age was 35.8 years, majority were White (90%) and most had a college education (80%). The average length of time working in AL communities was 11.8 years. AL communities were nonprofit, located in a suburban area, and had memory care units with beds ranging from 30 to 40. The mean scores on the employee satisfaction survey were 4.6 for the commitment domain and 4.4 for the efficacy domain [possible range from 1 (disagree) to 5 (agree)]. The employee satisfaction scores for overall and all domains (job satisfaction, team building and communication, scheduling and staffing, training, and management and leadership) were > 4 (where 1 indicated strongly disagree and 5 indicated strongly agree). Sixty-nine percent of participants were satisfied with their jobs. The coaches shared the following: 1) it was difficult to schedule appointments with AL communities and get the right people at the table; 2) they believed they were acting less as coaches and more as mentors or dementia care partners; and 3) the DCPR toolkit needed to be more user-friendly.

Implications for Translation to Practice/Further Research/Policy: First, coaches need to work with administrators of care communities to assure the DCPR coaching includes key staff such as direct care providers and administrators. Second, it would be valuable to evaluate the relationship between the degree of DCPR adoption and employee satisfaction, burnout, and turnover. Third, the toolkit needs to be revised to be more user-friendly. Lastly, offering a certificate of completion to care communities may help with care community participation.

Funding: Alzheimer's Association

Improving ISAR Screening Tool Adherence to Identify ED Readmissions in Older Adults

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Purpose/Aims: The purpose of this evidenced-based-project (EBP) is to improve the emergency department (ED) staff adherence in completing the Identifying Seniors at Risk (ISAR) screening tool. The specific aim is to improve staff electronic health record (EHR) data collection to identify older adults that are frequent utilizers in the ED at a local community hospital in Southern California.

Rationale/Background: The ED is the gateway to hospital admission and/or outpatient care management. Based upon the most recent *National Hospital Ambulatory Medical Care Survey*, patients ages 65 and older make up 32% of all ED admissions. These patients also represent 50% of the moderate to severely ill patients seen in the ED. After the passage of the *Affordable Care Act,* the *Hospital Readmissions Reduction Program's* implementation was an attempt to address the issue of rising healthcare costs in the ED/acute care settings. This policy has drawn attention to the older adult population, who are more likely to have multiple comorbidities, inadequate support networks, and demonstrate worsening health outcomes after ED/acute care discharge.

Framework: The John Hopkins Nursing EBP Model (JHNEBPM) was chosen for this project. JHNEBPM focuses on three interrelated components of inquiry, practice, and learning to empower bedside nurses to appraise, translate evidence, and implement practice changes within bedside care. JHNEBPM also allows for interdepartmental collaboration between information technologies and hospital administration, which was crucial to this project's success. Hospital and University Institutional Review Boards (IRBs) approved this project.

Methods/Process Used: The Doctor of Nursing Practice (DNP) student collected staff EHR performance data to target nonadherence. Next, the DNP student provided a one-on-one 15-minute ISAR training module intervention to each staff member. During the brief intervention, the rationale for the use of the ISAR tool was explained. Then, a case analysis quiz was given, and each staff member. A score of 100% on the correct usage of the ISAR screening tool was mandated. After completing the brief intervention, each staff member signed on and agreed to implement the new practice change to regarding the use of the ISAR screening tool.

Assessment of Findings/Outcomes Achieved: Based on a robust literature review, the expected outcome for this post-intervention practice change was to improve department-wide staff ISAR screening tool completion rates from 23% to 80%. Data has been collected and the final results regarding staff adherence are pending.

Conclusions: Clinical practice implications are to improve the identification of at-risk older adults who are frequent users of acute care setting resources. These patients currently have overall healthcare outcomes that affect their quality of life. The sustainability of this project will include educational implications (i.e., continued ISAR tool education). Fiscal implications may include overall reduction of ED readmissions which in turn will translate into reduction of hospital costs. Although not generalizable, this project can be replicated in other ED settings.

Increasing Routine Vaccinations during COVID-19: Outcomes of a Telephone Outreach Intervention

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Purpose/Aims: The purpose of this quality improvement (QI) project is to evaluate the effect of nursing student-initiated telephone reminders on vaccination numbers across eight primary care practices in Washington State during the COVID-19 pandemic. The aim of this quality improvement (QI) project is to improve vaccination rates and decrease the public risk of experiencing a double pandemic by decreasing the number of individuals who are overdue for routine vaccinations, including the flu vaccine.

Rational/Background: In the months following the onset of COVID-19 there has been a steep decline in childhood vaccinations. This decline leaves individuals and communities more vulnerable to vaccine-preventable diseases. A concurrent outbreak of diseases such as measles or the flu, on top of COVID-19, will likely overwhelm our health systems. One evidence-based strategy that can help combat this public health problem is reminder/recall. Reminder/recall methods are effective, evidenced-based strategies found to increase immunization rates.

Methods: This quality improvement project will be conducted over a span of two-and-a-half months and across eight primary care clinics. The plan involves reminder/recall strategy, specifically, person-to-person telephone reminders conducted by undergraduate, senior nursing students. A list of patients who are overdue for vaccinations are identified using Washington State's Immunization Information System (WA IIS) and confirmed against their electronic health record (EHR). Students are given a script algorithm to follow during each call and are instructed to document data on the call into an excel spread sheet. The algorithm encourages patients to make appointments to receive their flu vaccine and any other overdue vaccines.

Assessment of Findings/Outcome Achieved: A retrospective chart review and analysis of the data will be conducted at the end of the intervention to compare vaccination rates before and after the intervention.

Conclusions: This study is designed to meet an emergency need in Washington State. Reminder-recall methods are effective, evidence-based strategies to increase vaccination rates; however, depending on how many patients are under immunized, this can be a time-consuming task for staff. By utilizing nursing students we can decrease the workload of the staff and providers, who may otherwise not have the time to do so. Providing extra in-person help for offices to do intensive telephone reminder-recall for patients who have fallen behind in routine immunization due to COVID-19 response can help offset and improve the falling vaccination rates.

Efficacy of Telehealth Modalities in Medication Adherence for Older Adults

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Purpose/Aims: The purpose of this project is to increase medication adherence in older adults with chronic conditions and complex medication regimens by utilizing telehealth technology.
Rationale/Background: Approximately one-half of older adults in the United States who take at least one medication find medication adherence challenging. Average adherence of an elderly patient taking one medication each day is about 80%. This adherence decreases to approximately 50% for patients taking medications four times a day. Patients may be adherent to some medications and not others based on what they believe is important and what side effects they aim to avoid. Nonadherence can lead to a myriad of preventable adverse effects that can reduce the quality of life and even result in death. In the United States, $100-300 billion could. be saved in health care costs due to adverse effects of poor medication adherence.
Brief Description: The framework model used for this project is the Iowa model. The feedback loop of implementation can be analyzed to assess for problems and modify interventions as needed.
Methods/Process Used: First, the nurse practitioner (NP) student will review each participant's health history, including their medication list. Next, the NP student will contact each participant using a telehealth modality. Each participant will be asked about the medications they are taking, including dosage, route, administration times, and their understanding of why they are taking that medication. Participants will also be asked about any side effects or difficulties refilling medications.

Participants will be contacted weekly over a 3-month period and asked a series of follow-up questions, including missed doses, doctor visits, and emergency department (ED) visits/hospitalizations. This weekly data collected will include calculations for the number of prescription-doses that should have been taken, doses taken, reasons for missed doses, and problem-solving suggestions to enhance compliance, if needed. Once the data is collected, it will be analyzed to identify common characterizations of why the participants might not be fully compliant with their medication regimen. This project has IRB approval.
Assessment of Findings/Outcomes Achieved: Data will be collected from November 2020 through February 2021. Results will be reported and analyzed to identify common reasons why some older adults are nonadherent with their medication regimen. The overall goal is to increase medication adherence by 80%.
Conclusions: Improper medication use affects older-adult patient outcomes including their quality of life. Proper medication adherence in older adults can significantly decrease the overall health care expenditure in the United States by reducing the frequency and length of hospitalizations as well as ED visits. In 2015, approximately $5,250 per person was attributed to nonadherence medication use. The overall return on investment from implementing this project should exceed the initial cost. This project practice change could be implemented in other primary care practices. The data collected from a larger pool of participants might identify other themes as to why older adults are nonadherent with their medication regimens.

Effective Sleep Interventions for Community-Dwelling People with Dementia

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Background: Sleep problems affect approximately 60-70% of people with dementia (PWD). Specifically, they experience difficulties in falling asleep or maintaining sleep. In addition, these sleep problems are associated with an increased risk of psychological and physical morbidity, resulting in PWD no longer be cared for at home and being admitted to the long-term care facilities. Therefore, evidence of non-pharmacological sleep interventions should be studied to improve sleep outcomes for community-dwelling PWD.

Objectives: A systematic review was conducted to 1) identify the types of sleep interventions for community-dwellings PWD, and 2) evaluate the sleep outcomes of these PWD participating in sleep interventions.

Methods: Intervention studies for PWD's sleep improvement that were published between 2011 and 2020 were utilized. Databases including PubMed, CINAHL Complete, and Scopus were used to search relevant literature. A total of 11 studies were included in this systematic review with inclusion criteria of non-pharmacological sleep interventions for community-dwelling PWD.

Results: Five of the eleven (45%) studies were randomized controlled trials (RCTs) and the other 6 studies used quasi-experimental designs. Four RCTs and 2 quasi-experimental studies showed statistically significant improvement in some sleep outcomes (all $p <.05$). The most common components of sleep interventions included sleep education, light exposure, and day-time physical activity (e.g., walking). studies with multi-component interventions showed significant sleep outcomes (all $p <.05$). Especially, light exposure intervention was utilized in ten studies, and showed the effect of improving sleep even when used alone (e.g., sleep efficiency; $p < .05$). Seven studies used both actigraphy and self-reported questionnaires to measure objective and subjective sleep outcomes. Two studies used actigraphy to measure objective sleep outcomes showed significant differences (i.e., sleep efficiency, total sleep hours, and total awake time, all $p <.05$) in intervention group compared to control group. Six studies utilized Pittsburgh Sleep Quality Index to measure sleep quality and four studies used Sleep Disorders Inventory to measure sleep disturbance. Four studies utilized sleep specific questionnaires to measure subjective sleep outcomes without actigraphy. One study showed significant improvement in sleep quality measured by Mini-Sleep Questionnaire ($p <.01$).

Conclusion: Findings from this systematic review of sleep studies demonstrated that sleep interventions including sleep education, light exposure and day-time exercises improved sleep quality in community-dwelling PWD. Long-term sleep outcomes (e.g., 6 months or 1 year) should be measured to examine the effectiveness of sleep intervention for community-dwelling PWD.

Keywords: Dementia, Sleep intervention, Sleep quality, Community-dwelling persons with dementia

GERONTOLOGY

Interprofessional Collaborative Competencies in Transitional Care for Older Adults

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Purpose: The purpose of this study was to describe interprofessional collaborative competencies in practice, and barriers to competency enactment, in the setting of a transitional care program for older adults.

Background: The care for older adults with multiple comorbidities is complex, requiring collaboration between multiple health professionals in various settings, creating problems with communication and coordination that result in avoidable readmissions. Interprofessional collaborative competencies have been identified as key skills for health and social services professionals to address quality and safety gaps, particularly in the hospital to home transition for older adults.

Methods: This study was a descriptive qualitative study using a hybrid, deductive-inductive thematic analysis method. The setting was the Community-based Care Transitions Program, a transitional care program for older adults organized around an Area Agency on Aging collaborating with health systems. Research participants were nursing, pharmacy, and public health professionals at the director, manager and clinical staff levels involved with the care transition intervention. The conceptual framework for Core Interprofessional Collaborative Competencies, developed by the Interprofessional Education Collaborative, was used to frame the interview questions and develop the initial deductive coding scheme. This was followed by an inductive thematic analysis.

Results: Overarching interprofessional collaborative processes, such as interprofessional care planning, were described that encompassed multiple previously identified competencies. System factor barriers to interprofessional collaborative competency enactment were defined at the micro level (interactional), meso level (organizational), and macro level (city, county, state and national level). In addition, interprofessional collaborative culture was defined and posited as a facilitator to interprofessional collaboration at the meso level. A new conceptual model of interprofessional collaboration in the context of transition care for older adults emerged from the study findings that combined previously described conceptual models.

Conclusion: This study described interprofessional collaborative culture and interprofessional collaborative processes that added to the understanding of interprofessional collaboration in practice in the context of transition care for older adults. System factor barriers that were identified and described could be proactively addressed to facilitate interprofessional collaboration. Interprofessional collaborative culture could be proactively cultivated within organizations with the goal of promoting health among the older adult population.

Reformulating Theory to Enhance ACEs-Related Communication in Primary Care

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Purpose: Screening adults for ACEs is not a mandatory clinical assessment standard. Limited data suggests that only 30% of physicians and 33% of NPs routinely screen adult patients for ACEs in primary care. Numerous studies have shown a dose-dependent relationship between ACE exposure and adult morbidity and mortality, suggesting that the greater the number of ACEs, the greater the risk for early death or disability from chronic diseases and certain cancers in adulthood. There have been a number of challenges when it comes to the nuanced communication between NPs and adult patients regarding ACEs. NPs are faced with the desire to elicit authentic ACEs-related information; however, they are not well-prepared to identify, interpret, and subsequently act on that information. Consequently, there is no standardized process for communicating about ACEs in clinical practice, including the use of the EHR as a tool to enhance ACEs-related communication. Thus, the integration of theoretical and conceptual frameworks are needed to guide the study of effective patient-to-provider communication of childhood adversity among adults in the context of the primary care arena. We propose the integration of several frameworks to enhance patient-to-provider communication childhood adversity, including the use of the EHR as a tool for communication.

Description of Theory: Guided by Symbolic Interaction and Information Theories, Carrington has developed a framework that applies Gerbner's model of communication to describe effective nurse-to-nurse communication of clinical events. This framework presents an adaptable model that can be applied in a variety of clinical contexts to address some of the human and technological aspects related to communication. Elements of Social Cognitive Theory (SCT) have been added to expand upon Carrington's framework in order to examine social, cognitive, and behavioral characteristics that might contribute to NPs' abilities to confidently identify ACEs, individualize the impact, and subsequently develop ACE-specific interventions.

Internal Consistency of Theory: Principles of effective communication underpin the reformulation of the proposed frameworks. The integration and synthesis of concepts and parent theories from Carrington's framework coupled with SCT were utilized to explore factors that facilitate or encumber patient-to-provider communication of childhood adversity and subsequently how the EHR can be used as a tool for communicating ACE-specific information.

Logic Linking Theory to Nursing Practice/Research: Effective communication is integral to the interpersonal and interdisciplinary communication of childhood adversity. If communication is effective, ACEs can be more readily identified and targeted interventions can be implemented to reduce ACEs-related health disparities and improve adult health outcomes. Examining a variety of the social, cognitive, and behavioral factors involved in both the process of communication as well as the clinical documentation of ACEs-related data has yielded new insights related to the health disparities among adults with histories of childhood adversity.

Conclusions: The challenges in addressing patient-to-provider communication of childhood adversity are multifactorial, yet they have far reaching implications. The synthesis and reformulation of the proposed frameworks will serve as a catalyst for informing future research focused on enhancing communication between adult patients and NPs, facilitating ACEs-related documentation using the EHR, and ultimately influencing adult health outcomes.

Social Support of Mexican Immigrant Women with Gestation Diabetes Mellitus

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Purpose: To explore the perception of social support among Mexican immigrant women with GDM and to discern the processes through which social support can influence their adherence to the GDM management protocols.

Background: The incidence of gestational diabetes (GDM) is highest in low-income, ethnic minority communities. In the Mexican immigrant community, approximately 8.1% - 9.1% of all pregnancies are complicated by GDM compared to 4.1% in Caucasians. The incidence of poor GDM control and adverse maternal-fetal outcomes related to GDM is high in Mexican immigrant women. Uncontrolled, GDM can result in adverse maternal-fetal outcomes such as instrumental/cesarean delivery, extensive perineal laceration, fetal anomalies, macrosomia, neonatal hypoglycemia, neonatal hyperbilirubinemia, preterm birth, shoulder dystocia, birth injury, and a future risk of developing type II diabetes for the woman and her baby.

The current GDM management protocols do not consider the contextual forces that could render GDM management goals unattainable for Mexican immigrant women, such as cultural challenges and demands, dietary constraints, lack of social support, and language barrier. Recently immigrated Mexican women are predisposed to lack of social support because of isolation and loneliness due to loss of support system during immigration, language barriers, and cultural differences. The lack of social support may negatively impact their adherence to the stringent GDM management protocols. Importantly, there is a scarcity of literature on the social processes that facilitate social support of Mexican women with GDM and how social support influences adherence to GDM management protocols.

Methods: Using a constructivist grounded theory design, participants will be recruited from the diabetes clinic of a community health center. A purposive theoretical sample will consist of 15 recently immigrated women who have been in the US for 10 years or less, 18 years of age and older, 24-36 weeks pregnant, diagnosed with GDM, on the GDM management protocols, and are currently receiving prenatal care. As indicated by their Medical history, women who have pre-gestational (type 1 or type 2) diabetes or other comorbidities will be excluded from the study. Individual interviews will be conducted via zoom, using open communication, and guided by semi-structured questions. Iterative data collection and analysis will be conducted using constant comparison analysis until theoretical saturation is achieved, meaning that further sampling yields recurring themes.

Results: Data collection is ongoing. When theoretical saturation is achieved, a theory will be generated, grounded in the women's lived experiences, to explain the Mexican women's social support processes and how social support can influence their adherence to GDM management protocols.

Implications: The generated theory, tested through research, can guide the development and implementation of culturally congruent social support interventions for Mexican immigrant women with GDM, to facilitate effective GDM management and mitigate adverse maternal-fetal outcomes related to GDM.

Adaptation and Validation of Instruments Measuring Health Beliefs of Cancer Screening

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Purposes: This systematic review aims to summarize, analyze, and compare the methods used in the adaptation and validation of instruments measuring health beliefs about cancer screening in cross-cultural populations.

Background: Cancer is a major public health problem all over the world. Cancer screening can detect cancer at an early stage, prior to the onset of symptoms, when treatment is most effective. The uptake of cancer screening was significantly associated with participants' health beliefs about cancer screening. Although scales measuring health beliefs about receiving cancer screening are developed and available, the scales developed in the US for the general population may lack cultural appropriateness, which could compromise their reliability and validity when used in other populations. Using appropriate methods to adapt and validate original scales to make them culturally fitted to target populations is essential for cross-cultural research and practice.

Methods: A systematic review design with narrative methods was used for conducting this study. Electronic databases, including PubMed, Google scholar, CINAHL®, and PsycINFO were searched.

Results: After applying filter information and inclusion and exclusion criteria, a total of 18 articles were reviewed. The translation methods used in the literature included back-translation and committee translation methods. The back-translation method was further categorized into using professional translators, using professional interpreters and/or involving the first author, using bilingual individuals, and involving bilingual investigators. The modification methods used in the literature included embedded and afterward modification methods. The validation methods used in the literature included testing construct validity, Internal consistency reliability, item-total subscale correlations, test-retest reliability, content validity, predictive validity, and face validity.

Implications for Further Research: Using an appropriate method to translate, modify and validate the instrument can help to reach the conceptual, item, semantic, operational, measurement, and cultural equivalence between the original and translated instruments.

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HEALTH DISPARITIES/CROSS-CULTURAL RESEARCH

Balancing Responsibility and Cultural Expectations

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The purpose of this study is to explore the lived experience amongst Asian American adults with an autistic sibling, including the influence of culture on their perceived expectations of caring for their sibling.

Since 2000, the prevalence of autism spectrum disorder (ASD) has risen from 1 in 150 children to 1 in 40 children. In the next decade, there will be an estimated 500,000 autistic teens that enter adulthood. Family members tend to be the primary advocate and caregivers for the duration of an autistic individual's life. The impact of this rise in the autistic population necessitates a larger number of families managing and caring for this condition. Evidence has shown that the resources for autistic individuals become greatly diminished as they become adults. The Asian American population is the fastest growing racial/ethnic minority group in the US. However, the influence of Asian culture has not been previously explored as it relates to Asian Americans adults with an autistic sibling.

This study was a non-experimental qualitative, descriptive phenomenological study that sought to describe the lived experience of Asian-American adults with an autistic adult sibling. Semi-structured interviews were conducted using open-ended questioning to facilitate open-ended responses that allowed participants to discuss their experiences.

After analyzing data from three semi-structured interviews, four themes were identified in the Asian Americans adult lived experience with an autistic sibling. The four themes were: 1) Effects of childhood experience, 2) Internal vs external expectations, 3) Development of empathy and understanding, 4) Uncertainty about the future. The major findings in this study indicated that all participants have either only briefly discussed or have had no discussion with their parents about future caregiving plans or responsibilities for their adult autistic sibling. Participants shared a high amount of uncertainty with regards to caregiving responsibilities for their adult autistic sibling. The uncertainty and lack of specificity in future caregiving plans resulted in feelings of stress, burden, and concerns about the future well-being of their autistic sibling.

The results from this study suggest that there is a need to help support Asian American families with an adult autistic family member using resources that are culturally sensitive to the Asian practices of filial piety and collectivism. Culturally sensitive resources may result in more trust towards and higher use of resources aimed at supporting this increasingly prevalent group and reduce stressors associated with caregiving for autistic individuals.

HEALTH DISPARITIES/CROSS-CULTURAL RESEARCH

Nurse-Led Community Health Worker Impact on Latent TB Treatment for Homeless Adults

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Purpose:

- The goal of this study was to assess the impact of a community-based, RN/CHW intervention, as compared with a local historical community health, Skid Row clinic control group.

Background:

- There are a larger proportion of homeless adults who have TB as compared with the general population (6% versus 1%; Bamrah et al., 2013; Nyamathi et al., 2008)
- As compared with the general population, homeless people are 2.3 times more likely to not complete treatment as compared to the general population (Bamrah et al., 2013; CDC, 2019).
- Substance use and mental health disorders, such as depression and anxiety, are possible significant contributors to poor medication adherence (Volkmann et al., 2015)

Methods:

- Single arm study assessing the impact of a nurse-led 3HP treatment completion program.
- Sample Size: N=466 homeless adults screened; 50 were enrolled
- Descriptive analysis conducted for all relevant demographic variables
- 3HP completion calculated by dividing the number of participants with treatment completion by the total eligible participants and calculated the 95% confidence intervals (CIs).
- The lower bound of the 95% confidence limit was compared to 65% to assess successful improvement compared to the historical completion proportion.

Implications for Translation:

- Despite substance use barriers, overwhelmingly, the nurse-led CHW model was successful in promoting 3HP LTBI medication completion.
- At three and six months, retention was high demonstrating the connection of the CHW to the homeless adults.
- Use of community workers is a sustainable model which should be
- Homeless adults may complete treatment, regardless of substance use, or mental health concerns if support is genuine.

Results:

- Most participants completed 3HP treatment (92%; n = 49)
- Per MD order, one participant stopped 3HP LTBI treatment.
- The lower bound of the 95% confidence limit was 80.8%; higher than the 65% treatment completion evidenced in the historical comparison control.
- At three-month follow-up, younger age (<50) was significantly associated with lower odds of 3HP treatment completion (p = .005)
- Younger homeless (< 50 years) were less likely to complete 3HP.
- Neither drug use, depression, nor anxiety were associated with 3HP LTBI treatment completion.
- Follow-up at three and six months was 94% and 88%, respectively.

Table 1. Characteristics of People Experiencing Homelessness on 3HP LTBI DOT (N = 50)

Characteristics		n (%)
Age	< 50	15 (30.0%)
	50-59	16 (32.0%)
	60+	19 (38.0%)
Gender	Male	37 (74.0%)
	Female	13 (26.0%)
Race/Ethnicity	Latino	21 (42.0%)
	Black	23 (46.0%)
	Other	6 (12.0%)
Country of Birth	Non-U.S.	18 (36.0%)
	US	32 (64.0%)
Problematic Alcohol Use		15 (30.0%)
Marijuana Use		30 (60.0%)
Cocaine Use		12 (24.0%)
Amphetamine Use		8 (16.0%)
Methamphetamine Use		11 (22.0%)
Heroin/Opiate Use		4 (8.0%)
Any Drug Use		35 (70.0%)
Any Drug or Alcohol		39 (70%)

Study of the Health and Environment of Unsheltered Women in Los Angeles

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Purpose/Aims: The study focused on the health and environment of unsheltered women, as well as their reasons for loss of housing in order to identify gaps in policy and services for this vulnerable population. Aims were to identify the status of homeless women in terms of their physical and mental health status, socio-economic status, environmental status and shelter needs as well as explore the environmental context that unsheltered women living in a dense urban setting experience pre-SARS-CoV2.

Background: Cities are experiencing increased numbers of homeless individuals and families. Los Angeles county reports a homeless population of about 59,000 on any given night; 31% of whom are women. Shelters are limited, healthcare access is poor, and the environment of the homeless is ever shifting. Physical consequences of being unsheltered can be enormous, affecting the homeless individually and collectively. Those with a permanent or long-term physical condition may be disproportionately impacted.

Methods: Over a two-week period in January 2020, 47 women 18 years and older were recruited from a women's day center on Skid Row, Los Angeles. Forty-six participants self-administered a 37-item questionnaire that gathered demographics, physical and mental health status, homeless status (how long homeless), reasons contributing to homelessness, resources and resource needs. Researchers administered the questionnaire to one participant. Kruskal-Wallis chi-squared and Fisher exact tests were used to assess statistical differences among categorical data and ANOVA methods were used for normally distributed continuous variables.

Results: More than fifty percent (56.5%) of women were experiencing homelessness for the first time and the median age when homelessness first occurred was 38 years. The median time respondents were unsheltered was 365 days. In terms of race, 38.3% of respondents identified as Black, 25.5% reported being more than one race, 21.3% identified as White, American Indians/Alaska Natives made up 4.2%, and Asian Indians accounted for 2.1% of the sample. Respondents that did not provide a racial background made up 8.5% of the sample. Those with Hispanic/Latina ethnicity made up nearly 40% (38.3%) of the sample collected. Educational attainment was heterogeneous. The most common areas to sleep were at faith-based shelters (38.3%) and on the streets (23.4%) and 57.4% of responders reported difficulty accessing basic services including restrooms, showers, storage, clothing, food, and water. Those reporting a long-term or chronic physical condition made up 61.7% of our sample though there is little association of this health state and loss of housing. Findings included a significant association with problem drug/ alcohol use as reason for loss of housing (p=0.03) and some association (p=0.06) with mental health issues.

Implications: Data gained from this study is important to develop needed policies on vulnerable populations and mental health and substance use. Homeless mitigation strategies, with particular emphasis on young adults with a long-term or chronic physical condition, require targeted interventions. The need for improved access to basic living needs is highlighted as a means to improve the health and environment of unsheltered women.

Funding: UCLA, Center for the Study of Women

School Nurses' Language Barriers with Limited English Proficient Families

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Learning Objective: Describe school nurses' current practices, perceived effectiveness and suggestions for improvement in language translation with limited English proficient families.

Purpose/Aims: Guided by the National Association of School Nurses (NASN) 21st Century Framework for School Nurses, the purpose of this study was to: (a) identify current practices of school nurses with communicating to students and families with limited English proficiency; and (b) describe school nurses recommendations for meeting their language translation needs.

Background: School nurses are key to achieving well-being in our communities through effective communication with students and their families. Our public schools are on the forefront of a shifting demographic towards greater racial and ethnic diversity with diverse language needs, as well as an increased prevalence in health problems. The need for school nurses to be linguistically competent is imperative to fulfill their role as leaders in school-based health and to address health disparities of the school-aged population.

Methods: We conducted a cross-sectional descriptive study of Nevada school nurses in April 2020 using Qualtrics. The survey was piloted and revised before the final survey was distributed to registered members of the Nevada State Association of School Nurses. Data were analyzed from the pilot and final survey together using descriptive statistics.

Results: There were 65 participants who worked as a school nurse for approximately 13 years. Among the participants, 68% spoke a second language, yet only 11% were medically fluent in their second language. Currently, school nurses use the following resources to communicate with limited English proficient families: school office staff (88%), health office clinical aides (54%), students (54%), classroom staff (38%), free online services (37%), district translation services personnel (31%), and other (8%). School nurses felt that their translation needs were always met only 25% of the time. On average, school nurses felt they required translation needs for 3 hours (range 1 - 15 hours) per week. School nurses felt to meet language translation needs they wanted a translator service available through the telephone or tablet.

Implications for Practice and Future Research: To meet the growing health needs of school-aged populations, school nurses need tools to effectively communicate with students and families. Our study makes a case for quality improvement in school health policies and implementation of linguistic and translation competence within the practice of school nursing. Further research is needed to understand school nurses' language barrier and communication needs across the nation.

Utilizing Theory to Counter Human Trafficking Against American Indian Women

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Purpose/Aim: American Indian (AI) women and adolescents are at a greater risk of violence against them than the national average in any other population. In recent years, there has been a staggering increase in the rate at which AI women and adolescents go missing or are murdered, which has gathered interest from tribal and national leaders. Furthermore, this phenomenon has created a call to action to enhance awareness, education, and support to tribal communities to understand and combat human trafficking on native soil. Leininger's Culture Care Theory provides a framework to help interpret meanings and expressions of the culture as it relates to health and well-being, such as reducing violence and human trafficking experienced by AI women and adolescents.

Description of Theory: This theory guides the design and implementation of culturally congruent care by focusing on the values, beliefs, and practices of individuals, groups, and communities of similar or different cultures. This theory led to a focus on transcultural nursing care, which is an area of practice and research that holistically helps define, understand, and design culturally specific practices to promote health and well-being within different cultures.

Internal Consistency of Concepts/Theory: Leininger's Culture Care Theory addresses the following basic concepts to promote culturally competent care that includes; 1. caring as an action to assist with real or anticipated needs, 2. culture as a set of values, beliefs, or norms that influences health practices, 3. culture care diversity as the recognition that different groups or individuals do not have shared values, beliefs, or practices as other groups and individuals, and 4. cultural care accommodations as this requires nurses to creatively work in partnership for a shared goal within different cultures. This theory assumes that cultural values and beliefs are imbedded from multiple factors that influence health practices and outcomes of individuals and groups from different cultures, which must be acknowledged and understood when designing programs, patient care, or research.

Logic Linking to Research Problem: AI women and adolescents experience increased rates of violence and human trafficking in comparison to other cultures, which often goes unnoticed a vast majority of the time. Furthermore, complex political and historical relationships have contributed to AI health disparities, which has led to fear and distrust. These factors illustrate the need for culturally competent health promotion and research activities, in order to implement interventions aimed at reducing violence and human trafficking within this vulnerable population. Leininger's Culture Care Theory provides a framework that encompasses culture and social structures holistically, and considers the environment, language and history of a culture to improve health and well-being, such as reducing violence and human trafficking experienced by AI women and adolescents.

Conclusion: Given the untoward consequences of violence and human trafficking of AI women and adolescents, it is imperative that health promotion and research activities are theory-based and consider cultural values, beliefs, and practices. Leininger's Culture Care Theory provides a holistic and cultural congruent framework to understand and reduce violence and human trafficking experienced by AI women and adolescents.

Perceived Spousal Support Toward Mammogram Screening Among Immigrant Arab Women.

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Aims: This study aims to (a) examine the association between immigrant Muslim Arab women's (IMAW) perceived spousal support for mammograms and IMAW's mammogram utilization and (b) understand IMAW's experience and perception of spousal influence regarding mammogram utilization within the context of their culture.

Background: IMAW are less likely to undergo mammogram screenings. Numerous studies have explored factors contributing to this phenomenon, such as health beliefs, fatalism, and knowledge. However, these studies have neglected an important factor—the husband's influence. In Arab and Muslim cultures, husbands' influence over their wives extends to personal matters such as health care-seeking behaviors. The exclusion of this fact when studying mammograms among IMAW indicates researchers could not provide a thorough explanation for IMAW's low utilization of mammogram screenings.

To date, it is still unknown whether husbands play a negative or positive role on mammogram utilization among IMAW. In addition, if husbands play a positive role, then the nature of their support from IMAW's perspective is unknown, as is how different forms of spousal support would influence IMAW's mammogram utilization.

Methods: A mixed methods study employed a survey and one-on-one interviews in Arabic and English. Because of the COVID-19 pandemic, recruitment and data collection were conducted virtually via social media (private groups on Facebook and WhatsApp for Arab women). Data collection occurred between March 2020 and August 2020.

A convenience sample of 184 IMAW participated in the survey. The survey included sociodemographic questions, and a spousal support scale was used ($\alpha = 0.67$) to measure IMAW's perception of their spouses' support of mammogram screenings. Association between spousal support and the primary outcome of mammogram use was explored by logistic regression. SPSS was used for survey data analysis.

A purposive sample of 20 IMAW was interviewed using a semi-structured interview guide. All interviewed were recorded. Arabic interviews were translated into English and transcribed by professionals. Thematic analysis based on Braun and Clarke (2008) was used to analyze the interviews. ATLAS.ti was used for data analysis.

Results: Although 86.6% of the women had at least one mammogram in their lifetime, only 32.6% had a mammogram screening within the past two years. Compared to their counterparts, women who reported higher levels of spousal (husband) support were more likely to have (a) had one mammogram in their lifetime ($OR = 1.087$; $P < .012$; CI: 1.01–1.16) and (b) received a mammogram within the past two years ($OR = 1.099$; $P < .029$; CI: 1.01–1.19).

Sixteen interviews were conducted in Arabic and four in English. The average interview duration was 52 minutes. Based on IMAW's experience, six themes were identified: (1) type of spousal support toward mammograms, (2) importance of spousal support, (3) husband guardianship versus husband support, (4) husband influence on IMAW's mammogram utilization, (5) reasons for not receiving spousal support, and (6) a collective duty to enhance men's awareness.

Implications: Findings from this study may provide nursing activists and scholars with effective strategies for involving husbands in improving mammogram utilization among IMAW.

Funding: The Sigma Theta, Tau, Gamma Tau Chapter at Large 2019

The Relationship of Metabolic Syndrome and Health Behaviors among Hispanic Women

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Purpose/Aims: The purpose of this research study is to describe the associations between the independent variables of chronic stress, social support and other psychosocial stressors such as use food insecurity, family safety, high risk health behaviors and the presence of Metabolic Syndrome (dependent variable) in Hispanic women living in an underserved community. In addition, this study aims to determine the odds of Hispanic women having Metabolic Syndrome as determined by the study independent variables.

Background: The Hispanic population living in the United States has increased dramatically in the last 20 years, now compromising the nation's largest ethnic minority group. The national data from the National Health and Nutrition Examination Survey (NHANES) shows an overall Metabolic Syndrome prevalence of 42% among Mexican-American women 35-55 years of age, the highest rate compared to non-Hispanic blacks and whites (Moore JX, et al. 2017 CDC). According to the Hispanic Community Health Study (2014) Metabolic Syndrome prevalence was present in 36% of Hispanic women of whom 96% were obese. Additionally, cardiovascular disease, type 2 diabetes and obesity risk disparities among middle-aged Hispanic women have been linked to their high rate of Metabolic Syndrome. Little is known about the additional contributions of chronic stress, social support and health behaviors to the occurrence of Metabolic Syndrome among this population.

Methods: This retrospective cohort study design will utilize approximately150 patient cases from the past year. The case data will be obtained from clinic electronic medical record (EMR). Descriptive and inferential statistics will be used to address the study aims.

Results/Findings: (Research findings to follow).

Implications for Nursing Research: The present Metabolic Syndrome epidemic among Hispanic women will not improve unless there is first, more available research evidence regarding the factors contributing to Metabolic Syndrome in this important and growing minority population.

Funding: Doris A. Howell Foundation for Women's Research, La Jolla, CA and Irene S. Palmer Research Award/ University of San Diego, San Diego, CA.

Characteristics and Perceived Long-Term Needs of Homeless Women in Los Angeles

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Purpose/Aims: A 2019-2020 study on the status of homeless women sampled 47 homeless women aged 18-80 residing in shelters in downtown Los Angeles, Ca. The study focused on the health and environment of homeless women, as well as their perceived assessment of long-term need.

Rationale/Conceptual Basis/Background: Cities are experiencing more and more migration of homeless individuals. Los Angeles reports a homeless population of 50,000-60,000 on any given night; 31% of whom are women. Shelters are limited, healthcare minimal if at all, and the environment of the homeless is in a state of flux. Psychological impacts can be enormous, affecting the homeless individually and collectively. The need exists to identify the status of homeless women in terms of their health status, socio-economic status, mental health status, environmental status and shelter needs as well as the environmental context of homeless women for policies and increased services.

Methods: Self-administered questionnaires collected over a 6-month period, targeted 47 homeless women over the aged 18 years or older. All participants were residents in downtown shelters in Los Angeles, Ca. Data collected comprised of several aspects of homeless women's lives, such as the health and environment of homeless women, as well as their demographic characteristics and perceived assessment of long-term needs. Data on physical and mental health status included domestic violence and abuse, mental health, and substance abuse. Preference for housing, employment, and social services was assessed.

Results: Vulnerable populations, particularly homeless women, are at risk of violence, psycho-socio problems, and poor health. Finding included significant policy issues of mental health status stemming from years of abuse (physical & psychological) and substance use and dependence. A scaled assessment of health status (illness and healthcare provider visits), financial status (sources of income and annual amount), social support and networks, mental health (including depression), and risky behaviors (i.e., tobacco, substance abuse and unprotected sex) reported statistical significance in substance use and violence experiences.

Implications: Efforts to address the environment of the homeless requires a better understanding of the environment of homeless women, including self-help behaviors and psychosocial barriers. Information on the demographic characteristics, racial and educational diversity of women provide much needed data that can guide referrals and can respond to service needs.

Funding: UCLA Center For Womens Study 2019

HEALTH DISPARITIES/CROSS-CULTURAL RESEARCH

Development of Cultural Resilience in American Indian Youth Conceptual Model

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Purpose/Background: American Indian (AI) children and adolescents living on Indian reservations experience greater health inequity compared with white adolescents. Mainstream therapies to improve mental health outcomes and well-being for AIs are suboptimal, and nonnative providers often lack understanding of the significance AI culture has in the lives of AI youth. A tailored resilience model, the Cultural Resilience in American Indian Youth (CRAIY) model was developed to guide practice, research and education for nurses and other professionals working with AI youth on reservations.

Definition/Internal Consistency of Concepts: Resilience is broadly defined as the ability of a complex system to adapt to challenges that threaten the function and survival of the system. CRAIY was developed using concept derivation, statement synthesis, cultural expert consultation, and clinical experience. The model draws from the longstanding psychological resilience model based on developmental systems theory by Masten and Barnes, and the nursing resilience model by Kahn-John informed by the Diné (Navajo) culture. Three main concepts within the CRAIY are perceived discrimination, subjective well-being and cultural resilience. Perceived discrimination refers to the perception of unjust treatment based on race. Cultural resilience is the degree to which a person’s culture promotes adaptation despite challenges or threatening circumstances. Subjective well-being is a person’s evaluation of their overall life and emotional experiences. These concepts represent empirical indicators that have been individually measured and validated in the AI youth population. However, there is a lack of theoretical and empirical evidence that combines all three variables (discrimination, well-being and cultural resilience), or proposed a relationship among them, and the CRAIY proposes to combine these three variables for use as an intervention model and a measure of resilience.

Logic Linking to Research Problem: AI youth have some the of the highest physical and mental health disparities of any population in the United States. Historical factors contributing to health disparities of AI people are complex and include trauma, discrimination, forced assimilation, family fragmentation, cultural losses and poverty. Childhood and adolescence are ideal times to implement health promotion interventions that strengthen resilience factors and promote healthy lifetime behaviors.

Conclusion: The CRAIY model has usefulness to society through three main processes: a) It provides a better understanding of the risks and resilience factors in AI youth, b) Offers a culturally informed model for use in research with AI youth, and c) Promotes enhanced practice knowledge and skills for nurses and interdisciplinary providers. The CRAIY model can serve as an overarching culturally relevant theoretical model that supports community participation and traditional values and beliefs for youth on Indian reservations. Use of a tailored model such as CRAIY may lead to culturally-derived health promotion initiatives to improve health outcomes and well-being for AI youth.

HEALTH PROMOTION/ILLNESS PREVENTION

Napping among Night Shift Workers

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Purpose: Investigation of night shift workers' perceptions of the benefits and barriers of napping during night shift.

Background: Night-shift sleepiness can cause many problems, such as reduced alertness, increased risk of job-related injuries including motor vehicle accidents on the drive back home, and increased risk of long-term health problems. Research study showed improvement in physical fatigue, sleepiness, and sleep quality by taking planned naps by nightshift registered nurses during their 30-minute lunch break. Policies that support rest/naps during night shift work may help improve the work, life, and health conditions not only in the nursing field but also among night shift workers in general.

Methodology: A quantitative, descriptive, exploratory design was utilized. Researchers developed a 16-question survey, which was provided to night shift workers via email and social media with a link to SurveyMonkey®. Data were downloaded and analyzed.

Results: A total of 130 subjects responded to the survey, 75% of which were female. Over 90.8% of the subjects ranged from 18 to 50 years old, and 44% had worked night shifts for more than 5 years. Seventy-nine percent reported consuming at least one caffeinated drink during their shifts. Fifty-three percent reported getting 4-6 hours of sleep prior to work. Over 29% reported taking a nap during their breaktime. Of those people who took a nap, only 2.3% reported extremely sleepy during their drive home, while 40.6% and 26.6% described themselves as mildly and moderately sleepy, respectively; 86% rated moderate to extreme alertness, and 13.9% rated mild alertness during the shift; 50% noted seldom making a mistake, and 36% noted never making a mistake. Of those people who did not take a nap, 5.5%, 46.9% and 35.9% rated extreme, moderate, and mild sleepiness during the drive home, respectively; 2.8% reported never staying alert, and 36% reported sometimes staying alert; 40.6% rated very often in describing their ability to concentrate, and 34.4% rated sometimes in describing their ability to concentrate during their shift. Out of 62.5%, 41.4% reported that the main barrier preventing them from taking a nap was the lack of an appropriate nap room, and 21.1% reported that it was the lack of encouragement from management. More than 54% of subjects agreed that taking a nap during a night shift would improve performance and prevent making a mistake.

Nursing Implications: Night shift workers often experience high levels of sleepiness. Napping during their break time can be used as an effective countermeasure to reduce sleepiness and fatigue. The results of this survey indicate that if night shift workers take a nap during break time, they may show increased alertness, increased cognitive performance, and decreased chances of making mistakes. However, napping during break time while working the night shift has been challenging for night workers for many reasons. The study identified barriers such as lack of an appropriate nap room and lack of encouragement from management. These barriers need to be addressed further.

Relationships between Cortisol, Sleep, Stress, and Mood among Night Shift Nurses

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Purpose: To determine relationships between cortisol, sleep, and self-reported mood and stress among nurses working 12-hour night shifts after three consecutive work days and three consecutive rest days.
Background: Working night shift is a known physical and emotional stressor which can lead to negative health outcomes such as metabolic syndrome, depressed mood, and disturbed sleep patterns. Cortisol is clinically regarded as a stress-related biomarker, and follows a circadian rhythm in humans, such that levels peak in the early morning and trough in the late evening. Aberrant cortisol levels have been related to a negative mood and impaired sleep. Registered nurses are subject to working consecutive 12-hour night shifts, potentially altering their cortisol levels. However, the impact of night shifts on cortisol levels, sleep, stress, and mood in registered nurses has not yet been well-defined.
Methods: N=36 nurses working full-time, 12-hour night shifts from two urban hospitals in the Pacific Northwest participated in a variety of tests immediately after finishing a third consecutive 12-hour night shift and again after a third consecutive day of rest from work. Nurses wore wrist actigraphs for 72 hours prior to both test sessions as an objective measure of sleep. During each test session, nurses completed self-report questionnaires on mood, stress, and sleep quality. Nurses provided one saliva sample for cortisol levels at 10:00 in the morning during each session.
Results: After a third consecutive 12-hour night shift, nurses were significantly more likely to exhibit cortisol level within the peak expected reference range for morning measurement as both sleep quantity and efficiency ($p<0.01$) increased in the 72 hours prior to the test sessions. Furthermore, higher cortisol levels were related to a more positive mood, lower stress, and better sleep quality/quantity. These relationships were more pronounced when nurses were tested after the third consecutive day of work versus after the third consecutive day of rest, though cortisol levels were not significantly different between conditions.
Conclusions/Further Research: Registered Nurses provide 24-hour care to hospitalized patients, requiring night shifts for some of the nursing workforce. Our data provide preliminary evidence that improving sleep hygiene strategies may reduce negative health effects associated with working night shifts such as depressed mood or increased stress levels, which may augment risk for metabolic syndrome. Our results also suggest that nurses may be able to recover from the stress of night shift work after three consecutive days of rest. Further research is needed to uncover novel strategies and ideal shift scheduling to support positive health outcomes for these clinicians.

Volume Based Feeding for Critical Care Patients

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Critical care patients are at high risk for malnutrition. Delivery of 60%-70% of enteral feeding goals within the first week of intensive care unit (ICU) admission is associated with a shorter length of stay, shorter duration of mechanical ventilation, and fewer infectious complications. Hayland, Dhaliwal, and Wang (2015) note that enteral nutrition has a significant prognostic clinical value in intensive care unit (ICU) patients, with this fact often being overlooked by physicians and nurses caring for them. Enteral feedings are frequently interrupted for long periods of time for patient repositioning, tests and procedures, and surgery. This decrease in caloric intake may not meet nutritional goals and as a result, suffer weakness, weight loss, and physical function. Use of an evidence-based volume based feeding (VBF) protocol allows the missed enteral feeding calories to be administered before and after planned tube feeding interruptions.

The purpose of this study is to compare outcomes of critical care patients receiving volume based feeding (VBF) outcomes of traditional rate based enteral feeding. This project will evaluate the effectiveness of VBF in ICU patients to meet the needs for increased nutritional delivery through the measurement of estimated energy needs and estimated protein needs based on dietary recommendations. Records of ICU patients admitted from January 1, 2018 through December 31, 2018 will be reviewed to determine if caloric goals were met and to determine differences in patient outcomes related to nutrition received.

Design: This retrospective exploratory study will evaluate existing clinical data from the EMR and dietary records.

Setting and Sample: Records for critically ill patients at John C Lincoln Medical Center from January 1, 2018 to December 31, 2018 who received supplemental enteral nutrition are included in the study. Subjects will be retrospectively identified through medical record extraction and EMR reports. Demographic data elements will include age, gender, body mass index (BMI), and APACHE score.

Inclusion criteria: Adult patients ages 18 years and older admitted to the ICU who received enteral feeding.

Exclusion criteria: Adult patients with hemodynamic instability, gastrointestinal complications such as gastrointestinal bleed, bowel discontinuity, severe diarrhea, ileus, mechanical obstruction, or inability to gain access to the gastrointestinal tract.

Data Collection: Demographic variables for the patients admitted to the ICU for 2018 who received enteral feeding, either traditional rate based or VBF will include age, sex, race if available, admitting diagnosis, reason for enteral nutrition requirement, and BMI will be collected. Daily nutritional goal, percent of time goal met, daily times of feeding interruptions, type and total calories received from enteral feeding daily, APACHE scores, length of ICU stay and hospital stay, complications of immobility (Skin ulceration, pneumonia, increased falls, delirium), mobility score, discharge location, and occurrence of ED visit or readmission in 30 days.

Data Analysis:_Descriptive statistics will be computed for the continuous variables and summary tables provided for the categorical variables. Inferential statistics will be computed to compare differences in total daily enteral feeding calories, percent of daily recommended nutritional goal met for the VBF and traditional feeding methods.

Knowledge, Attitudes about HPV Vaccination among Chinese International Students

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Purpose: The purpose of the study is to investigate factors associated with Human papillomavirus (HPV)-related knowledge of and attitudes toward HPV and the vaccine, and the vaccination intention among Chinese international students currently attending a public university in the United States.

Background: HPV is the most common sexually transmitted infestation (STI) globally. It is responsible for 91% of cervical cancer cases (CDC, 2019) and is the fourth most common cancer among women (World Health Organization [WHO], 2018). In China, about 3.8% of women are estimated to carry HPV 16/18 infection, and HPV infection accounts for 69.1% of invasive cervical cancer cases. College students have been identified as one of the populations with the highest HPV infection rate (Revzina & Diclemente, 2005). Moreover, studies have shown disparities in HPV knowledge between international students and U.S. students. Karki (2020) found that U.S. students are more likely to have heard about HPV, be more aware of the HPV vaccine, and have lower perceived barriers than international students. Evidence also suggests a 38.3% HPV vaccination rate among Chinese international students studying in the U.S. (Tung et al., 2019).

Methods: We will recruit 100 Chinese international students that are currently enrolled in a public university in the U.S. through flyers distributed to a Chinese student association. Students who (1) are ethnic Chinese, (2) are 18 years or older, (3) are enrolled in the university as an international student, and (4) can write and read in both Chinese and English are eligible to participate after consenting. Each participant will be invited to fill out an online survey which includes questions about HPV-related issues, sociodemographic characteristics, and health care access. The entire process will take approximately 10-15 minutes. Participants will include a non-University email to receive a $10 e-gift card. We will conduct univariate and bivariate statistics to describe distributions of study variables and relationships among them.

Results: We have received IRB approval and have started collecting data. The study activities will be completed by February 2021.

Implications: Findings of this study will help understand the factors relevant to Chinese international students' intention to get vaccinated against HPV and prevent its related cancers. The findings will also inform how to best provide culturally, linguistically, and contextually appropriate education to promote HPV vaccination among Chinese international students studying in the U.S.

Funding: Arizona State University Honors College

Preventing Delirium in Pediatrics: Staff Education and Screening Tool Implementation

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Purposes/Aims: Pediatric delirium is an under-recognized, untreated,problem that can be avoided. Evidence is strong that delirium can be quite costly for pediatric intensive care unit patients (PICU). However, prevention is possible with early detection, staff education, implemented screening tools, and preventative interventions.

Rationale/Background: Delirium in children is a newer research topic. Unfortunately, research (two systematic reviews, an RTC, and a survey) all indicated poor associated outcomes with delirium. Systematic reviews suggest that pediatric delirium increased duration of PICU stay by approximately 2.39 days and was associated with an 85% increase in PICU costs (Holly, et al., 2018). Sadly, this problem was also tied to increased mortality rates. Fortunately, there are evidence backed screening tools and preventative measures that can be implemented with this vulnerable population to decrease their risk.

Implementation/Methods: Two clinical nurses searched the literature and identified gaps between current practice and suggested practice. These two nurses worked to develop and educational in-service about pediatric delirium and interventions that could be implemented. Clinical nurses on the PICU floor were educated about pediatric delirium and applicable interventions via a PowerPoint. Nurse knowledge about delirium was evaluated using a blinded pre-and post-test survey to see if the educational in-service helped them to gain knowledge about pediatric delirium. Knowledge of the topic did improve. These two nurses then took the project a higher level. They collaborated with technology services, doctors, and their pharmacy to build an evidence backed screening tool for delirium into their charting system. The Cornell Assessment of Pediatric Delirium (CAPD) screening tool was built into the daily charting to be used by all PICU nurses unit. This project also taught nurses to identify and implement preventative measures (such as minimizing restraint use, fostering sleep wake cycles, and ensuring adequate oxygen). The new evidence backed standard of care in the PICU at this hospital is to screen each patient for delirium, to identify risk factors, implement preventative measures for delirium, and to involve doctors in risk reduction if a patient has a positive delirium screen.

Findings/Outcomes: As a result of the nurse research, a process was implemented to improve outcomes. Extensive evidence backed education on delirium in children was completed with all the PICU nurses. The blinded post-test results represented an average total improvement of knowledge on pediatric delirium by 38.84%. The CAPD screening tool is now completed and documented on all PICU patients this hospital. Preventative interventions are applied and documented each shift. Doctors and nurses now collaborate frequently to decrease the rates of pediatric delirium.

Conclusions/Implications for Practice: Searching literature for evidence to enact quality improvement processes is of the upmost importance. Recognition of delirium and education on this topic are key in preventing detrimental outcomes for vulnerable pediatric patients. This project led to the use of the CAPD screening tool as well as implementation of preventative measures in one PICU. Ultimately screening and interventions will better patient outcomes. This type of project could be implemented in many other PICUs.

Enhanced Learning of Complex Practice Guidelines through a Share Simulation

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Purpose: To improve competency through a simulation focused on shared decision making (SDM) for nurse practitioner and physician assistant students within a primary care genitourinary module.

Background: This lesson was created to address a need in the curriculum to develop competency in SDM, critiquing evidence-based guidelines, and content knowledge of prostate cancer screening and management as well as management of male and female urinary incontinence. For advanced practice students, the breadth and depth of content within primary care is challenging to balance against acquisition of practical and applied clinical competencies. Simulation of clinical encounters within the classroom not only allows content application, but also improves engagement and long-term retention. Faculty designed an active learning simulation within the primary care genitourinary module. Past performance data in the genitourinary block revealed challenges in two common patient encounters; sorting through conflicting guidelines for prostate cancer screening and management of male and female urinary incontinence. The ability to critique conflicting practice guidelines, apply SDM to achieve patient-centered care, demonstrate health equity, and grasp highly complex content are competencies required for practice.

Methods: Using the neuroscience of learning framework learning outcomes were established. The simulation design included preparatory work, in-class engagement, and post-session evaluation. Pre-work included in-depth reading and development of a patient and provider specific case scenario. Students were prompted to critique practice guidelines, review SDM protocols, identify patient-centered resources, and address patient specific criteria. Prompting for the clinician role included preparation to use SDM, prostate screening/urinary incontinence treatment options, and decision aids to discuss with the patient. During class, students were randomly paired where they acted both as patient and as provider in two separate scenarios.

Evaluation of the simulation included pre/post comparison, debrief and post-session survey. A pre-activity poll ascertained level of confidence with SDM using a Likert scale. Following the simulation, students participated in a debriefing. At the conclusion, students were asked to rate their experience of SDM and the learning experience from both the patient and clinician role perspectives. Finally, they were asked to rate how well the activity improved their confidence in using the SDM process in practice.

Outcomes: Prior to the simulation, 89% of students reported low to moderate confidence with SDM (N=81). After the simulation, 88% of students reported at least a high level of confidence in SDM. In addition, 94% of students reported high "very well" or "very best practice" ability to utilize SDM as a future provider. Finally, test performance data suggested not only did the simulation support improvement in SDM competency, but also marked improvement in content knowledge.

Conclusions: Integrating adult learning principles and the neuroscience of learning framework helped students to integrate and apply complex content in their clinical practice. This approach holds meaning for clinical students. It facilitated both skill acquisition and content-based learning. It has the potential to guide significant changes in curricular design from both a student and faculty perspective. Further analysis of similar approaches to complex material needs to be evaluated for impact against national benchmarks on certifying examinations.

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System-Level Events and Patient Safety

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Purpose: The purpose of this research was to broaden the understanding of the perceptions held by nurses and nursing leaders from magnet and non-magnet-designated hospitals regarding system-level factors that hold the potential to compromise patient safety and degrade hospital system health.

Background: Yearly in the United States, over 400,000 hospitalized patients die, and millions are injured from preventable errors. However, as many as 6.1 fewer deaths per 1,000 patients occur in magnet-designated hospital organizations. Magnet-designated hospitals are those that have met standards of excellence outlined by the American Nurses Credentialing Center. Literature suggests that many efforts aimed at mitigating preventable errors have been unsuccessfully applied at the point of care without regard for the complex nature of hospital organizations. Knowledge regarding the impact of system-level factors on system health and patient safety is lacking. This research served to delineate the shared and divergent perceptions of magnet and non-magnet nurses and nursing leaders regarding what system-level factors hold the capability of influencing overall hospital system health and patient safety.

Methods: This research was done using a qualitative descriptive approach rooted in naturalistic inquiry. Qualitative semi-structured interviews were conducted with a total of 12 participants. Within-methods triangulation was used through the application of natural language processing and manual thematic analysis of transcribed interview data.

Results: Magnet and non-magnet nurses and nursing leaders held some unique perspectives regarding system-level factors that hold the potential to influence hospital system-health and patient safety. Magnet leaders and nurses did agree about the harm that can arise from unstructured processes to address safety issues. Magnet nurses and non-magnet leaders both described the detriment stemming from high turnover and loss of experienced nurses. All groups, except for magnet leaders, spoke of the negative impact of decisions made without full awareness of the needs of those affected. Thematic analysis revealed that the area of least emphasis across participants was healthy systems, while the greatest emphasis was given to communication. Natural language processing revealed that magnet leaders had the highest levels of positive emotion and analytical thinking. Non-magnet leaders had the most confidence and were strongly driven by the motivation of power. Non-magnet nurses had, by far, the highest levels of negative emotion and spoke at length regarding many stressors felt throughout the hospital system.

Implications for Translation to Practice: The current approach to mitigating preventable errors has been ineffective. This research revealed a plethora of system-level events and circumstances that nurses and nursing leaders perceive as negative influences that compromise patient safety. Both convergent and divergent perceptions stemming from magnet and non-magnet personnel warrant further investigation as they stem from those immersed in and affected by hospital environments. Utilization of a system-level approach to bolster patient safety is warranted and necessary.

A Theoretical Framework for Research on Young Adult Nurse Work-Related Well-Being

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Purpose: Advance a previously proposed theoretical framework to guide the study of young adult nurse work-related well-being.

Description of Theory: Young adult nurses, who range from ages 18-30, suffer from greater suboptimal work-related well-being when compared to other age cohorts of nurses. Young adult nurses also have the highest turnover intentions and the lowest overall job satisfaction. Theory-guided research is needed to examine new ways to understand this problem. The proposed theoretical framework is guided by life span development theory which holds the assumption that development is influenced by an individual's age, history, and non-normative influences ultimately shaping their well-being.

Internal Consistency of the Theory Developed: The theoretical framework consists of five main concepts, each defined in a way that guided development or selection of a measure for research: *Young adult nurse work-related well-being* is defined as a positive evaluation of work-related experiences reported by the young adult nurse. *Contemporary practice worldview* is the general perceptions and beliefs about current nursing practice held by the young adult nurse. *Generational differences in practice worldviews* are the variations in philosophical worldview about oneself and one's work among distinct cohorts of an era or date of birth characterized and likely influenced by certain sociocultural, environmental, and historical events. *Perceived co-worker social support* is the perception that one has the companionship needed from co-workers within the work environment. Lastly, *resilience* is the capacity to moderate negative experiences and remain optimistic about the future. Two key relationships proposed in the framework were examined in a descriptive mixed methods study: 1. Contemporary practice worldview, perceived co-worker social support, and resilience together are positively associated with young adult nurse work-related well-being; and 2. Generational differences in practice worldviews are negatively associated with young adult nurse work-related well-being.

Logic Linking the Theory to Nursing Practice: This research links nursing philosophy, theory, and practice in a novel way by examining the relationship between nursing's unique disciplinary knowledge and young adult nurses work-related well-being. Young adult nurses who more strongly endorse a contemporary practice worldview may have greater social-cultural identity and belonging to nursing, a more stable commitment to the workforce, and greater work-related well-being. Conversely, increased generational differences in practice worldviews may hinder this process, resulting in suboptimal work-related well-being. Research is needed to study the proposed unexamined but potentially relevant factors impacting young adult nurses work-related well-being. Results of this study and subsequent research may be useful in designing interventions to help maintain and enhance young adult nurses' work-related well-being, which in turn may support the future of the nursing workforce. Enhancing work-related well-being may not only promote the health of nurses but also their motivation and ability to safely and effectively care for patients.

Conclusion: This theoretical framework provides a guide for initiating research into young adult nurse work-related well-being, as it may be explained in part both by established variables (resilience) and by unexamined variables (contemporary practice worldviews, generational differences in practice worldviews, perceived co-worker social support) theorized as relevant for young adult practicing nurses.

Funding: This study was supported by the Sigma Theta Tau Beta Mu Student Research Grant at the University of Arizona College of Nursing.

Brief Intervention Pilot Study for Individuals with Alcohol Use Disorder

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Purpose: The purpose of this study was to assess preliminary efficacy of screening for alcohol use and a brief intervention (BI) using the Feedback, Listen and Understand, Options Explored, Don't Warn (FLOW) model for patients who are assessed in the emergency department (ED) with a risk for alcohol use disorder (AUD) utilizing established nurse navigators. This is the first study to assess the initial efficacy of a BI to reduce alcohol use in at-risk patients utilizing nurse navigators in the ED who were not bedside nurses.

Theoretical Framework: The theoretical framework guiding this study is based on the Health Belief Model (HBM) and the Transtheoretical Model.

Methods: A pilot, non-equivalent, two-group quasi-experimental study assessed the preliminary effectiveness of a registered nurse-led BI to reduce alcohol consumption and dependency, improve readiness to change alcohol use, lower depressive symptoms, decrease perceived barriers, and improve the perceived susceptibility, seriousness, and benefits among individuals presenting to the ED who were at-risk for AUD. Two groups were enrolled: an intervention group and a usual-care comparison group.

Results: At 3-month follow-up, the findings of this, non-equivalent, two-group, quasi-experimental pilot study provide insight into the efficacy of a nurse-led brief intervention (BI) using the FLOW model to reduce alcohol consumption and dependency among individuals presenting to the emergency department (ED) with a risk for alcohol use disorder (AUD). Participants between the intervention and comparison groups reported a significantly lower number of drinks over time and an increased awareness of how alcohol could affect their health. Significant difference was also found over time within both the intervention and comparison groups.

Conclusion: This was the first study conducted in the ED by a nurse navigator who provided a BI with the goal of decreasing alcohol use. The intervention demonstrated that it is feasible for a nurse navigator, without a patient assignment to administer the BI in a busy ED for patients with AUD. The study provides evidence for a future randomized-control trials to assess the efficacy of a nurse navigator in the ED related to AUD. Future nurse-led interventions, including nurse-patient discussions on alcohol use, hold great promise for improving the drinking behaviors and health of people who struggle with AUD.

Implications: Screening and Brief Intervention for alcohol use is an evidenced based best practice intervention for patients with risk for AUD. Nurses in the ED are in a unique position to screen patients for alcohol use based on current best practice tools. Nurse Navigators have the skills to plan interventions with their patients at risk for alcohol use disorder. They can assist with referrals to treatment in the community and offer options to the patient who is ready to change their alcohol use.

Integrating Harm Reduction into Baccalaureate Nursing Programs

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Purposes/Aims: To understand (a) nurses' experience in receiving harm reduction education during their baccalaureate (BSN) programs, (b) how harm reduction is being incorporated into nursing practice, and (c) strategies to improve harm reduction education within nursing curriculum.

Background: Nurses are often at the frontline of caring for people who use drugs and for people who engage in sex work. To provide competent care to these groups, nurses could incorporate harm reduction strategies. Harm reduction is both a social justice movement and supportive care model started by people who use drugs and people who engage in sex work to minimizing harms associated with drug use and sex work. In nursing education, there is no required curriculum pertaining to harm reduction and it is not known whether harm reduction is being taught within BSN programs. Implementing education on harm reduction in BSN programs may equip future nurses in providing competent care to people who use drugs or for people who engage in sex work.

Methods: Guided by critical caring theory, we developed a mixed-methods study using a cross-sectional survey of nurses and descriptive qualitative interviews of harm reduction experts. The survey included questions developed using a reflective approach to explore aspects of formal education, knowledge, care, meeting patient needs, and building educational capacity. The survey was designed in Qualtrics and data will be analyzed using descriptive statistics. The interviews are guided by a semi-structured interview guide and include questions pertaining to harm reduction in health care, nursing curriculum, and building educational capacity. Interviews will be analyzed using thematic analysis.

Results: Preliminary survey findings for 27 nurses include approximately, 15% of nurses stated they received harm reduction education during their BSN programs; 24% reported feeling extremely comfortable providing care to patients who use drugs or who engage in sex work; and, 10% reported they always provide care with the aim of supporting their patients to reduce their risks associated with drug use or sex work. Recruitment and data collection for the qualitative interviews is ongoing. We plan to interview approximately 10 harm reduction experts.

Implications for Nursing Education and Practice: Our project supports the need for harm reduction education within BSN programs. By incorporating harm reduction education within BSN programs, we anticipate nurses will have competent knowledge and skills to care for people who use drugs and for people who engage in sex work. With competent trained nurses, people who use drugs and people who engage in sex work may feel comfortable discussing their health needs with nurses, which will improve trust and end harmful medical stigma surrounding people who use drugs and people who engage in sex work. Educating student nurses in harm reduction will be key in reshaping health care culture toward a care model that supports patient needs and a social justice movement.

HEALTH PROMOTION/ILLNESS PREVENTION

Vitamin D Supplementation as a Treatment Modality for PCOS

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Polycystic ovarian syndrome (PCOS) is the most common female endocrine disorder, affecting 4-18% of women of reproductive age. It is characterized by metabolic disturbances including insulin resistance, hyperinsulinemia, and dyslipidemia. As women's health providers, advanced practice nurses must continually explore new treatment options for this challenging disorder. Antiandrogen treatment in combination with insulin sensitizing drugs are the mainstays of PCOS treatment, yet patients are often left with life-altering outcomes of this disorder. Nearly 75% of patients with PCOS are deficient in vitamin D, a fat-soluble vitamin known to play an important role in metabolic pathways affected by PCOS. While the etiology of PCOS is unknown, a number of randomized control trials (RCT) have demonstrated that polymorphisms on vitamin D receptors may modulate the severity of PCOS symptoms. Therefore, vitamin D supplementation presents an important opportunity in the treatment of PCOS. The purpose of this review is to determine the efficacy of vitamin D supplementation for the improvement of metabolic and endocrine outcomes in PCOS. A thorough search of Pubmed, CINAHL, and Embase was conducted, and four RCTs and four meta-analyses were chosen for review. Although some studies show no effect on metabolic and endocrine parameters, a recent literature review and multiple RCTs provide promising evidence that vitamin D supplementation in PCOS is associated with decreased insulin resistance and glucose levels, as well as improved liver function, ovulatory function, and triglyceride levels. Further research is necessary to better understand vitamin D supplementation in patients with PCOS, but it appears there are no adverse effects associated with supplementation. Vitamin D supplementation should be considered as a treatment option for PCOS patients with endocrine or metabolic dysregulation, or vitamin D deficiency.

Examining the Relationship between Exercise and Stress among ED Nurses

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Purpose: The purpose of this research is to examine the relationship between exercise and stress among Emergency Department (ED) nurses.

Background: Stress causes physiological and psychological changes, such as increased blood pressure and heart rate, anxiety, and panic attacks. These symptoms can be harmful to working adults including nurses. The consequences of stress may contribute to absenteeism, increased turnover, and increased health-related costs to companies. Multiple studies have been conducted to determine the effects of exercise in relation to psychosocial stress, depression, and emotional regulation. Research findings supported research indicating that exercise is a preventative method in regulating negative emotional responses to negative events. Moreover, evidences have concluded that exercise decreased stress and increased mental resources among working adults; suggesting that employers should offer exercise programs in the workplace.

Methodology: A quantitative study design is used to examine if exercise decreased the stress of ED nurses. A 16-question, multiple choice, researcher-developed survey via SurveyMonkey® was both texted and emailed to nurses at a hospital ED. Participants were informed that the survey would only take approximately five minutes and that they would remain anonymous. Ultimately, we were able to review and analyze the data from the 32 completed surveys.

Results: A total of 34 emergency nurses were asked to fill out the survey with 31 of them completing it. Those that answered the survey, 81% were between the ages of 26 and 45 years old. Furthermore, 37.5% of participants reported 6 to 10 years practicing as a nurse, and 40% of those participants practiced as an emergency nurse for the last 6-10 years. The majority of those survey worked the day shift (87.5%) while only 12.5% worked the night shift. Additionally, 65% of the participants reported exercising two to three times per week. Moreover, 96.88% of the participants felt that their job contributed to their stress, however, 84% felt that exercise helped reduce their stress level. A total of 62% reported exercising for 30-50 minutes. The most reported forms of exercise were jogging (9.38%), running (9.38%), yoga (9.38%), walking (34.38%), and weightlifting (34.38%). The study showed that 84% of the participants did not belong to an exercise program. A moderate stress level was reported in 65% of the participants occurring three times a week. Twenty-one people reported engaging in exercise when they are feeling stressed. Before exercise, 82% reported a mild to moderate stress level. After engaging in exercise, 86% reported a reduction in stress to a mild level. Lastly, 53.3% of those surveyed, did not know the current adult recommendations of physical exercise promoted by the American Heart Association.

Nursing Implications: Education about the positive effects of exercise on stress reduction is essential for ER nurses. Absenteeism, increased turnover, and increased health-related costs due to stress-related consequences would improve for both parties. Additionally, offering ER nurses resources that promote exercise may lead to improved changes in lifestyle and result in long term positive effects on their physical and psychosocial health.

HEALTH SYSTEMS, LEADERSHIP, AND WORKFORCE ISSUES

Test Reliability and Construct Validity of Nurse Engagement at Work Questionnaire - v1

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Purposes/Aims: The purpose of this study is to examine the psychometric properties of reliability and construct validity of the Nurse Engagement at Work Questionnaire - v1.

Rationale/Conceptual Basis/Background: There are numerous reasons for nurses and nurse practitioners to decide to leave their current organization. Understanding the reasons, situations, and conditions why nurses leave their current organization may provide the opportunity to increase nurse retention. The Nurse Engagement at Work Questionnaire-v1was designed to facilitate discussion between nurses and leadership/management to provide an opportunity for nurses to communicate issues with situations that may cause them to consider leaving the organization, help leadership/management better understand the conditions that may cause nurses to leave, and allow nurses to communicate personal congruence with the value of the organization and a sense of commitment to it. The Nurse Engagement at Work Questionnaire – v1was developed based on the concepts of the three types of motivation associated with workplace behaviors: intrinsic motivation, extrinsic motivation, and amotivation. The ultimate goal is to help clinical managers, and leaders develop an intervention that can promote registered nurses' and nurse practitioners' retention and enhance professional and career satisfaction, reducing the lost revenues that can be better used to improve patient care. The overall potential financial effect in reducing turnover is significant to the health care system.

Methods: The study will survey nurses from the American Psychiatric Nurse Association (APNA) currently active in nursing roles in the United States. The Qualtrics survey was recently posted to the internal list-serve of the American Psychiatric Nurse Association (APNA) which is the same group and audience as the original study. Construct validity will be determined by comparing it with an existing work satisfaction tool, the Basic Psychological Need Satisfaction at Work Scale. Exploratory factor analysis will determine how the question is related to each measure's hypnotized factor structure. Confirmative factor analysis will be used based on the exploratory factor's result to determine if the model fits the data adequately. One-way analyses of variance will be performed to determine whether there are differences between the participant role and the Nurse Engagement at Work Questionnaire – v1 factors. Cronbach alpha will be used to test the homogeneity of items on each factor.

Results: Pending

Implications for Translation to Practice/Further Research/Policy: Pending

Establishment of Best Practice Skills for Advanced Practice Nurses

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Background/Rationale: Over the past two decades, nursing researchers have sought to define nurses' perceptions of evidence-based practice as well as facilitators and barriers to its implementation. This project seeks to take the next step through a current assessment of nurses' assimilation of evidence-based practice as well as provision of implementation strategies to effectively bridge research to the bedside to ultimately establish best practice skills for advanced practice nurses.

Purpose: To identify, over the past 11 years, improvements in evidence-based practice implementation among advanced practice nurses as well as continued barriers with the goal of defining implementation strategies.

Methods: This is a cross-sectional, retrospective project. Data was collected using a self-administered questionnaire of 17 questions. A 5-point Likert-like scale was used to identify advanced practice nurses' current perceptions of evidence-based practice.

Sample: Advanced practice nursing students pursuing a master's or doctorate degree in southern California were given a survey at the commencement of their first-year research course. Each student completed a survey and asked a fellow nurse to also complete the same survey. Five-hundred and ninety nurses completed surveys from 2009-2020.

Results: Results of the surveys were divided into three categories, *good*, *needs improvement*, and *poor*. *Good* was identified with a Likert-like score above 3.4, *needs improvement* was a score of 1.8 to 3.4, and *poor* was classified as under 1.8. The majority of the questions ranked in the *good* category. Results indicated that nurses implement institutional evidence-based practice protocols, identify pitfalls in their care delivery, and, in turn, alert leadership and pursue current knowledge of the issue to bridge the gap in care. The highest scoring question on the survey with a score of 4.19 was "nurses constantly monitor the effectiveness of the care they are providing." "Nurses do not have a relationship with librarians who can help with evidence-based practice" was the lowest scoring question with a score of 2.53.

Implications for Advanced Practice Nursing/Recommendations:

1. Institutions must have established infrastructures dedicated solely to evidence-based practice/quality improvement implementation. Medical professionals holding the positions within such infrastructures should only have that position within the organization, not juggling a clinical role as well. Evidence-based practice/quality improvement team members must have the academic background of evidence-based practice education, specifically a master's or doctorate degree.
2. Evidence-based practice infrastructures and initiatives must be multidisciplinary, ensuring input across all disciplines to achieve professional engagement, autonomy, and empowerment.
3. One role of the evidence-based practice team should be to formally provide research and evidence-based practice process education to advanced practice and clinical nurses to achieve an engaged nursing staff.
4. Advanced practice nurses should be included in evidence-based practice processes including the identification of clinical practice questions, gaps in care, applicability, and feasibility of practice changes, but should not hold formal evidence-based practice positions in addition to their primary clinical employment.
5. Time for evidence-based practice contributions of advanced practice nurses should be built into their current workload and schedules

Nurse Collaborations across Fetal Diagnosis, NICU, and Home Health Networks

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Purpose/Aims: The World Health Organization and the Institute of Medicine prioritize collaboration among healthcare disciplines. Effective collaborations reduce costs, duplications, error rates, staff turnovers and shorten patient length of stay. The aim of this case study was to examine how nurses, in prenatal to postpartum networks, experience collaborations when patients with congenital anomalies diagnosed in utero transfer across networks.

Rationale/Conceptual Basis/Background: Congenital anomalies account for 20% of infant deaths in the United States. Non-Hispanic black and Hispanic infants born with congenital anomalies are at greater risk of death than Non-Hispanic white infants. Fetal diagnosis can occur by the 16th gestational week, allowing time to collaborate on maternal education when newborn surgery is needed. Having limited networks, by virtue of disparities, vulnerable populations are subject to the strength of networks providing their care.

Methods: This was a qualitative descriptive case study with a purposeful sample consisting of a maternal-fetal care nurse, a NICU nurse and a pediatric home health nurse working in three different states. Data were collected from semi-structured interviews. Each participant provided a tour of the collaborators, collaboration processes and barriers in their network. Data were analyzed with a priori coding to deduce themes. Template coding categorized transcript lines as descriptions, processes, or barriers. The three template codes were further coded as value, attitude, or belief. Trustworthiness was supported in terms of credibility and dependability though transferability was limited by sample size.

Results: The sample consisted of a maternal-fetal care nurse practitioner (NP) in Washington, a NICU registered nurse (RN) from a level IV NICU in Minnesota and a pediatric home health RN from Arizona. Prominent themes deduced from the data were, NICU tours are a valuable resource for patient transitions from prenatal to NICU care. Home health nurses are apart from, but should be involved in, prenatal collaborations. Value themes deduced from collaboration processes were consistent between the maternal-fetal NP and the NICU RN. Both valued the NICU tours and weekly updates on scheduled deliveries. Inconsistencies were found in deductive themes on patient information between the NICU and home health RN. "Give as much information as possible" contrasted with "I need a report, not a history." Deductive themes of the home health nurse's attitudes on patient transitions were minimal collaboration with NICU nurses, frustration with information overload, and high turnover rates as a barrier to home health involvement with collaboration beginning at the prenatal phase. Barrier themes focused on beliefs that congenital diagnoses were overwhelming for expectant mothers and attitudes that segmented networks could not fully meet their potential for patient care.

Implications for Translation to Practice/Further Research/Policy: Further research is needed on conditions which segment network collaborations. Social network analysis (SNA) is a suitable method to research patterns of collaboration including virtual collaborations. Valued NICU tours are now on hold due to COVID-19. Practice solutions are needed to address the new realities of hospital lockdowns and the ongoing dissatisfaction of home health nurses.

On the Path to Stop Bullying among Nurses

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Purpose/Aims: This study purpose is to describe the self-reported prevalence of bullying among inpatient, mental health inpatient, emergency-department, and Perioperative-services Kaiser Permanente, Southern California (KPSC) nurses. All KP inpatient RNs were invited to participate in the study. This abstract pertains Ontario medical center (OMC) RNs, who voluntarily completed the survey.

Rationale/Background: Bullying is a global phenomenon and common problem in many disciplines including nursing, a behavior that can be carried intentionally or unintentionally. Bullying has harmful physical, psychological, emotional, and financial effects on the bullied/nurses and could contribute to increase turnover. Bullying also might decease productivity and affect patients' safety. In some cases, it could be fatal. Organizational consequences could be bad reputation, instability, and costly. This survey intended to explore bullying among nurses from all specialties.

Methods: This descriptive correlational study aimed to explore the possibility of bullying using survey monkey$^{®}$ of convenience sample of OMC nurses. It examined the relationship between bullying on intention to leave. The Negative Acts Questionnaire (NAQ) measured work related, personal related, and physically intimidating bullying. Two Practice Environment Work Index subscales are used to examine nurses' managerial leadership and support, and staffing/resource adequacy related to bullying. The Turnover Intention Scale-6 (TIS-6) assessed nurses' intention to leave position. Descriptive, correlations, and T-test/ANOVA analysis was employed to compare the differences.

Results: The 146 RNs representing 18.1% of OMC nurses. Nurses average age was 45.7 years and 19.29 years nursing experience. Overall Bullying M=32.01, SD=13.88; Work Bullying M=11.05, SD=5.17; Personal Bullying M=17.19, SD=7.97; Physical intimidation Bullying M=3.82, SD=1.49. Differences between and among the groups yielded significant results of bullying and Primary practice area (F = 4.19, p = .003) and RN years of experience (F = 3.056, p = .030). Perioperative and Perinatal nurses exhibited higher bullying levels compared to tele/medsurg/oncology and other nurses. Shorter RN experience (0-10 years) demonstrated higher bullying scores compared to (21-30 years) experienced RNs. Generally, Nurses scored low on bullying based on the cutoff criteria (Notelaers and Einarsen, 2013). The TIS-6 M=13.95, SD=5.71, indicating nurses had no intention to leave the position. No additional demographic significant results were found.

Implications/Future Research: Data collected during COVID-19 indicated positive findings of low bullying and low intent to leave among OMC nurses. The findings are not generalizable beyond this sample. Results can be helpful in boosting awareness, education, and future interventions to promote a civil environment free of bullying among the less experienced and all OMC RNs. Trial strategies that increase team building among interdisciplinary teams in the perioperative and perinatal units. Encourage OMC leaders to continue promoting civility and safe healthy work-environment to produce resiliency among nurses.

Future research to investigate the factors affecting increased bullying among Perioperative and Perinatal OMC nurses can be applied. Examine the factors that contribute to the feeling of bullying among the less experienced nurses. Explore the strategies that OMC seasoned nurses use and can offer to other nurses how to stop bullying. Mitigating bullying occurrence among nurses will contribute to personal stability, less turnover, and successful career.

Show Me How You Feel This Shift: Emoji Use as a Data Collection Tool

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Purpose: To describe the use of emojis as a novel research data collection method to identify nurses' emotions during work in a high acuity setting, such as an emergency department. The literature shows that nurses working in high acuity settings experience a rollercoaster of emotions, thoughts, and feelings that could interfere with safe patient outcomes and quality nursing care. Previous research has used emojis for data collection for customer satisfaction. The feasibility of using emojis as a data collection method in a high acuity nursing setting is not established.

Description of Method: An emoji is a simple picture that is used to convey an emotion, thought, or feeling. Emojis originated as emailed small pictures substituting for two different keystroked characters to create one image. Emojis have evolved into a language, where entire digital conversations occur through photos only. To assess the feasibility of emojis for data collection, the investigator will recruit ten nurse participants working in an urban emergency department. Participants will receive a text message at the end of a shift, requesting a reply of one emoji face that portrays the pervading emotion during their shift. Research and Electronic Data Capture (REDCap) software will send the automated text message requesting an emoji; participants respond with their emoji choice. REDCap will generate an immediate follow-up text message asking participants to choose one word describing their emotion. Response frequencies and emoji/word selection will be analyzed and compared for consistency.

Internal Consistency of the Method: There are numerous emojis, and more are created each year. Limiting the emoji choice to faces allows participants to focus on their emotions over the given timeframe. Researchers can select the timeframe for using emojis to capture variations of emotions. This method builds on momentary time sampling (MTM), typically used to estimate behavior occurrence during specified time periods, rather than the documentation of every occurrence. Thus, MTM and emoji use allows researchers to capture nurses' emotions in the given time frame. This method decreases participant burden, making it appealing to participate when nurses have worked a full shift. Emojis usage is ubiquitous adding to its potential for data collection across age groups.

Logic Linking the Method to Nursing Research Problem: Research findings demonstrate that emotionally healthy nurses have improved patient outcomes and high-quality patient care. Using emojis in high acuity nursing areas can provide a quick snapshot of nurses' emotions, allowing for potential immediate intervention. This data collection method also allows tracking of emotions throughout a shift, which then can be correlated with patient and quality care outcomes.

Conclusions, Including a Statement about the Utility of the Method for Nursing Research: As a data collection method, emojis leverage evolving technology and facilitate MTM to gather information from one picture. Experiences in high acuity settings cause emotions to surface. This data collection method helps to identify and analyze those emotions quickly. Further research can explore emoji usage in other nursing units or for interpreting different emotions occurring on typical or atypical nursing shifts

Extending a Pedagogical Simulation Tool to Measure Competency in Registered Nurses

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Purpose: This study examined the psychometric properties of the Creighton Competency Evaluation Instrument (C-CEI), previously validated for use in assessing simulation performance in nursing students but not in licensed registered nurses. Specific aims were to (1) characterize the dimensions and reliability of nursing competency, and (2) evaluate the relationships between those dimensions and shift-related fatigue, which is one of many threats to competency.

Background: Nursing performance is multidimensional, with nurses expected to show competence in physical skills, communication, clinical decision-making, and so forth. To assess the development of these competencies in students, nursing educators have developed tools like the C-CEI. However, there are no similar tools available to assess competency in registered nurses, or capture differences in nursing performance that may occur as a function of fatigue, workload, workplace practices, etc.

Methods: Ninety-four registered nurses working 12-hour shifts (44 day, 50 night) were recruited from an urban hospital system to perform in two clinical patient care scenarios. The nurses were instructed to provide care using a Laerdal SimMan in a university simulation lab in two separate test sessions. Trained raters evaluated their performance using the C-CEI, and these data were analyzed for their principal components (PCA), internal reliability (GLB-MRFA), and relationship to three measures of fatigue: subjective sleepiness, psychomotor vigilance, and predicted cognitive effectiveness.

Results: Our PCA revealed three dimensions of competence (Clinical Decision-making, Situational Awareness, Skill) that were overlapping but distinct from the original four dimensions of the standard C-CEI (Assessment, Communication, Clinical Judgment, Patient Safety). Only the aggregate C-CEI score and the Clinical Decision-making component showed ideal psychometric properties, although most dimensions were at least moderately reliable (GLBs >.60). Critically, the Communication subscale ($r = .28$) and Clinical Decision-making component ($r = .38$) were correlated with cognitive effectiveness (ps < 0.009), while the aggregate score was less so ($r = .20$, $p = .066$). Subjective sleepiness and psychomotor vigilance were not significantly related to any dimension of competency nor the aggregate score.

Implications: The dimensions of competencies in registered nurses working 12-hour shifts may differ from those of nursing students, yet our investigation suggests that items from the C-CEI are sufficient to measure general competency and clinical decision-making capacities in this population. These dimensions of competence are also sensitive to certain kinds of fatigue, but not others. Future researchers should adapt the C-CEI with new and different items to more comprehensively and reliably capture competencies in registered nurses. Further improvement of a competency tool for working nurses could facilitate studies of nursing performance and testing strategies to mitigate threats to competence.

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Bone Flap Tracking Log: A Quality Improvement Project

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Purpose/Aims: The purpose of this quality improvement project (QIP) was to create a process for a southwestern regional medical center's surgical unit to track bone flaps that were removed during decompressive craniectomies. Tracking includes the use of a standardized tracking log, monthly chart audits, and physician communication, to evaluate storage needs.

Rationale/Background: The surgical unit conducts an average of five decompressive craniectomies a year that involve removing and storing bone flaps. The medical center pays for storage of bone flaps at a third-party location, LifeNet, which has substantially greater storage availability than the medical center. Bone flaps are stored for up to five years, per LifeNet policy. The medical center had not conducted a systematic evaluation of the need for continued storage at LifeNet. In the past six years, 25 bone flaps from 25 patients were shipped to LifeNet for storage at a cost of $1108/year to the medical center. However, in most cases, patients died from their injuries within 48 hours of surgery. This unnecessary cost resulted from a lack of process to track bone flap storage and corresponding patient need.

Process Used: This QIP began with a needs assessment. The investigator conducted a medical record audit on the 22 bone flaps stored at LifeNet to assess whether the patient was deceased, if a synthetic flap had been placed, or if the patient was not a candidate for replacement. 14 patients were deceased, six patients had a synthetic bone flap placed, one patient was not a candidate for replacement per the surgeon, leaving only one flap that needed to remain in storage. After speaking with each neurosurgeon, and necessary family members, to evaluate the need for continued storage, permission was granted to terminate all 21 bone flaps. Following the needs assessment, a process was created to track any bone flap sent out for storage, and continually evaluate storage need.

Assessment of Findings/Outcomes Achieved: The creation of the bone flap tracking log with corresponding staff education/training was the primary outcome of this QIP. With LifeNet's cooperation, bone flap storage audits are now completed monthly to assess need for storage. Based on estimates provided by LifeNet, the cost associated with the 21 flaps that were unnecessarily still in storage was $56,801.00. Since the inception of the bone flap tracking log in 2019, 100% of bone flaps that have been procured and shipped to LifeNet for storage, have been accurately documented in the bone flap tracking log, leading to a cost savings of up to $14,958.

Conclusions: The bone flap tracking process will be continually audited through 2020. Based on the bone flap tracking log project's success, a policy was written within the facility making its use mandated.

Clinical Debriefing: Addressing Moral Distress among Emergency Department Nurses

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Purpose: This quality improvement project explored the feasibility of implementing a clinical debriefing protocol to address moral distress among emergency department (ED) nurses.
Background: Moral distress is a complex phenomenon affecting healthcare professionals who perceive an inability to deliver optimal patient care due to organizational or situational constraints. High levels of moral distress negatively impact staff retention and patient outcomes. Nurses within the ED are particularly vulnerable to moral distress due to frequent exposure to ethical conflicts and adverse events. The literature suggests that clinical debriefing following these significant adverse events may be an intervention to address moral distress. One such tool supported by the American Heart Association is the Debriefing In Situ Conversation after Emergency Resuscitation Now (DISCERN) tool.
Framework & Methods: Rogers' Diffusion of Innovation theory provided the framework to generate a plan-do-study-act (PDSA) cycle for this quality improvement project. A pre-/post-survey design was utilized to evaluate change. Baseline data included a measure of moral distress, knowledge, and attitudes toward moral distress and debriefing. An asynchronous education bundle was offered to all ED staff, but data was only gathered from bedside nurses. The bundle included background on moral distress and debriefing in addition to instructions on using the DISCERN tool. Staff were asked to utilize the DISCERN tool over a three-week period following significant adverse events. The post-intervention survey included questions to assess facilitators and barriers to using the DISCERN tool to support future PDSA iterations and sustainability.
Assessment of Findings: There were 14 total participants out of a pool of 126 bedside nurses for a response rate of 11%. Baseline moral distress levels were low, consistent with the literature on ED nurses. However, there were high scores across system-level processes such as patient loads, lack of resources, and an overemphasis on tasks. Three participants (21%) reported a consideration of leaving their position due to moral distress. Post-survey responses indicated a higher level of familiarity with both clinical debriefing and moral distress. There was also an increase in the belief that moral distress has a negative impact on professional quality of life and patient outcomes. All respondents reported use of the DISCERN tool was both emotionally and clinically beneficial. Facilitators commonly reported were organizational support and the efficiency and scripting facilitated by the pocket DISCERN tool. Reported barriers included lack of time and the availability of other staff for participation.
Conclusion: Despite known disadvantages associated with moral distress and established benefits of debriefing, only a limited number of studies have investigated debriefing as an approach to addressing moral distress. While this project measured the short-term impact of a debriefing protocol within a single practice setting, the results may yield long-term benefits such as improved staff retention and patient outcomes. Organizational policy implications include a possible system-wide adoption of this protocol, which may yield future data to support the development of a practice guideline.

Using Work Breaks to Decrease Provider Burnout and Employee Turnover

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Purpose: The purpose of this project is to decrease provider burnout, increase provider productivity, and increase provider retention.

Background: Primary care providers are in short supply. Few physicians choose primary care as their specialty. Nurse practitioners fill this void, yet they too burnout and seek employment elsewhere. The cost to employers of replacing primary care providers due to burnout is an expense worth avoiding. Organizational interventions aimed at combating burnout are more effective than interventions aimed at the individual. Activities that increase camaraderie are known to decrease burnout. Coworkers can make or break any job. Socializing with coworkers can increase camaraderie and therefore decrease burnout. Encouraging this socialization to occur during already allotted work breaks would not increase the amount of money that companies spend on employee retention. This intervention may instead save them the cost of continual recruitment.

Methods: Maslach Burnout Inventory: Human Services Survey for Medical Personnel toolkit scores will be compared before and after fostering an environment that encourages socialization with coworkers during scheduled breaks between patient appointments. The results obtained from a weekly questionnaire that evaluates provider participation will be compared with the average amount of time spent in the electronic medical record per patient encounter, and the average relative value units (RVUs) charged per patient encounter. Analysis of covariance (ANCOVA) statistics, to compare multiple regression lines, will be utilized to determine if there is a relationship between socializing with coworkers for 15 consecutive minutes during the workday and levels of provider burnout or productivity. ANCOVA accounts for the use of scribes, provider age, gender, years of experience in their current role, and licensing credentials.

Outcomes: The anticipated outcome follows the hypothesis that fostering a work environment that increases camaraderie amongst coworkers during scheduled breaks from patient encounters will decrease provider burnout and increase provider productivity.

Implications for Clinical Practice: Asking an individual to be resilient while not altering the situation the individual needs to be resilient against is not sufficient. Rather than permissively encouraging providers to spend their allotted breaks between patient appointments charting, at least one of those breaks could be spent fostering strong work friendships and increasing camaraderie.

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HEALTH SYSTEMS, LEADERSHIP, AND WORKFORCE ISSUES

Factors Associated with Second Hospital Acquired Pressure Injury in ICU Patients

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Purpose: The purpose of this study was to identify factors associated with second, subsequent, hospital-acquired pressure injury (HAPrI) formation among surgical and cardiovascular surgical intensive care unit (SICU and CVICU) patients with an initial HAPrI.

Background: Hospital-acquired pressure injuries (HAPrIs) disproportionately affect critical care patients, with surgical patients at the highest risk. Surgical intensive care unit (SICU) and cardiovascular intensive care unit (CVICU) patients who undergo mechanical ventilation are particularly vulnerable to HAPrI, likely due to a combination of altered oxygenation and the severe illness that require mechanical ventilation. Patients who develop a single HAPrI are likely at risk for additional, subsequent HAPrIs; however, the proportion of patients who develop a subsequent HAPrI, and the associated risk factors, are not known.

Methods: This was a retrospective cohort study. Patients admitted to the SICU or CVICU at a Level 1 trauma center and academic medical center in the western United States between 2014 and 2018 were eligible for the study. Inclusion criteria were the development of a HAPrI stage 2 or above, age $\geq$18, the presence of mechanical ventilation for at least 24 hours, and documentation of a risk-based HAPrI-prevention plan. The outcome measure was the development of a second, subsequent HAPrI $\geq$stage 2. Potential predictor variables included demographic factors, shock, Charleston comorbidity score, blood gas and laboratory values, surgical factors, vasopressin infusions, levels of sedation or agitation, Braden Scale scores, and nursing skin assessment data. Independent risk factors for subsequent HAPrI formation were identified using logistic regression analysis.

Results: The final sample consisted of 226 patients. Among those, 77 patients (34%) developed a second HAPrI stage 2 or greater. Independent risk factors for subsequent HAPrI formation were decreased hemoglobin (OR = 0.71, 95% CI = 0.53-0.92, $p < 0.000$), vasopressin infusion (OR = 2.20, 95% CI = 1.17-4.26, $p = 0.02$), and longer length of stay in the ICU (OR = 1.01, 95% CI = 1.00-1.02, $p = 0.009$).

Implications: The results of this study show patients with an initial HAPrI are at high risk for developing a second HAPrI despite the presence of a risk-based pressure injury prevention plan. ICU patients who develop an initial HAPrI who are anemic, require vasopressin therapy, or experience extended ICU admissions are at greater risk for developing additional, subsequent HAPrIs. Nurses caring for ICU patients with a HAPrI should enact maximal preventive measures, particularly in patients with anemia, those requiring vasopressin therapy, or patients with an extended stay in the ICU.

Funding: American Association of Critical Care Nurses Critical Care grant

Perceptions of Sleep and Effective Interventions on the Medical/Surgical Unit

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Background and Purpose: Sleep provides a period of physiologic and mental rest, with sleep deprivation compounding existing illness and impairing recovery. Despite the importance of sleep, many patients report they have difficulty initiating and maintaining sleep in a hospitalized setting. The purpose of this study implemented on medical/surgical units was to examine the perception of sleep quality and effective sleep interventions from patients and nurses.

Conceptual Model: This study was guided by Dr. Kolcaba's Comfort Theory. Comfort theory posits that enhanced comfort such as relief, ease, and transcendence can be provided within four contexts: 1) physical comfort; 2) psycho-spiritual comfort; 3) environmental comfort; and 4) sociocultural comfort. For example, warm blankets and warmed decaffeinated drinks may provide the patient with physical comfort while earplugs, eye masks, and 'quiet time' provide the patient with environmental comfort-for better sleep.

Methods: Perceived quality of sleep and effective interventions were examined through utilization of a descriptive survey design and convenience sampling. After IRB approval, eligible medical-surgical patients at one Southern California acute care hospital voluntarily completed the Richards-Campbell Sleep Quality (RCSQ) visual analog scale, perception of noise, pain management, and reported sleep aids offered to them. Nurse surveys measured the self-reported level of effectiveness of physical and environmental sleep aids/interventions on a one to five-point Likert scale. Data were obtained between 2018- 2019 and analyzed with descriptive statistics.

Results/Conclusions: For medical-surgical nurses (*n* = 140), 51.4% of them worked days, with an average of 12.5 years of experience. Nurses reported 'closing the patient's door' (*M* = 4.37) and providing 'quiet time' (*M* = 4.36) as very effective to promote patient sleep. 'Providing headphones' received the lowest mean score at 3.45. For medical-surgical patients (*n* = 119), 53.7% were female with an average age of 58.78 (*SD* = 16.8). The RCSQ score for quality sleep was *(M* = 59), 'very quiet/no noise' measurement (*M* =69.84) and 'pain managed well' (*M* = 88.81) (all 1 to 100 scale), with higher numbers reflecting desired outcomes. For patients, 78% stated they were offered items to help them sleep. Warm blankets were the most frequently offered item, and 53.8% of patients reported being offered two or more items to help promote sleep.

Implications for Practice: Results reflect positive outcomes, areas for improvement, and baseline sleep measurement (RCSQ) for future comparisons. The identification of patient and nurse perspectives on quality of sleep and effective interventions can stimulate bi-directional evidence exchange between quality projects and research. Through dissemination of effective sleep strategies, projects can now be tailored within the hospital environment for patients to heal and recover. Future analysis for this study includes examination of open-ended questions on both nurse and patient surveys related to facilitators and barriers to quality sleep.

MENTAL HEALTH

Graduate Nursing Student Stressors during the COVID-19 Pandemic: How Can We Help?

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Purpose/Aim: The purpose of this research was to evaluate areas of stress for graduate nursing students during the COVID-19 pandemic and to consider how institutions of higher education can aid these students. Goals included defining the stressors of graduate nursing students during the COVID-19 pandemic and determining how graduate nursing institutions can best meet student needs.

Background: The COVID-19 pandemic has uprooted the lives of graduate nursing students. It has influenced every aspect of their lives, including work, home, and school. A large portion of graduate nursing students work as nurses while attending school. At work, the students are in the middle of the pandemic, with increased responsibilities. Many of these students also have responsibilities at home, including elderly parents and/or young children. Graduate school clinical experiences may have been put on hold, courses may have converted to all online, and graduation dates remain uncertain. The personal and organizational stressors of being a nurse and a student during the pandemic may impact how and if students plan to complete their graduate programs.

Methods: An online survey was designed to evaluate factors affecting stress in graduate nursing students during the COVID-19 pandemic. The graduate students included Master of Science, Doctor of Nursing Practice and Doctor of Philosophy students studying in the college of nursing at one educational institution. The survey had seven areas of interest for a total of 103 items, including researcher-designed items and two validated questionnaires (DASS-21 and IES-R). ANOVA and Kruskal-Wallis tests were used to identify factors associated with change in stress scores pre- and post COVID-19 onset. Due to the number of computed p-values, multiple-testing adjusted p-values were used for level of significance (q-values). Qualitative data included student interviews and were evaluated for themes in an inductive-deductive process with four of the researchers, including a qualitative methods expert.

Results: Of the 738 students sent surveys, 223 (30.2%) completed the survey. The majority of those surveyed were between the ages of 25 and 40 (63.9%). The proportion of students working significantly changed before and after the onset of the pandemic (97.3% to 90.1%, q=0.002). The students had increased total stress pre-pandemic to post-onset of the pandemic and in each stress subscale. The increased total stress was associated with students who were participating in clinical rotations (q =.024) and who had a change in work hours (q =.022). Students with a greater increase in stress post-pandemic related to didactic course work were more likely to be students who lived with children (q =.024); worked in a hospital at the onset of the pandemic (q =.04); or had a change in work hours (q =.002).

Implications for Translation to Nursing Education: The findings from this study can assist graduate nursing programs in supporting students during and beyond the pandemic. These steps may include providing additional mental health resources; improving communication with faculty and staff; improving opportunities for students to connect with other students through coursework; providing technological support; and providing academic grace while maintaining academic excellence.

Identification of Perceived Barriers to Behavioral Healthcare by the Homeless

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Aim: This study aims to identify the perceived barriers in accessing behavioral healthcare for the homeless mentally ill, with the intent for healthcare systems to use this information to increase the use of behavioral health services by eliminating barriers that are identified during the study.

Background: There are many ways people experiencing homelessness and mental health issues can access care in Pierce County, Washington (WA). The purpose of this study is to determine the barriers that prevent mentally ill homeless adults, in Pierce County, WA from accessing behavioral health services.

Methods: A descriptive qualitative study is being conducted through semi-structured interviews. The questions being asked are from two premises, behavioral healthcare needs and barriers to obtaining behavioral healthcare. Basic demographics are being obtained from participants and themes will be analyzed for different demographic groups utilizing Atlas.ti software.

Results: Pending Study

Implications for Translation to Practice: There are many programs in the Pierce County area for the homeless to choose from, yet some still chose not to engage. It is essential to know the reasons why so programs can change or be created in a way that makes them more appealing to the people needing services. There have been no studies done in Pierce County to determine what the barriers are to accessing care. This study will provide invaluable information to mental healthcare services in Pierce County, WA. The heart of nursing lies within our patient centered approach to care. It is important for nurses and other healthcare workers to understand the needs of our clients to provide the best care possible. This study will help nurses and other healthcare workers elevate the care we give.

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Wellness to Support Resilience

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The purpose of this project was to promote the resilience of healthcare workers through an interactive wellness immersion. The project set out to measure self-perception of wellness dimension knowledge, resources available to them, and their experience participating in a Wellness Week. This project took place on a medical-surgical unit of approximately 70 employees.

The COVID-19 pandemic has had significant effects on the mental health and wellbeing of healthcare providers, bringing to light the concept of resilience, or the ability to bounce back after exposure to stressors (Yilmaz, 2017). Workplaces are affected by unhealthy wellbeing levels through increased staff call-offs and decreased compassion in providing care to patients. Organizations can support staff resilience by valuing the wellbeing of their employees, which encompasses more than just their physical health (Walton, Murray & Christian, 2020). The hypothesis was that talking about wellness and promoting available benefits would improve awareness of resources and help employees engage in thinking about their own wellness.

The project took place over a one-week time frame and utilized the unit's social media page. "Wellness Week" highlighted the eight dimensions of wellness and asked members to participate in polls and questions about available resources. The week also featured an optional 1-hour workshop for staff interested in completing a more comprehensive wellness inventory and setting goals to increase their wellness. Surveys were utilized prior to the start of the intervention and at its conclusion, and asked floor members about their knowledge of resources and wellness components, their opinions about benefits offered by their organization, and if they found the Wellness Week experience to be valuable or not.

Results of this study showed that engaging staff in discussions about wellness and benefits increased overall knowledge of available resources and the concept of wellness. Out of the 70 members of the unit, 39 participated in Wellness Week posts via polls, reactions, and comments, and 57 passively participated by viewing the posts. Knowledge of resources available increased from 0% (baseline pre-survey) to 50%, showing that talking through benefits, providing an easily accessed link, and giving floor members a physical copy of wellness benefits were effective educational interventions.

Though this project was only one week, it proved to be one way to help staff understand their resources and participate in self-reflection about their own wellbeing, an evidence-based intervention supporting resilience (West, etl. Al, 2017). Healthcare workers must learn to prioritize their own wellbeing so they can provide compassionate care to the patients they serve.

MENTAL HEALTH

Reducing Secondary Traumatic Stress Syndrome through Building Resilience

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Aim: The aim of this study is to explore the effects of using a Provider Resilience Mobile Application (PRMA) on Secondary Traumatic stress Syndrome (STSS) scores on Inter-Disciplinary Team (IDT) members who upload and use the PRMA application.

Background: Working with clients who have mental health challenges can be taxing and draining psychologically, emotionally, physically, socially, and spiritually. It calls for dedication and compassion to be effective in delivering quality care required by these patients. Some patients in a mental healthcare setting may have gone through traumatic experiences in their lives that cause a mental health challenge warranting treatment. These traumatic experiences may include; childhood abuse (i.e. physical, emotional, or sexual), rape, domestic violence, natural disaster and catastrophes: war, post-war deployment, accidents and mass violence survivors, among others. Behavioral health professionals working with traumatized clients are at a particular risk of developing secondary traumatic stress syndrome (STSS). People with STSS may experience compassion fatigue, burnout, secondary trauma, and may experience psychological, emotional, and eventually physiological symptoms without prevention and intervention strategies. One way of overcoming STSS while providing care to this vulnerable population is through enhancing the care provider’s resilience.

Methods: A pre and post-test, quasi experimental pilot study to explore the use of PRMA as an intervention for STSS among the members of the IDT in a community behavioral health center. A pre and post-intervention questionnaire will be utilized to measure the effect of PRMA on STSS. The Secondary Traumatic Stress Scale will be used to measure STSS. The study setting will be at the behavioral health department at the Sea Mar community Health center in Tacoma, Washington. All the members of the behavior health interdisciplinary team which includes the psychiatrists, psychologists, psychiatric advanced registered nurse practitioners, social workers, mental health therapists, chemical dependency counselors, and case managers will be invited to participate. Sampling will be by convenience method and the required minimum sample size will be 27 participants.

Results: Analysis will be done using both descriptive and inferential statistics. A paired t-test will be used to test the hypothesis of this study by comparing the mean scores on the STSS at pre and post study. That is, a significant t-score will indicate that, the use of the PRMA had a positive effect on the STSS scores.

Implications for Translation to Practice: The result will inform the participants of their vulnerability to secondary trauma while working with traumatized clients through the use of self-assessment tools in the PRMA for burnout, compassion fatigue, vacation tracking, among others. The data from the surveys can inform the management and advocate on developing programs to address STSS among the IDT member. Comparison of scores among different professions will help identify which group would require much assistance and plan accordingly.

Keywords: Review of literature using, PubMed, CINAL, EBSCO (2014 -2019) conducted with keywords: STSS, PRMA, psychological resilience, Quasi-experimental Study, Behavioral Health.

The Moderating Role of Control Perception and Coping Strategies on Nurse Trauma and Work

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Purpose: The purpose of this study was to examine whether stress coping strategies and perceptions of control moderate the relationship between nurses' childhood trauma experiences and perceptions of nursing work.

Background and Conceptual Model: Trauma experiences of emotional, physical, and sexual abuse in childhood can increase risk for a variety of poor health outcomes. Helping professionals (e.g., social workers, therapists) have been found to experience disproportionately high rates of childhood trauma in relation to population averages, and those who have a personal trauma history are at risk for poor occupational outcomes such as burnout, impaired work performance, and leaving the workforce. There has been little research on relationships between trauma and work outcomes among nurses, the largest group of healthcare providers in the US and the world. This study relied on a cognitive framework for understanding trauma, stress, and coping.

Methods: This observational study used data from the 2001 wave of the Nurses' Health Study II (NHS II) (N= 53,323 female nurses), the only wave of the survey when trauma data were collected. The primary outcome variables was nursing perceptions of risk for involuntary job loss. The primary exposure variable was a count of childhood interpersonal trauma experiences. Moderating variables were stress coping skills and perceptions of control. Moderation models were estimated separately for each of these two variables using linear regression models.

Results: Nurses reported high levels of childhood emotional trauma (60%), physical trauma (45%), and sexual trauma (15%) from a known perpetrator. Childhood trauma count was associated with higher perception of risk for involuntary job loss, while having more adaptive stress coping skills and higher perceptions of control were associated with lower perception of risk. In moderation models, both stress coping mechanisms and perceptions of control moderated this relationship ($p < .001$ for both models) such that the strength of relationship between childhood trauma and perceptions of risk for involuntary job loss was weakened.

Implications for Translation to Practice: There are high rates of childhood trauma experiences among nurses, and these experiences can negatively affect their perceptions of their work. In a context of an ongoing national nursing shortage and high rates of burnout in the nursing profession, organizations that employ nurses should consider strategies to increase nurse empowerment and control over their work and working conditions that facilitate adaptive stress coping. In addition, trauma informed care interventions for nurses in light of these findings may improve job retention rates leading to better nurse outcomes.

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Reducing Missed Psychotherapy Appointments at Urban Community Health Centers

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Purpose: The goal of this quality improvement project is to reduce the rate of missed adult psychotherapy appointments by improving client attendance behavior early in the treatment process. This project examines the effect of a PMHNP-initiated telephone orientation protocol using MI techniques on psychotherapy appointment attendance at two urban outpatient community BH clinics in the Pacific Northwest.

Background: Missed appointments pose significant challenges to the health care system as they contribute to the inefficient use of resources, increase costs, and result in poor outcomes. Rates of missed appointments vary across the health care sector and clinics providing behavioral health (BH) services experience rates nearly twice as high as clinics in other medical settings. Although missed appointments will never be fully eradicated from the health care system, they can be significantly reduced by implementing innovative evidence-based practice interventions. Motivational Interviewing (MI) techniques can be used to facilitate intrinsic motivation and increase client engagement in BH services. Psychiatric Mental-Health Nurse Practitioners (PMHNPs) strive to create and nurture strong therapeutic alliances with clients to reach treatment goals, and are well-suited to employ MI techniques during client interactions.

Methods: The Transtheoretical Model and the Self-Determination Theory serve as the framework for this quasi-experimental project. The project protocol consists of a single telephone intervention with each participant to provide psychoeducation regarding client engagement, explain the clinic attendance policy, discuss participants' treatment goals, and use MI techniques to explore ambivalence and elicit change talk in an effort to increase appointment attendance.

Outcomes: Missed appointment rates serve as the outcome measure and will be compared during the three-month period before and after initiation of the protocol. Data will be collected and analyzed to determine the effect of the protocol on appointment attendance.

Conclusions: The PMHNP-initiated telephone orientation protocol may reduce rates of missed adult psychotherapy appointments in the outpatient BH clinics. Project results may lead to organizational policy and procedure development to change clinical practice. Project completion will increase our understanding of BH treatment motivation and appointment attendance and may lead to future studies investigating the effect of the protocol in additional populations including pediatrics, adolescents, and clients being released from correctional facilities or discharged from the inpatient setting.

MENTAL HEALTH

Impact of the Pandemic on Baccalaureate Nursing Students' Emotional Distress

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Purpose: The purpose of this study was to assess the impact of the COVID-19 pandemic on the emotional distress of baccalaureate nursing students currently enrolled in school.

Rationale/Background: The COVID-19 pandemic has disrupted the educational experience of nursing students, shifting many face-to-face courses to online and limiting clinical experiences. The pandemic has created further disruptions in students' university experiences by altering university schedules for social and sports events. Arguably, these unprecedented conditions create traumatic events and emotional stress that can lead to increased anxiety and potentially depression and potentially post-traumatic stress symptoms. Prelicensure nursing students report school as emotionally stressful with high levels of overall anxiety. Emotional distress related to disruption in the educational process, clinical placements, social isolation, economic turbulence, and given continuing COVID-19 uncertainty about treatment may worsen these already high levels of nursing student. These stressors may have adverse consequences on the emotional health and well-being of prelicensure nursing students.

Methods: Prelicensure baccalaureate nursing students currently enrolled or who had accepted preadmission to the University of Utah during the summer and early fall 2020 were approached to participate (n=240). Data collected using REDcap included demographics, pandemic history, Posttraumatic Symptom Scale 10 (PTSS), Patient Health Questionnaire 9(PHQ), and General Anxiety Disorder 7 (GAD). GAD score above 14, PHQ above 9 and PTSS above 23 are considered suspect of depression, anxiety or posttraumatic stress symptoms. All students were provided contact information for student support services in the recruitment material and if scores warranted encouraged to seek help.

Results: The majority of participants (n=71), were between 18 and 25 years (82%), female (88%), single (64%) and Caucasian (92%). The majority of students (88%) indicated that the COVID-19 Pandemic resulted in moderate or major disruptions in their lives, with worsened ability to sleep (59%) and poor energy levels (76%). The majority (74%) had been tested themselves for COVID-19, and over a third (39%) reported being distressed about COVID-19 related symptoms or being exposed. The greatest source of stress was school (42%) followed by finances (17%). Most students used a variety of virtual means to maintain social support, including phone (78%), email/texting (86%) and video calls (81%), with 70% also seeking support through in-person means. The mean scores of PHQ was 8.0 (range 0-26), the GAD 8.2 (range 0-19) and the PTSS was 16 (range 0-51). Given the threshold scores 25% of students scored positive for clinical depression, anxiety and/or traumatic distress symptom. Few (n=7) students' scores were positive for GAD, PHQ and PTSS.

Conclusions: The majority of prelicensure baccalaureate nursing students in this sample had important life disruptions due to the pandemic, with about one fourth of students reporting clinically significant levels of depression, anxiety and/or PTSD symptoms.

Implications: Nurse educators must monitor prelicensure nursing students carefully and watch for clinical manifestations of emotional distress that may result from the pandemic. Further it is vital to improve virtual access to student mental health support services and modify learning strategies given the impact of the disruptions to students.

The Effectiveness of Relaxation Response for Anxiety among Patients in MAT

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Background and Purpose: Research has shown that the United States has a public health crisis, opioid addiction. This crisis has had devastating effects on individuals and communities. Evidence suggests that 2.5 million people in the United States have opioid abuse disorder. Medication-assisted treatment is the treatment of choice. Medication assisted treatment has shown improvements in social functioning, criminal activity, and infection disease rates. Retention of patients in medication-assisted treatment is about 50% nationally and 52% in our clinic. Knowing which risk factors most prevalent in contributing to dropout will help the clinic implement interventions to increase retention. Anxiety is common among patients treated for opioid use disorder. If left untreated, anxiety can be detrimental to both the physiological and psychological aspects of health. Chronic anxiety may contribute to patients dropping out of medication-assisted treatment. Patients who handle anxiety with poor coping skills, such as substance abuse, can further increase their anxiety, leading to decreased quality of life and more severe mental, physical, socioeconomic, and emotional problems. Interventions to reduce anxiety levels may improve retention and add to the therapeutic response to medication-assisted treatment. The purpose of this project is to identify risk factors contributing to decreased retention and assess the efficacy of the Benson Relaxation Response intervention on anxiety among opioid use disorder patients enrolled in a medication-assisted treatment program in a clinic in Washington State.

Methods: Retrospective chart review to identify dropout risk factors among ($N = 166$) opioid use disorder patients. Quasi-experimental pretest-posttest evaluation of the effectiveness of the Benson Relaxation Response intervention meditation on the anxiety of ($N = 70$) in a Washington State clinic. A pretest baseline anxiety score will be measured using the Generalized Anxiety Disorder-7 before starting the study. A post-test anxiety score will be taken immediately after eight weeks of using the Benson Relaxation Response intervention.

Results: Common risk factors that contribute to dropout are age, gender, comorbid mental disorders, and length of substance abuse. The Relaxation Response has shown effectiveness in managing anxiety in various populations, including opioid use disorder.

Implications for Translation to Practice: Identifying risk factors is essential for patients' success in medication-assisted treatment. Addressing these key factors can improve and target underlying issues not addressed with medication alone. Other simple treatment modalities, such as the Relaxation Response, need to be explored to improve anxiety among patients treated for opioid use disorder. Using treatment modalities that are multifaceted and collaborative can be an effective strategy to treat opioid use disorder.

Assessment of Current Knowledge of Nursing Students on E-Cigarettes

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Purpose: Assess the current knowledge of perceived health risks of electronic cigarettes (e-cigarette) use and willingness to educate patients among nursing students in Bakersfield.
Background: Electronic cigarette use is on the rise, a phenomenon of great concern to public health officials. In September 2018, the Food and Drug Administration (FDA), declared that e-cigarette use among youth has become an epidemic. Nurses are the face of healthcare and are in a unique position to educate their patients about the dangers of e-cigarettes. The current group of nursing students represent the age group likely to use e-cigarettes. Their perceptions and knowledge bring a unique perspective and understanding of the obstacles that lie ahead in addressing this new health challenge. There are various studies have reported on perceptions and beliefs of e-cigarette use amongst adolescents and young adults. However, despite group efforts, there were lack of articles that targeted nursing students. Hence, there is a need not only study nursing students' perceptions and beliefs but also their readiness to educate patients regarding e-cigarette use.
Methodology: A quantitative, descriptive, exploratory design was utilized. A researcher developed, 14-question survey was e-mailed to all RN and BSN students enrolled in the nursing program to examine their knowledge level and willingness to educate their patients on e-cigarettes through SurveyMonkey®. Data were downloaded by the researchers and analyzed.
Results: A total of 61 nursing students participated in the survey. Of those respondents, 47.5% were sophomores, 31.15% were juniors, and 21.31% were seniors. Over 86% of students answered correctly that tobacco is the largest preventable cause of disease and death in the United States. 100% of the students answered correctly that e-cigarettes do contain nicotine and that they can lead to the use of other tobacco products. It was found that over 70% of the students answered incorrectly that e-cigarettes cannot be used for smoking cessation. From the 61 students, 93% answered incorrectly that e-cigarettes are not regulated by the FDA. Only 78% of students knew that currently e-cigarettes can only be sold to those aged 21 and above. Also, 68.6% of the participants agreed they currently educate their patients on smoking cessation. Finally, 73.8% of the participants agreed to educating their patients on e-cigarettes.
Nursing Implications: This research was conducted to assess; a) current knowledge of nursing students regarding the use of e-cigarettes in society, and b) their willingness to educate patients about the health risks of e-cigarette use. First, further research is needed since the size of the participants was small. Only 65% students feel ready to educate their patients on health complications of e-cigarette and 73.8% agreed to educating their patients on e-cigarettes. Thus, there is a gap in the knowledge of nurses regarding e-cigarettes and education should be included in the curriculum based on the incorrect responses to certain questions. Hence, the prevalence of e-cigarettes continues to increase, smoking cessation and e-cigarettes should be a part of the curriculum in nursing schools.

Are We Meeting Theory-to-Practice Gaps? Evaluation of New Graduates

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A gap between theory and practice has been documented in new nursing graduates for decades; however, literature continues to show a lack of confidence and competency in new nurses (Huston et al., 2018). New nurses are expected to have entry-level competency at graduation, but gaps are noted in knowledge, skills, and clinical judgment (Rush et al., 2019). These gaps can lead to increased patient errors due to prioritizing task completion over patient safety and care, as well as low retention in positions due to the stress of feeling overwhelmed and underprepared for practice (Cope et al., 2019).

Although not mandated in the United States, many healthcare organizations have implemented transition programs to address knowledge gaps and support successful entry into practice (Rush et al., 2019). A large healthcare system in the western United States has designed a one-year program grounded on evidence-based principles to facilitate and support newly graduated nurses. The program provides novice nurses with the opportunity to build competence and confidence in practice while strengthening skills and successfully transitioning into a registered nurse’s role. Their curriculum was revised in January 2019 to match current research and evidence-based practice standards to improve new graduates’ transition into professional practice.

According to research, curriculum assessment to ensure the effectiveness and the ability to meet persistent gaps is an essential part of an effective program (IOM, 2010). Despite this recommendation, a recent report shows that evaluating nurse residency programs in meeting their outcomes and effectiveness has been inconsistent (National Academies of Sciences, Engineering, and Medicine, 2015). By identifying the theory-practice gaps for new nurse graduates, nurse educators in the hospital setting can continuously restructure programs to help graduates develop the confidence and competence needed for successful practice.

The purpose of this project is to evaluate the effectiveness of a ‘Nurse Residency Program’ in a large hospital system in meeting theory-to-practice gaps noted in new nursing graduates. A validated assessment tool will be utilized to ensure the evaluation is evidence-based and effectively assesses the program. Unpaired data will be collected and analyzed, and compared with the current curriculum and research standards. Based on conclusions, evidence-based education strategies will be presented to stakeholders to improve meeting theory-to-practice gaps in the curriculum.

The Casey-Fink Graduate Nurse Experience Survey (revised, 2006) instrument will be used for this study. This tool was developed over several years and is based on a substantial literature review and multi-site testing. According to Stephenson, and Cosme (2018), it is the most commonly used instrument to evaluate nurse residency programs.

Prediction Modeling: NP Role Transition, with or without Residency

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Purpose: The purpose of this study was to explore role transition experience and related predictors of transition success for adult-gerontology nurse practitioners (AGNP) and family nurse practitioners (FNP) who selected direct entry-to-practice or a postgraduate nurse practitioner residency (NPR).

Background: Little is known about the impact of NPRs on the role transition of novice nurse practitioners (NP), but what is known is this role transition is challenging and often results in NPs feeling frustrated and overwhelmed. Benner's Novice to Expert Theory and Mezirow's Transformative Learning Theory guided this study. This study is the first to identify predictor variables regarding seeking or not seeking a residency, and if completing an NPR predicts easier role transition.

Methods: A convenience sample of 612 AGNPs and FNPS, referred to as primacy care nurse practitioners (PCNP), who graduated from accredited NP programs between 2007 and 2018 were recruited from targeted social media platforms. Emails were sent to directors of postgraduate NPR programs to bolster NPR respondents. Respondents completed an online survey containing quantitative and qualitative components. Role transition was measured with *The Nurse Practitioner Role Transition Scale* and a visual analogue scale containing 14 predictor variables, analyzed using descriptive and nonparametric statistics. Open-ended responses were analyzed and triangulated with quantitative findings to aid in understanding role transition.

Results: Logistic regression determined whether a weighted combination of the choice factors predicted the outcome of enrolling in an NPR. Hierarchical linear regression was utilized to analyze if completing an NPR versus direct entry into practice could explain a statistically significant amount of variance in the dependent variable of role transition when controlling for established choice factors and the participants' demographic characteristic. Factors predicting one more likely to participate in an NPR include *desire to gain experience/confidence*, *desire for specialty training*, *recognition of a new and challenging role for NPs*, and *increasing marketability*. Factors predicting PCNPs less likely to participate include *NPR not discussed during NP program*, *geographical limitations*, and *current family/financial obligations*. Completion of an NPR program did not predict easier transition. Four themes from qualitative data indicated factors that aid or hinder transition: *People resources*, *educational learning materials*, *geographical links* and *financial means*.

Implications for Practice: Contrary to published literature, this study demonstrated role transition was not eased by participation in an NPR. The qualitative findings mirrored other studies, reflecting NPR participants experience increased confidence and competence. This study identified consistent concepts the PCNPs viewed as motivating or hindering, which resulted in critical factors impacting their decision to seek or abstain from a residency. This knowledge can guide stakeholders while implementing interventions to aid in the role transition of newly graduated PNCPs. Participants self-reported their role transition experience utilizing quantitative surveys and a qualitative adjunct. Future studies include exploring these same concepts using a different assessment method in an attempt to avoid the bias associated with self-report surveys and broadening the inclusion criteria to include more NP concentrations. In an effort to increase NPR respondents a partnership between NPR programs or accrediting bodies could be developed.

A Naturalistic Inquiry of Nigerian Immigrant Nursing Students' Experiences

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Purpose: Nigerian immigrant nursing students have been identified in the literature as having difficulty in making a transition to the teaching methods used in nursing programs in the U.S. Among the problems they experience are understanding the vocabulary and terminology of the Western culture. Previous research suggests Nigerian students remain silent in seeking help regarding the challenges of their learning in part due to the isolation they face from peers and faculty (Sanner, Wilson and Samson, 2002). The purpose of this study was to explore how Nigerian immigrant nursing students acclimate to the teaching-learning environment in U.S. baccalaureate nursing programs. The research question that guided this NI study was: "How do Nigerian immigrant nursing students acclimate to the learning environment in U.S. baccalaureate nursing programs?

Significance: There is a paucity of research associated with Nigerian immigrant nursing students and how they acclimate to U.S. nursing programs. The study conducted by Sanner, Wilson and Samson (2002) revealed a lack of English language proficiency including vocabulary and terminology, and feelings of social isolation as a potential influence on the Nigerian students' acclimation to the teaching-learning environment. The goal of the study is to offer insight into how Nigerian students acclimate to the learning environment in U.S. baccalaureate nursing programs.

Methods: This study utilized Naturalistic Inquiry (Erlandson et al., 1993; Lincoln & Guba, 1985) to explore the perceptions and experiences of ten Nigerian immigrant nursing students. Study participants were Nigerian immigrant nursing students and the researcher recruited students enrolled in baccalaureate nursing programs in Texas. Interviews, face-to-face or by telephone, for the ten participants were conducted in a private, agreed upon place. Data were collected until reaching saturation, indicating data redundancy, and with no new themes evolving. Analyzed data used procedures described by Lincoln and Guba (1985) and Erlandson et al. (1993) to seek emerging patterns. The five emergent themes included *Stepping into America, Navigating the Rough Waters, Unexpected Changes, Searching for Consistency,* and *Hopes of Finding Clarity.* Trustworthiness was evaluated by Lincoln and Guba's (1985) criteria. Limitations consist of the restriction of the study to students from only the country of Nigeria as the base for the study, only BSN programs in Texas were used, and only current nursing students were utilized in the study.

Results: Study findings revealed that Nigerian immigrant nursing students experience positive and negative encounters with faculty and classmates, challenges and obstacles related to the American English language, their Nigerian accent, family expectations, and work obligations. The study findings may aid U.S. nursing schools and faculty to incorporate strategies in the learning environment to assist Nigerian immigrants and other international nursing students, to better acclimate to Western programs to achieve success.

An Evidence-Based Approach to Student Success in Nursing Education

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Purpose/Aims: The purpose of this project was to design and implement an evidence-based academic support program involving early identification and intervention for students at risk of low academic performance. The nursing and medical education literature on student success strongly supports early intervention as a key element to academic support. The aim of this program was to establish a best-practice remediation model for identifying at-risk students including setting thresholds for intervention and engaging faculty as coaches.

Background: Identifying and supporting students at risk for low academic performance not only reduces attrition, it also helps with equitable resource allocation and aligns with the student-centered approach of the School of Nursing (SON). In reviewing the challenges and successes experienced by our students, several inter-related problems were identified: unequal distribution of advising resources; lack of identifying student performance issues until problems escalated to near disqualification; and predictably, licensing exam failures. A committee was formed with the goal to improve remediation structures and strategies using lessons learned from other health professions. The literature on student success in nursing and medical education yielded a number of best practices for inclusion in a remediation program. Key among these were early identification, consistent procedures, and faculty involvement.

Methods: A group of faculty and staff volunteered to lead the effort, which became known as the Learner Performance Team (LPT). The team first focused on developing a system for early identification of problems and establishing thresholds for focused interventions. Next steps in program development included creating a structured interview for the first assessment, meeting regularly with referred students to develop and implement a learning plan, and facilitating regular communication among faculty coaches, learning plan advisors, and students. To identify the area of greatest interventional opportunity, LPT triangulated the student's self-assessment with faculty observations and academic performance, and then applied a performance rubric organized by domains such as clinical and interpersonal skills. Learning plans were created in a collaborative manner based on the student's self-assessment with guidance from the faculty about evidence-based learning activities. In cases where a student had failed a course, the plans were more intensive and prescriptive, but the aim was still to be as collaborative as possible.

Findings: Since inception, 18 students across four graduate programs have worked with the LPT. Of these, 17 demonstrated measurable improvement in academic performance. Only one student failed to demonstrate necessary improvement and left the program. Student feedback has been positive overall with students reporting that they appreciated the additional attention, guidance, and care.

Discussion and Conclusion: An evidence-based remediation program was developed to provide an early and focused intervention for students at risk for low academic performance. This program helped students improve academic performance, facilitated faculty and advisor communication, and helped target and align resources. Based on results thus far, the LPT plans to further develop the rubric and refine intervention thresholds.

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Development of Behavioral Health Curriculum for a Family Nurse Practitioner Residency

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Purpose: The purpose of this project is to design and implement a behavioral health curriculum for an existing 12- month post graduate residency for Family Nurse Practitioners (FNP) and to support residency expansion.

Background: In 2017, Washington state passed SSB5779, an integrated healthcare law. Integrated care is a bidirectional mental and medical care model in which both services are available within one setting for every patient. Integrated healthcare has been shown to improve mental health outcomes as compared with traditional primary care. Thus, integrated care needs to be a part of residency program development in Washington State. This adds to the current obstacle of demand for NP residency programs exceeding program availability. To help meet this demand and the state mandate a Washington State federally qualified health center (FQHC) with an existing residency program is expanding into the south Puget Sound region and expanding the training opportunities in behavioral health.

Methods: Program expansion will be based on the existing program model with substantial increase in the behavioral health component, including increased behavioral health rotation and didactic trainings. Behavioral health didactic sessions will be increased from three to eleven per year. The curriculum development will include expert guest speakers, and varied teaching methods on common behavioral health issues. Data will be collected and analyzed.

Outcome: Expect to see an increase in the self-assessed level of competence in primary care FNP residents providing behavioral health care.

Conclusion: If effective, incorporating an integrated care focus into a Washington State FQHC's FNP residency program can improve resident self-reported competence in providing behavioral health care. This theoretical heightened confidence would reflect a deeper understanding and broader education, thus allowing improved behavioral healthcare by these primary care providers.

The Influence of Mentorship on Job Satisfaction and Retention of Nurse Practitioners

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Purpose: This quality improvement project will assess nurse practitioners' experiences with mentorship relationships and compare them to their job satisfaction and retention ratings.
Background: Novice nurse practitioners report feeling inadequately prepared to practice independently following graduation and negatively affecting their job satisfaction and job retention. Lack of postgraduate mentorship negatively impacts nurse practitioners' job satisfaction and retention, which may be associated with poor patient outcomes and decreased satisfaction scores. Data suggests that mentorship relationships for postgraduate nurse practitioners are linked with increased job satisfaction and retention rates.
Methods: The Knowledge to Action framework will be utilized to introduce evidence-based mentorship in practice education that may need to be tailored to overcome barriers at specific practice sites. Key stakeholders within the practice site will be involved in identifying methods to address barriers to implementing mentorship and this project's sustainability. Recruitment is planned for 5 to 10 potential nurse practitioner participants from the local Intermountain Clinics. An educational session will be delivered in person by the project manager focusing on the benefits of nurse practitioner mentorship education. Immediately following the educational session, each participant will then report their previous personal mentorship experiences in a brief survey and complete the Misener Nurse Practitioner Job Satisfaction Scale and Price's Intent to Stay Scale. This assessment of intent to stay will act as a proxy for retention. The results of each survey and basic demographics will be collected for analysis.
Outcomes Achieved: Data collection is planned for June 2021. Each nurse practitioner's mentorship experience will be compared to their job satisfaction and retention survey results to determine if there is an association between mentorship relationships and job satisfaction and retention. De-identified data will be shared with participants and administrative staff.
Conclusions: Despite the known advantages of increased nurse practitioner job satisfaction and retention and the established benefits of mentorship relationships, only a limited number of mentorship programs exist to facilitate mentorship relationships. While this project will measure the job satisfaction and retention of a small number of nurse practitioners, the results may generate an interest in establishing a local mentorship program and promote nurse practitioner mentorship relationships.

Paving the Way for Nursing Students with Disabilities: A Qualitative Case Study

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Purpose: This qualitative case study explores barriers to success in nursing education for students with disabilities and provides recommendations for the inclusion of individuals with disabilities into nursing programs.

Rationale/Conceptual Bases/Background: Beyond racial and ethnic diversity in nursing, there is a need for other types of diversity, including that of physical ability. Nurses with disabilities are in an ideal position to support patients with similar experiences. This concordance results in greater patient involvement in care, higher levels of patient satisfaction, higher levels of engagement in preventive care, and better health outcomes. Approximately 19% of the U.S. population, or 56.7 million Americans are living with a disability. Increasing the numbers of nurses with disabilities will directly lead to greater potential for innovative and enhanced healthcare services across the lifespan. Federal law protects individuals with disabilities in educational and employment settings.

Methods: This case study follows a legally blind nursing student for 14 years, from the decision to enroll in a nursing program, through completion of nursing education, entry into clinical practice and subsequent entry into a tenure track faculty position.

Results: Believing there were many opportunities in nursing, regardless of her physical ability, the student entered an accelerated Bachelor of Science in Nursing program. Although an administrator in her college discouraged her from attempting the program, she was permitted to continue. Working with her local State Department of Vocational Rehabilitation, and a low vision ophthalmologist, she developed techniques which allowed her to master the skills of nursing, including the use of magnifying lenses, a talking blood pressure cuff, a video otoscope and computer screen magnification. Other accommodations utilized as she progressed in her education, including a Master of Science in Nursing degree, training as a nurse practitioner and a Doctor of Philosophy degree, included use of an editor for formatting scholarly papers and the use of a reader/scribe. For 9 years she has maintained a clinical practice at a large, multi-site ophthalmology clinic where she has developed curriculum to assist patients who are struggling with vision loss. She reports that her personal experience with blindness gives her credibility with her patients and fosters hope. Additionally, she is new faculty in a tenure track position at a university where she instructs undergraduate and graduate nursing students and is developing a program of research focused on the biopsychosocial mediators of cognitive health among older adults with sensory impairments. She reports that she is now enjoying a rewarding career in nursing, not despite her blindness, but because of it.

Implications for Translation to Practice/Policy: Disability does not lie in the person, but in the environment. When adjustments are made to the environment, the disability can be mitigated or removed. While working with disability services and other experts, reasonable accommodations and creative solutions should be explored to allow nursing students with disabilities to complete required tasks. Nursing Schools can successfully accept and educate nurses with disabilities. As the nursing pool diversifies and expands to incorporate nurses with disabilities, patients will benefit.

Salivary Alpha-Amylase Levels: Student Stress Performing a Mannequin Bimanual Exam

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Purpose/Aim: Leaning to perform a pelvic examination is an anxiety producing, stressful experience. The major cause of anxiety is concern over hurting or harming the woman. Students fear being judged as inept, unable to recognize pathology, experiencing sexual arousal, and unpleasantness. Some students are so anxious that they report a variety of signs of sympathetic nervous system arousal i.e., feeling shaky, sweaty, and nauseous. The aim of our pilot study was to describe the level of salivary alpha-amylase (sAA) in graduate nursing students as a biomarker of stress following a mannequin bimanual examination teaching intervention.

Background: Sympathetic nervous system (SNS) response to acute psychological stress is reflected by an increase in plasma norepinephrine and sAA which peaks at 5 min after the stress task. Although each response is independent, sAA significantly predicts the response in norepinephrine caused by stress and can therefore be used as proxy measure of SNS response. At 1625 hrs. a peak concentration of sAA is 156.87 U/mL and an afternoon resting mean level of stimulated sAA in healthy adults remains under 150 U/mL.

Methods: Female graduate-nursing students enrolled in Advanced Health Assessment participated in a teaching intervention to practice the bimanual examination on the Clinical Female Pelvic Trainer Mk3 (CFPT)-Advanced mannequin, which is anatomically accurate, realistic and has construct validity. Participants refrained from eating, drinking, smoking or chewing gum for 30 minutes before the mannequin teaching intervention. Immediately following the intervention, at 1700, students extracted a salavette roll from a coded plastic specimen tube (SARSTEDTAG & Co.) and gently chewed on it for 60 seconds, then replaced the roll in the tube. The salivary specimens were iced, centrifuged for 2 minutes at 1,000 x g at 10º C, the insert discarded and the specimen frozen at -80° C. Most samples were clear. A few had a barely visible light-yellow tint, and one pink tinged specimen was excluded for blood. Samples were shipped on dry ice to Salimetrics for the analysis of salivary alpha-amylase (sAA) using a kinetic reaction assay. Intra-assay variation (CV) was 5.5%. Inter-assay variation was 4.7%. with an assay sensitivity of 0.4 U/mL.

Results: Of 19 participants, 13 had no previous experience with pelvic or bimanual examination and 6 had previously performed some variation of a pelvic or cervical examination in clinical practice. Participant levels of sAA: mean 144.03 U/mL, mode 130.9 U/mL, range of 31.8 to 436.9 U/mL and SD = 91.86 U/mL. Six student's sAA levels were above the study mean and two were as high as 218.8 U/mL and 266 U/mL, while a third reached 436.9 U/mL indicating high levels of stress.

Implications: This easy to use and accurate biomarker for quantifying stress may be a useful tool for nurse educators who strive to identify which students need stress reducing intervention so that optimal learning can occur. Simply knowing that some students experience high levels of stress performing a simulated bimanual examination suggests the need for instructor empathy and remediation of content and psychomotor skills to improve learning and performance.

Needle Tip Location Feedback: An Anesthesia Educational Intervention

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Purpose/Aim: A novice learner's inability to maintain needle tip visualization during ultrasound guided regional anesthesia (UGRA) can lead to unsafe needle advances and result in severe patient injury during the procedure. Traditionally, needle tip location feedback during UGRA training consists of observational feedback provided by clinical experts. However, this feedback is often unreliable, inconsistent, and lacks performance benchmarks. Therefore, anesthesia education programs are incorporating simulation-based teaching methods that use expensive task trainers to aid in the simultaneous hand-eye coordination, and interpretation of real-time two-dimensional ultrasound images while manipulating a needle toward a three-dimensional anatomical target. The effects of this educational intervention are unknown. Our purpose is to examine the effects of computerized real-time needle tip location feedback on student state anxiety and immediate task performance during a simulated UGRA training lab.

Background: Feedback influences student learning during the training process. Computerized real-time needle tip location feedback is direct and timely, strong predictors for improvement of learning and performance. Needle tip visualization is possible during UGRA when the ultrasound waves from the probe are in alignment with the needle tip and reflect back to the probe. The reflections of the ultrasound waves received by the probe generate two-dimension visualization of the needle tip on a display. During UGRA, it is challenging to manipulate visual and spatial relationships between two-dimensional images and three-dimensional objects while aligning the needle tip with the probe to maintain visualization. We postulate that this educational intervention will decrease student anxiety and improve procedure performance.

Methods: Using an experimental design with repeated measures, the interventional effects of real-time computerized needle tip location feedback on the anxiety and performance of student nurse anesthetists during a simulated UGRA training using Simulab© Regional Anesthesia Trainer with SmarTissue™ (SRATS) will be assessed. Participants will be equally randomized to the intervention (n=15) or control group (n=15) based on visuospatial ability assessed with the redrawn Vandenberg and Kuse Mental Rotations Test-A. Following UGRA training videos, state and trait anxiety will be measured in all participants using the State-Trait Anxiety Inventory-Y (STAI-Y) (T1).The experimental group will receive continuous real-time computerized needle tip location feedback from the SRATS throughout the UGRA training lab (20 min) whereas the control group will not. All participants will complete STAI-Y (T2) followed by a videotaped student performance of UGRA, concluding with completion of the STAI -Y (T3). Two faculty experts will assess all of the participants' simulated UGRA video performances using the Assessment Checklist and Global Rating Scale for UGRA.

Results: Data will be completed and analyzed using descriptive and multivariate statistical analysis including 2x3 ANOVA, Pearson's correlation, and a one-way MANCOVA to answer the research questions posed. Alpha 0.05, Power 0.80, and no literature supporting calculation of effect size.

Implications: The findings from this proposed study may help determine the effectiveness of simulation-based teaching task trainers with real-time computerized needle tip feedback, improve student UGRA performance in the clinical setting and help to determine cost effectiveness of this training method.

Better Together: Academic and Community Partnership to Develop an NP Residency

***Jennifer Jean Edwards**, MS, BS, RN, Betty Irene Moore School of Nursing at UC Davis, Sacramento, CA; **Ana Marin Cachu**, MPH, Betty Irene Moore School of Nursing at UC Davis, Sacramento, CA; **Deb Bakerjian**, PhD, APRN, FAAN, FAANP, FGSA, Betty Irene Moore School of Nursing at UC Davis, Sacramento, CA*

The purpose of this presentation is to describe the process used and lessons learned in planning a HRSA grant-funded, primary care focused nurse practitioner (NP) residency program that engaged interprofessional partnerships between federally qualified health centers, academic clinics, and a School of Nursing.

Background: Residency training programs, designed to provide additional training for newly graduated medical doctors, were introduced in medical education in the late 1800's. Over the last twenty years, their value has been recognized in other health professions including NPs. In 2019, HRSA funded its first NP residency programs and as a new recipient of this funding, we anticipated it would be challenging to obtain clinical rotations sites as many health professions schools compete for high quality sites. Identifying, developing and maintaining engagement is a challenge faced by many programs. COVID-19 has further complicated these placements as organizations struggle to adapt to the current environment.

Description: The team developed an organizational structure designed to engage clinic partners and other stakeholders who could be preceptor sites for nurse practitioner residents for their 12-month long residency. Their role was to work with the grant staff and contribute to the planning and implementation of the program. We formed four work groups including clinical rotation, admission, curriculum, and simulation that were overseen by an advisory council made up of clinic and academic leadership and grant staff. Workgroup members were interprofessional and included clinic administration, clinical providers and preceptors, and academic faculty from nursing, medicine, and pharmacy. The workgroups met monthly for the year prior to the program start to set goals, establish processes, develop curriculum, and establish the admissions process.

Outcomes: The NP residency successfully enrolled 10 NP residents from across the country and launched the program on July 1st, 2020. The curriculum includes monthly didactic and hands-on training as well as primary and specialty clinical care experiences. We were successful in placing all 10 residents in the FQHCs and academic clinics that participated in the workgroups. Through ongoing collaboration, we worked with disparate clinic sites to gain consensus on multiple issues so that the NP resident rotations were similar in terms of standards and experiences.

We constructed an extensive NP self-assessment covering 9 domains in clinical and professional practice with a 5-point Likert scale ranging from Novice to Expert. The baseline self-assessments resulted in almost all the NPs falling into the Novice to Advance Beginner for most clinical skill areas. Assessment will be repeated quarterly; after the first quarter, almost all NP residents improved to Advanced Beginner to Competent in many of those clinical areas.

Conclusions: The workgroup structure was instrumental in achieving a smooth admissions process, developing a robust curriculum aligning with NP competency gaps, setting standards for the clinical rotations, and establishing an enduring relationship with the clinics. Engaging FQHC and academic clinic partners has been very effective in developing a collaborative, comprehensive, and high-quality residency program and competencies are already improving. These partners continue to provide support and feedback to the program following an iterative quality improvement process.

Funding: Health Resources and Services Administration, Grant# T14HP33203

Building Research and Evidence-Based Practice Capacity through Collaboration

***Elizabeth Reifsnider**, PhD, FAANP, FAAN, Edson College of Nursing and Health Innovation, Arizona State University, Phoenix, AZ; **Erin Robinson**, BSN, MSN, DNP, Nursing, Phoenix Children's Hospital, Phoenix, AZ*

Purposes/Aims: The purpose of this presentation is to describe how collaboration between a college of nursing and a local independent pediatric hospital increased the capacity of the nurses providing front-line care with the skills and knowledge in conducting research and applying and utilizing research and evidence-based practice in their clinical practice.

Rationale/Background: Inpatient nursing practice has become more complex as patients are usually only hospitalized if they are very sick and in need of 24-hour care. This is especially true with specialized care, such as pediatrics. The leaders of the nursing college and the children's hospital collaborated to institute a model that supports increasing nurses' knowledge and skills in research/EBP to enhance their ability to apply best practice to their daily care. The goal of the collaboration is to enable clinician-scholar teams of pediatric nurses and college faculty to implement evidence-based practice throughout the organization. An additional goal is to increase competence in research and view research as a systematic way to address questions about care that are not readily answered for specialized care in the current literature.

Undertaking: The project began with the creation of a nursing position dedicated to research/EBP in the hospital. This position supports the organizational goals to grow the culture of inquiry and knowledge in research and EBP.

The college supplied a nursing researcher with a background in pediatrics and nursing research as the mentor/consultant to the hospital. The research/EBP collaboration began with choosing a nursing EBP model and the Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) model was chosen. Enough modules were purchased to enable all nurses who want to conduct EBP to learn the process. The JHNEBP program was introduced in 4-hour seminar for all nurses with clear action steps. The nurses were provided with published articles of varying quality and asked to build a PICOT statement on the problem using the available evidence located at their tables. The discussions also included knowing how to determine if original research is needed to address a problem or if enough evidence is available to address a problem.

Assessment/Outcomes: The research and EBP training is progressing and is not concluded. However, there have been more nurses obtaining CITI training and undertaking individual Quality Improvement (QI) projects as well as conducting original research through chart reviews and retrospectives analyses. More EBP projects have been completed and presented. The goal is to begin to publish the results of the projects beyond abstract submissions. Research studies have been created and submitted to IRB for approval.

Conclusions/Implications: Collaboration between nursing colleges and specialized hospitals can benefit both parties. Research faculty at colleges can obtain understanding about current nursing practice which can benefit their research programs, grants, and teaching. Practicing nurses can benefit from experienced teachers who are comfortable with research and EBP and want to share the knowledge.

Graduate Nurse Faculty Development Using the Nurse Educator Transition Model

***Lindsey Barthel**, DNP, RN, FNP-C, Nurse Anesthesia, Mount Marty University, Sioux Falls, SD; **Lesley Cook**, DNP, RN, FNP-C, GNP-C, Nurse Anesthesia, Mount Marty University, Sioux Falls, SD*

Purpose/Aims: The purpose of this project is to facilitate a positive role transition from clinician to nurse educator in a graduate nurse anesthesia department through the implementation of an evidence-based faculty orientation program to improve faculty competency and knowledge in the subject areas of academia, teaching, scholarship, and service. The program supports novice faculty as they move through the phases of the Nurse Educator Transition (NET) Model: a) anticipation/expectation, b) disorientation, c) information seeking, and d) identity formation.
Background: The graduate nurse anesthesia department employs advanced practice nursing faculty, most of whom hold a practice doctorate (Doctor of Nursing Practice or Doctor of Nurse Anesthesia Practice). The department has experienced marked turnover since the transition from a master's to doctoral program resulting in the majority of faculty having less than 3 years of formal teaching experience. The literature demonstrates that clinicians entering the faculty role often lack understanding of academic culture, scholarship requirements, and knowledge of promotion and tenure practices, resulting in confusion, dissatisfaction, and loss of confidence. As practice doctorate programs do not explicitly prepare graduates for the faculty role, inadequate orientation and socialization to academia compound the challenges faced by novice faculty. The use of structured orientation and mentorship programs has been demonstrated to improve retention of nurse faculty and a more positive role transition.
Description of Best Practice, Approach, and Assessment: The literature is not sufficient to recommend the use of a particular orientation program. As such, the NET Model provides structure to the program. Components of the program address all stages of the model and are organized to address the competency areas of academia, teaching, scholarship, and service. A seminar approach will be undertaken rather than the use of the traditional mentorship-mentee dyad given the lack of experienced faculty to act as mentors within the department. The program will be administered through in person instruction, faculty group discussion, and an online learning management system over one academic year. A pre-assessment of all program faculty was administered via an anonymous online survey. The assessment asked faculty to rank their competence and knowledge of topics including curriculum development, facilitating student learning, evaluation of student performance, and areas of specific interest to each faculty member. The orientation program content was developed to support transition through each phase of the NET model and tailored to the needs identified by the faculty assessment.
Assessment: Upon completion of the orientation program after one academic year, faculty will be reassessed using the initial survey with the addition of Likert scale questions assessing knowledge of scholarship and service expectations, promotion, and tenure. Results will be presented to faculty and university leadership and reviewed for necessary additions and ongoing education.
Conclusion: The literature surrounding nurse faculty orientation and the NET model largely focuses on clinicians transitioning to faculty in undergraduate nursing programs. Results of this project will inform the future development of graduate faculty orientation programs and validate use of the NET model in graduate-level nursing programs.

Knowledge, Beliefs, Use, and Referral of Complementary/Alternative Therapies by Nurse Practitioners

***Wendy J. Thorn**, RN, Pacific Lutheran University, Tacoma, WA*

Purposes/Aims: There is a lack of evidence of nurse practitioners' knowledge, beliefs, use, and referral of complementary/alternative therapies in practice and specifically in Washington State. The purpose of this study is to assess the knowledge, beliefs, use, and referral of complementary/alternative therapies by Nurse Practitioners in Washington State. The data compiled from this study can help identify barriers and gaps in the knowledge and referral of complementary/alternative therapies.

Background: The National Center for Complementary and Integrative Health focuses on the scientific research of practices, products, and various diverse treatments not typically considered conventional medicine. The National Center for Complementary and Integrative Health defines complementary medicine or therapies as "a non-mainstream practice used together with conventional medicine." Complementary/alternative therapies is a broad term representing healthcare practices considered not in alignment with conventional medicine or treatments. Studies show that many individuals turn to complementary/alternative therapies resulting in successful treatment for various conditions and diseases such as depression, anxiety, obesity, and chronic pain. There are many resources of information available regarding complementary/alternative therapies, but unfortunately, some can be from unreliable sources. Nurse Practitioners can help bridge the gap in knowledge by understanding complementary/alternative therapies and having an open dialogue with their patients.

Methods: The study design is a quantitative cross-sectional 20-item self-administered online survey to assess knowledge, belief, use, and referral of complementary/alternative therapies with currently practicing Nurse Practitioners in Washington State. The survey will be emailed to Nurse Practitioners members (N = 2790) of ARNPs United of Washington State and Nurse Practitioner Group of Spokane. Descriptive statistics will examine Nurse Practitioners' knowledge, beliefs, use, and referral of complementary/alternative therapies for a nonparametric analysis of survey responses.

Results: This focus of this study will assess the knowledge, beliefs, use, and referral of complementary/alternative therapies by Nurse Practitioners in Washington State. The study data will examine correlations between demographic data and the knowledge, beliefs, use, and referral of complementary/alternative therapies. An analysis of the relationship between Nurse Practitioners' personal use, referral, and beliefs in the effectiveness of complementary/alternative therapies will also be explored. The Nurse Practitioners' knowledge, beliefs, use, and referral by specific complementary/alternative therapy will be examined, including a breakdown based upon Washington State regional location.

Implications for Transition to Practice: The analysis of Nurse Practitioners' knowledge, beliefs, use, and referral of complementary/alternative therapies will help identify gaps in education and training of complementary/alternative therapies. The results of this study can be beneficial to medical educators in Washington for incorporating knowledge relating to complementary/alternative therapies into the education curriculums and providing continuing education opportunities in the communities. The nurse practitioners' increased knowledge and use of complementary/alternative therapies could bridge a gap in having open dialogues with patients and providing valuable information, resulting in positive holistic outcomes.

Transition in Learning during COVID-19: Student Nurse Anxiety, Stress, and Resources

***Sharon Konrad**, DNP, RN, CCRN-K, ACNS-BC, Nursing, California State University, Long Beach, CA; **Anita Fitzgerald**, PhD, RN, AGNP, CNE, Nursing, California State University, Long Beach, CA*

Purpose: The purpose of this study was to explore anxiety and stress experienced by first semester baccalaureate nursing students and identify sources of support during a transition from a face-to-face to an online learning platform during the first months of the COVID-19 pandemic.

Design and Methods: This descriptive study used a web-based survey distributed to first semester nursing students two months after completion of their first semester of studies. The survey questions were adapted from the Anxiety Symptoms Checklist and the College Student Stress Scale and consisted of 10 closed-ended responses and one open-ended question. The survey link was emailed to 79 students, with 56 consenting to participant, and 50 that completed the survey.

Findings: The most commonly reported symptoms were difficulty concentrating (90%) and feeling anxious or overwhelmed (84%). The majority of respondents reported that anxiety affected their activities or relationships; 84% were concerned about a friend or relative contracting COVID-19, and 70% were afraid of becoming infected themselves. The majority of respondents expressed concerns related to difficulty handling academic workload (62%), and the need to perform well in school (56%).

Practice Implications: To decrease anxiety and stress, professors should foster a structured learning environment, abide by the course schedule, communicate any changes or updates in a timely fashion, adapt assignments to fit the learning environment, utilize campus, local, state and national resources, practice self-care, and extend grace.

POSTER SYMPOSIUM: WORKING TOGETHER TO INTEGRATE RESEARCH IN THE FEMALE HOMELESS POPULATION

Working Together to Integrate Research in the Female Homeless Population

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Christine Samuel-Nakamura*, PhD, School of Nursing, University of California, Los Angeles, CA*

Purpose/Aims: Our aim is to present studies focusing on the female homeless population in Los Angeles by integrating meaningful research to benefit an underserved and ever-growing population. Increasing use of research in clinical practice is inevitable, as such, integrating research can play a greater role in developing evidence-based nursing practices. The studies to be presented examine: the ethnically diverse female narrative or lense in relation to environmental contexts of violence, abuse, and high-risk behaviors, Latina womens' struggles to access resources, and a report on the health status and emergency departments (ED) utilization patterns of homeless women in a metropolitan setting.

Rationale/Background: Los Angeles has one of the largest homeless populations in the U.S. Homeless women have poorer health status, greater mortality rates, mental illness, substance abuse problems, and are often victims of violence. The literature reveal that while some root causes of homelessness such as poverty, lack of housing, mental illness and other chronic health conditions are seen throughout the population, violence, abuse, high-risk behaviors, perceived barriers, language and cultural nuances, lack of social and supportive networks, and health care utilization factors disproportionately impacts women.

Methods: Quantitative methods utilizing a self-administered survey were utilized to obtain information in downtown shelter participants. Mixed-methods involving in-depth open-ended interviews and a survey assessed the challenges and barriers to accessibility of resources for Latina women. Quantitative methods were utilized to ascertain utilization trends in the ED and report on the health status of ethnically diverse female participants.

Results: A detailed background that identifies several research projects that illuminates the experiences of homeless women, the barriers encountered, unique sociocultural factors, and health care characteristics are provided. One study reports statistical significance in substance abuse and violence experienced in this group. A nurse scholar reports barriers to health care access such as unfamiliarity with resources, linguistic and cultural barriers, and low social and supportive networks. Finally, a research project reports that the majority of participants accessed the ED frequently and several health conditions and experiences were found to be significantly associated. These presentations all have common factors as well as unique issues that require exploration for adequate solutions.

Implications for Translation to Practice/Further Research Policy: These integrated nursing research studies offer unique insight into the experiences and challenges of female homeless populations in an urban setting. The use of relevant and culturally-sensitive approaches are essential to reaching an ever-growing population. The findings support integrating behavioral intervention and medical treatment and promoting collaborative health care services (patient/family-centered care). Nurses can be informed and model trauma-informed care to inform their practice and research. Nurses can support and advocate for effective policy changes while addressing an important social justice issue and health care crisis.

POSTER SYMPOSIUM: WORKING TOGETHER TO INTEGRATE RESEARCH IN THE FEMALE HOMELESS POPULATION

Latinas Surviving in Skid Row: Narratives on Homelessness and Systemic Inequities

***Maria Elena Ruiz**, PhD, RN, FNP-BC, UCLA School of Nursing, Los Angeles, CA*

Purpose/Aims: This mixed quantitative and qualitative study explored Latina women's perceptions of their path to becoming homeless in a large metropolitan city in the U.S. This research fills the gap in our field of knowledge regarding the self-assessment of homeless women who find themselves in a vulnerable position.

Rationale/Background: A growing number of Americans are experiencing hunger and homelessness, with the latest national count showing that over one-half million individuals and families were living in areas not meant for human occupation. In several studies, about 61% of individuals experiencing homelessness were reported to be men and 39% were women. Almost half of these individuals were White. What is often missed in the media are the growing number of racial/ethnic minorities that remain invisible and often unaccounted for in reporting figures. The growing number of Latina women are an important group experiencing homelessness, yet little is known about them and their pathway to homelessness. However, for Latinas, multiple unique factors may intersect due to their gender, racial/ethnic minority status, migration history, and various systemic factors that limit opportunities for family and governmental support.

Methods: A mixed method (quantitative-qualitative) study design was employed to explore the path to homelessness among Latinas in the Skid Row areas of downtown Los Angeles. A self-administered survey was provided to 12 adult Latina women in 2020. The questionnaire elicited data on demographics, general medical history, and homeless status. The open-ended response part of the questionnaire was audio recorded and explored the Latina women's perception of events that led to their residing in Skid Row, as well as their experiences on getting access to basic necessities such as housing, food, access and delivery of medical care, and other resources. Data was collected by bicultural and bilingual Spanish-English speakers, which added an extra layer of substance to the collection and the responses providing for rich data for analysis. This extra layer allowed us to capture Spanish-language colloquialism as well as the cultural nuances that are often misunderstood, misinterpreted or lost in translation.

Results: The narratives illustrate how multiple factors contribute to Latinas ending up without a home, and how these participants struggle to access resources and to navigate a system that prolongs and limits their exit out of homelessness. A larger picture appeared of the pathways to homelessness described by Latina women. Participants reported barriers to health care access such as unfamiliarity with resources or access to referrals, and language and cultural nuances.

Implications for Translation to Practice/Further Research Policy: The women's stories present a portrait of gendered, cultural, language, inequities, and a system that calls attention for integration and collaboration with interdisciplinary teams with diverse immigration experiences, economic, housing, culture/language and community expertise. With the paucity of research on racial/ethnic minorities, specifically Latinas, this research is important as it expands our lenses on homelessness as a major public health issue, as well as the gap in research and inequities in health and policy development.

Funding: The UCLA Chicano Studies Research Center (CSRC) and the UCLA Center for the Study of Women (CSW).

POSTER SYMPOSIUM: WORKING TOGETHER TO INTEGRATE RESEARCH IN THE FEMALE HOMELESS POPULATION

Homeless Women in LA – Reports of Abuse, Violence, and Substance Abuse

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***Felicia Schanche Hodge**, Dr.PH., School of Nursing, University of California, Los Angeles, CA*

Purpose/Aims: This study reports on the status of homeless women in the City and County of Los Angeles, California. Important areas of investigation include reported abuse and violence experienced by homeless women. High-risk behaviors include unprotected sex and abuse of substances including alcohol use and cigarette smoking. This data is gathered to inform policy makers and homeless programs and shelters.

Rationale/Background: A 2019 - 2020 study of adult homeless women gathered important data on their experiences of abuse, violence, and substance use. Vulnerable populations, particularly homeless women, are at risk of violence, psycho-socio problems, and poor health. Efforts to address the environment of the homeless requires a better understanding of their condition and situation, including self-help behaviors and psychosocial barriers.

Methods: A convenience sample of 47 homeless women aged 18-80 utilizing shelters in downtown Los Angeles, California were recruited to participate in a study over a six-month period. Self-administered questionnaires collected data on several aspects of homeless women's lives, such as their reasons for current homeless status, experience with abuse and violence, and high risk behaviors via substance abuse. Demographic characteristics, health status, and perceived assessment of long-term needs was also assessed.

Results: Findings included significant policy issues of mental health status stemming from years of abuse (physical and psychological) and substance use and dependence. A scaled assessment of health status (illness and healthcare provider visits), financial status (sources of income and annual amount), social support and networks, mental health (including depression), and risky behaviors (i.e., tobacco, substance abuse and unprotected sex) reported statistical significance in substance use and violence experiences.

Los Angeles is experiencing an influx of homeless individuals and homeless women have significantly increased over the years; approximately 31 percent LA's homeless are women. Information on the demographic characteristics, racial and educational diversity, as well as perceived needs of these women provide much needed data that can guide referrals and can respond to service needs and program policies.

Implications for Translation to Practice/Further Research Policy: Understanding the environmental context of homeless women informs decision makers regarding an urgent social and public health issue. As women are a significant number of LA's homeless, they are a vulnerable population in need of tailored programs to assist a transition to healthy living as well as targeted programs to prevent homelessness.

Funding: The UCLA Center for the Study of Women (CSW).

POSTER SYMPOSIUM: WORKING TOGETHER TO INTEGRATE RESEARCH IN THE FEMALE HOMELESS POPULATION

Emergency Department Utilization in the Female Homeless Population in LA

Christine Samuel-Nakamura*, PhD, School of Nursing, University of California, Los Angeles, CA*

Purpose/Aims: Metropolitan areas are experiencing greater numbers in homeless individuals. Los Angeles reports a homeless population of 50,000-60,000 on any given night of which 31% are women. Shelters are limited, healthcare minimal if at all, and the environment of the homeless is in a constant state of flux. Underserved populations, particularly homeless women, are at risk of violence, psychosocial problems, poor health, and lack of access to healthcare.
Background/Background: Psychological impacts can be enormous, affecting the homeless individually and collectively. The need exists to identify the status of homeless women in terms of their health status, socio-economic status, mental health status, environmental status and shelter resource needs as well as the environmental context of homeless women for policies and increased healthcare services.
Methods: A 2019-20 study on the status of homeless women sampled 47 racially diverse women aged 18-80 residing in downtown Los Angeles (DTLA). The study focused on the health and environment of homeless women, as well as their perceived assessment of long-term need. Self-administered questionnaires collected over a six month period, targeted homeless women in DTLA. Data collected included several aspects of homeless women's lives, such as domestic violence and abuse, mental health, and substance abuse. Preference for housing, employment, and social and healthcare access were assessed.
Results: Of the 47 women, the majority of the cohort had reported utilizing emergency department (ED) services in the past year and 20% had accessed the ED $\geq$ 4 times per year. There were strong associations between ED visits and physical disability ($p < 0.001$) and Post-Traumatic Stress Disorder ($p < 0.05$); other associations were found between physical ($p < 0.05$) and sexual abuse ($p < 0.05$) by intimate partners and stalking ($p < 0.05$).
Implications for Translation to Practice/Further Research Policy: Efforts to address homelessness requires a better understanding of the environment of homeless women, including self-management behaviors and psychosocial barriers. Chronic medical conditions and various types of abuse were associated to the utilization of the ED. There is an urgent need to educate nurses, patients and their families to improve health care outcomes. Homelessness have been found to have an impact on adult illness and important effects on health care utilization. Nurses can participate in primary care programs that focus on patient- and family-centered care, trauma-informed care, and integrate behavioral intervention and medical treatment. Future studies are needed to address how to mitigate the negative impacts of homelessness, improve self-management skills, and bolster resilience among individuals. Expanded short and long-term health care access and services are needed for the homeless particularly pre-, intra- and post-COVID-19 pandemic.

Funding: The UCLA Center for the Study of Women (CSW).

RESEARCH & INFORMATION EXCHANGE POSTERS

The Research & Information Exchange (R&IE) includes posters of research conducted by faculty, students, and nurses in clinical practice. These posters have been submitted by member organizations of WIN and have not been peer-reviewed by WIN.

ARIZONA STATE UNIVERSITY
EDSON COLLEGE OF NURSING AND HEALTH INNOVATION

Through Alzheimer's Eyes: Exploring the Impact of a Virtual Caregiving Intervention
Abigail Gómez-Morales, David W. Coon

A Socio-Ecological Model to Understand Compassion Fatigue among Nurses in the Pandemic
Soojung Jo, Elizabeth Reifsnider

Adverse Childhood Experiences as a Scientific Construct: A Critical Evaluation
Bin Suh, Suniya Luthar

AZUSA PACIFIC UNIVERSITY SCHOOL OF NURSING

Self-Efficacy, Knowledge, Social Support & Self Care among Korean Immigrants with Type2DM
Judy Kim, Vivien Dee, Ying Jiang, John Doyle

Health Beliefs, Religiosity, & Acculturation of Arab Americans on Advanced Care Planning
Khaled Alwardat, Vivien Dee, Ying Jiang, John Doyle, Kathleen Ruccione

Teen-Senior Connection: An Intergenerational Strategy Enhancing Teen Resilience
Marcia Davis, Diana Woods

Policy and the Maternal-Infant Dyad: Supporting Attachment in the COVID-19 Pandemic
I. Christine Lee, Teresa Dodd-Butera, Christina Chambers

Policy and Maternal Mental Health: Supporting Women in the COVID-19 Pandemic
Bridget Miranda, Teresa Dodd-Butera

Psychometric Properties of the Munro Pressure Injury Scale for Perioperative Patients
Cassendra Munro, Vivien Dee, Ying Jiang, Lowell Renold

Using Storytelling to Increase Nurses' Knowledge in Caring for Older Adults
Michele Boucher, Diana Woods

Reducing Older Adults Safety Net Hospital Readmissions Using Early Risk Identification
Cherrie Sercena-Hernandez, Diana Woods

An Evidence-Based Program for Asthma Management in a Pediatric Clinic
Katrina Leong, Teresa Dodd-Butera

Self-Efficacy and Lifestyle Behaviors among Hispanic Americans with Hypertension
Gabriela Andrade, Aurelia Macabasco-O'Connell, Vivien Dee

BETTY IRENE MOORE SCHOOL OF NURSING AT UC DAVIS

Impact of Weight Loss on Obese Asthmatic Outcomes
Kathleen Mae Galinato, Molly Garcia, Haley Rentro, Sara Bridley, Sebastian Raafat, Jacqueline Becerra Terriquez, Cailey Strazzo, Victor Yang

Domain Specific Stressors and Their Relationship to Opioid Use during Pregnancy
Shantel Porter, Janice F. Bell, Julie Bidwell, Monica Delson

BOISE STATE UNIVERSITY SCHOOL OF NURSING

Understanding Parent Experiences with Pediatric Chronic Illness
Lauren Zuba, Cara Gallegos

Interventions to Manage Postoperative Delirium: A Review
Daum Jung, Lucy Zhao

An Analysis of Self-Compassion among Nursing Students and Faculty
Sarah McKiddy, Renee Walters

BRIGHAM YOUNG UNIVERSITY COLLEGE OF NURSING

Undergraduate Nursing Course Update: Domestic Violence Simulation & Student Empathy
Jennifer Benson, Peggy Anderson, Gaye Ray, Denise Cummins, Michael Thomas

Vaping: What Nurses Need to Know
Brandon Thatcher, Haokun Yang, Corinna Tanner

Prevention of Eating Disorders in Children: A Guide for Nurses and Nurse Practitioners
Michelle Oaks, Jane H. Lassetter

Decreasing Inappropriate Antibiotic Prescribing for All Ages Presenting with Cough
Petr Ruda, Clinton Child

CALIFORNIA STATE UNIVERSITY, FULLERTON
SOUTHERN CALIFORNIA CSU DNP CONSORTIUM

Global Signature Recognition for Nurse Practitioners in California
Theresa Brown, Ahlam Jadalla, Demetra Bastas-Bratkic

The Implementation of Pediatric Early Warning (Pew) System Tool in a Pediatric Unit
Shelley Burke, Asma Taha, Rebecca Sandoval

Second Victim Phenomenon the Perioperative Provider Perspective
Laura Chavez, Asma Taha, Michael Boytim

Decreasing Catheter-Associated Urinary Tract Infections (CAUTIs)
Luisa Chong, Rachel McClanahan, Beverly Quaye

Improving Peripheral Intravenous Catheter Insertion Competency of Home Health Nurses
Hazel Mary Danggoec, Ayman Tailakh, Jean O'Neil

Improving Nurse Management of the Second Stage of Labor
Mimi Dent, Margaret Brady, Lucy Van Otterloo

Assault Prevention through Use of Risk for Violence Screening
Sheila Mallett-Smith, Ahlam Jadalla, Kholoud Khalil

CHARLES R. DREW UNIVERSITY MERVYN M. DYMALLY SCHOOL OF NURSING

COVID-19 Awareness, Education, Documentation and Implementation Plan for Screening
Ana Cortez, Magda Shaheen, Juana Ferrerosa

Using Case Studies in Nursing Education
Magda Shaheen

Effectiveness of Smoking Cessation Education Programs on the Reduction of Smoking in Adolescents
Maria Gaytan, Magda Shaheen, Alice Benjamin, Maria Galura, Marjorie Green, Dexter Jones

Campus Nursing Officer: Innovative Role to Protect Health during COVID-19 Pandemic
Delia Santana, Magda Shaheen

Animal-Assisted Therapy and Behavioral and Psychological Symptoms of Dementia in the Elderly: A Systematic Review
John Edrik Brillante, Magda Shaheen, Donna Sanchez, Kristeen Candelaria,
Ellenita Guico, Agnes Reyes

Effects of Ketogenic Diet on HgA1C in Pre-Diabetic and Diabetic Patients
Miranda Arciaga, Magda Shaheen, Andrea Takayama, Laurel Lu, Michelle Davis

Effects of Coenzyme Q10 Supplementation in Improving Metabolic Homeostasis Parameters and Reproductive Hormones in Women with Polycystic Ovary Syndrome
Fatima Ramos, Magda Shaheen, Victor John Barcarse, Kristine Corpuz,
Paulina Bianca Gonzales, Jacqueline Jimenez

The Efficacy of Second-Generation Antipsychotics for Reducing Acute Mania: A Systematic Review
Ricardo Alvarado, Magda Shaheen, Vilcent De Guzman, Candy Grace De Guzman,
Emmanuel Cardenas, Allana Bush

The Effect of Daily Probiotic Supplementation on Glycemic Control and Lipid Profile in Adult Patients with Type 2 Diabetes Mellitus
Catherine Joy Cabugao, Magda Shaheen, Maudy Carpio, Bernadette Mercado, Tiffany Tran, Jennina Manzano

Nurse Fatigue, Overtime, and the Effects of a Fatigue Management Program on the Occurrence of Adverse Events: A Systematic Review
Anna Carlos, Magda Shaheen, Shequila Smith, Victoria Metzger, Tiffani Thorne, YaOlie Drammeh

HOAG MEMORIAL HOSPITAL

The Roles of EMS Providers and MICNs in Sepsis
Jodee Lejnieks, Cyndie Strader, Linda Chirieleison, Cherry Tanjapatkul, Ahlam Jadalla

LOMA LINDA UNIVERSITY SCHOOL OF NURSING

Effects of Nurse Handling in Moderate to Late Preterm Infants
Nancy Brashear, Ellen D'Errico, Danilyn Angeles

Hospital on the Move! Effects of Relocation on Nursing Staff
Patti Radovich, Ellen D'Errico, Robert Harrity, Nia Martin

PhD Prepared Nurses: Their Research and Recommendations
Lisa Roberts, Ellen D'Errico

Examining Stress, Anxiety, and Resilience in New Graduate Nursing Residents during COVID-19
Patti Radovich, Ellen D'Errico, Nia Martin

The Lived Experience of Stillbirth in Rural India
Lisa Roberts, Susanne Montgomery, Mariamma Biju, Gayatri Ganesh

MAYO CLINIC ARIZONA

Use of a Dual Balloon Urinary Catheter in the Chronic Suprapubic Catheter Patient
Christine Aliory

Acting out to Improve Stroke Outcomes
Cindy Landis

Nursing Initiative to Transition from CVA to PVA for Autologous HPCC
Kristin Gray

Building Trust and Relationships in Virtual Teams
Jane Sederstrom, Christine Aliory

MONTANA STATE UNIVERSITY COLLEGE OF NURSING

Transgender Knowledge of Fertility Preservation: Pilot Testing of the TNFP
Angela Jukkala, Denise Rivera, Katherine Mistretta, Lexington Feeley, Baillie Eichenwald

Cognitive Improvement after Traumatic Brain Injury
Sally Moyce, Alexandra Mackie, Sierra Frandsen, Lauren Clinch, Candace Ramsey

The Importance of Proper ECG Acquisition in Healthcare
Rexanne Wieferich

Promoting Preventative Care through RN-Led Medicare Annual Wellness Visits
Sarah Wahrer

NEW MEXICO STATE UNIVERSITY SCHOOL OF NURSING

Illuminating the Pathway to Nursing through a Freshman Seminar
Alexa Doig

Seeing through Mom's Eyes: Connecting and Discovering
Wanda Borges

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DISTINGUISHED RESEARCH LECTURESHIP AWARD

The Distinguished Research Lectureship recognizes a senior researcher whose research efforts have made significant and sustained contributions to nursing.

Lorraine S. Evangelista, PhD, RN, FAHA, FAAN, Associate Dean for Research & Scholarship and Professor, Lena Finke Distinguished Chair for Nursing Arts, University of Texas Medical Branch School of Nursing, Galveston, TX

WIN EMERITI

The honorary designation of WIN Emeriti was established in 1984 by the Western Council on Higher Education for Nursing (WCHEN). WIN has continued this honorary designation to recognize retired nurses or other individuals who have demonstrated distinguished service to WIN or its predecessor, WCHEN.

Maureen O'Malley, PhD, RN, Professor and Associate Director, School of Nursing, University of Alaska Anchorage, AK

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.

Lois Loescher, PhD, RN, FAAN, Professor and PhD Program Director, College of Nursing, The University of Arizona, Tucson, AZ

and

Andrea Wallace, PhD, RN, Associate Professor and Chair, Health Systems and Community-Based Care, College of Nursing, University of Utah, Salt Lake City, UT

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.

Shumenghui Zhai, BSN, MPH, PhD Candidate, School of Nursing, University of Washington, Seattle, WA

REGIONAL GERIATRIC NURSING EDUCATION AWARD

WIN makes an annual Regional Geriatric Nursing Education Award to recognize evidence of excellence and/or innovation in gerontological nursing education.

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