

SOUTHERN ILLINOIS UNIVERSITY  
**EDWARDSVILLE**

SCHOOL OF NURSING

**DOCTOR OF  
NURSING PRACTICE**

**POSTER  
PRESENTATION**

**APRIL 26, 2024**

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**APRIL 26, 2024**

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**October 31, 2023**

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**Alexa Brummund**

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**Presented at 15<sup>th</sup> Annual Nursing Research Symposium**

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**November 17, 2023**

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**Kaitlyn Stroh**

**Presented at Sigma Theta Tau Consortium**

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**Tamine Gogel**

**Presenting at Trauma Center Association of America (TCAA) 26<sup>th</sup> National Annual  
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# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Carmel Loud**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Educating Anesthesia Providers on the Physiological Effects and Anesthesia Implications of Cannabis***

In the U.S., currently 37 states have legalized cannabis for medicinal use prescribed by qualified medical professionals (National Conference of State Legislatures [NCSL], 2022). In 2012, the legalization of recreational cannabis began; as of 2022, 19 states have legalized the recreational use of marijuana (NCSL, 2022). This project aimed to optimize care for patients using cannabis by increasing anesthesia provider knowledge about cannabis. The project's aim was accomplished through a thorough review of the current medical literature and implementation of education to anesthesia providers about the physiological effects and anesthesia implications of cannabis. Thirteen CRNAs took a pre- and post-quiz to test their knowledge about cannabis before and after an educational PowerPoint presentation was provided. Results demonstrated most providers have a knowledge deficit about cannabis. Comparative analysis of the pre and post-quiz results revealed significant improvement, indicating education to anesthesia providers can improve their knowledge about the physiological effects and anesthesia implications of cannabis. Using these results, one can hypothesize that with improved knowledge, providers can offer a safer anesthetic to patients presenting for surgery using cannabis.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Nicole Brainin**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Alumni Mentorship Program for Nurse Anesthesia Graduate Students***

The landscape of advanced education in nurse anesthesia presents considerable challenges for Student Registered Nurse Anesthetists (SRNAs), accentuated by demanding clinical hours and the transition from experienced ICU nursing to novice learners. This study explores the implementation of alumni mentorship within Nurse Anesthesia Programs (NAPs) to alleviate these stressors. An initial survey gauged alumni interest in mentorship roles, while a follow-up survey assessed the program's impact on student satisfaction and communication. Findings suggest that engagement and communication frequencies are lower than optimal, while alumni mentorship is perceived positively. Recommendations for enhancing the program include diversified communication channels, structured interactions, and a mandatory interaction schedule.



# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Mesud Dedic**

**Richard Heuermann**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Educating SRNAs on Barriers and Facilitators of Clinical Learning***

A national survey of 143 Student Registered Nurse Anesthetists (SRNAs) conducted by Clancy and Bruinius (2022) revealed that factors impeding effective SRNA clinical education include unstable preceptorship, hostile environments, limited autonomy, and heavy didactic burdens. Clancy and Bruinius (2022) also found that facilitators of SRNA clinical education include rapport with preceptors, effective feedback, strong clinical site orientation, and beginning of day discussions. This project aimed to enhance second-year SRNAs' clinical success by mitigating these evidence-based barriers and employing these evidence-based facilitators by developing a presentation for SRNAs and assessing its effectiveness through a pre-implementation survey and post-implementation survey. The literature review and survey results indicated that a preclinical educational intervention on barriers and facilitators of SRNA clinical success may improve SRNAs' clinical comfort, rapport with preceptors, feedback interactions, and management of stress and anxiety.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Kara Peters**

**Lindsay Dawson**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Shivering in Postpartum Women: Development of a Perioperative Protocol for Women Undergoing Cesarean Sections***

In obstetric patients undergoing a cesarean section, a spinal anesthetic is the most common form of anesthesia (Hannallah, 2016). An intrathecal (or spinal) block is not benign. Postpartum shivering is a potential risk with any neuraxial procedure, with an incidence of 40-80%, specifically following a spinal anesthetic (Feng et al., 2021). Patients who experience shivering are at a greater risk for postoperative complications, impaired mother-newborn bonding, and decreased patient satisfaction. Both nonpharmacological and pharmacological treatment options exist to prevent and treat postpartum shivering. The objective of this project was to introduce a standardized, evidence-based protocol to decrease the incidence of shivering and untoward sequela in patients undergoing a cesarean section with spinal anesthesia. A comprehensive review of the literature was performed to identify contributing factors, prevention of, and treatment for postpartum shivering. The project study design utilized a non-experimental pre- and post-evaluation method completed by 29 obstetric nurses and anesthesia providers. After the educational PowerPoint presentation, the post-evaluation survey assessed participant comprehension. Overall, participants improved their knowledge, as evidenced by the rate of correct responses. The implementation of the postpartum shivering protocol was directed at improving patient outcomes and enhancing provider knowledge; further research is needed to follow up on patient outcomes.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Carly McClelland**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Application of Ultrasound for Difficult Vascular Access in Obstetric Patients***

This project aimed to create a three-tiered educational program to introduce the benefits of ultrasound (US) application for peripheral intravenous (PIV) placement in obstetrical (OB) patients. The main goals of this project were to increase successful first-attempt IV placement in OB patients who may be challenging to obtain IV access on. The first tier of education consisted of presenting findings from the literature as an educational PowerPoint to all project stakeholders. The second tier of education included stakeholders practicing using the US for PIV placement on mannequin arms. The third tier, which is still ongoing, included the implementation of the first two tiers by practicing USGPIV placement on patients while being supervised by an approved colleague.

A five-point Likert scale was utilized to assess the use of US for PIV placement after the educational presentation. After the educational in-service, 54.5% of participants felt confident, and 27.2% felt extremely confident in incorporating US use for PIVs in normal everyday use. 54.5% felt confident and 36.4% felt extremely confident they could correctly perform the steps of PIV placement via US.

Implementing an educational training program for US use during PIV placement will give participants more confidence in their ability to incorporate US use into everyday practice for PIV placement. The successful completion of the educational in-service will lead participants to increase first-attempt success for PIV placement. These newly acquired abilities would lead to cost reduction in supply usage, greater patient satisfaction due to decreased needle sticks and timeliness of care by providers.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Elizabeth Hamlin**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Creation of an Educational Pamphlet for Patients Receiving Upper Extremity Peripheral Nerve Blocks***

Upper extremity peripheral nerve blocks (PNB) are utilized in anesthesia as a sole anesthetic or in combination with another technique for pain management. Perioperative registered nurses (RN) are directly involved in PNB procedures, patient care, and patient education. Patients typically do not have access to anesthesia personnel to address questions and education preoperatively, leading to increased importance of patient education and educational resources concerning anesthesia. After a literature review, a PowerPoint presentation and patient education pamphlet were implemented at a surgery center in Edwardsville, Illinois. The PowerPoint presentation was created for RN education, and the pamphlet was utilized as a patient education resource. A pre-implementation and post-implementation survey assessed an improvement in RN knowledge and buy-in and effectiveness of the patient education pamphlet. The post-implementation survey showed improved RN understanding of PNBs, patient care, and patient education. The majority of RNs who participated in the post-implementation survey agreed that the patient education pamphlet was an effective patient resource and that the providers were willing to use the pamphlet to improve patient education. The overall acceptance of this project promotes best practice in perioperative care for patients receiving PNBs.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Brittaney Montcalm**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Best Practice in Airway Management of the Neonatal Population***

The historical idea that uncuffed endotracheal tubes (ETT) are the best method for pediatric airway management is being challenged in today's current anesthetic practice. Whether to use a cuffed or uncuffed ETT in the neonatal population remains controversial. This project involved a comprehensive literature review of best-practice recommendations for neonatal airway management, focusing on the use of uncuffed versus cuffed ETTs. Literature review findings were presented as an educational PowerPoint presentation, and a quick reference guide for pediatric airway management was developed. A post-implementation questionnaire was administered to determine the effectiveness of the presentation and its perceived application in clinical practice. Overall, participants expressed an increase in knowledge and ability to determine the best choice of ETTs for the neonatal population, and indicated they were very likely to incorporate the handout tool in their own practice. Research in patients weighing less than 3 kg is still necessary to provide further recommendations. As the debate between cuffed and uncuffed ETTs continues, great progress has been made in recent years to determine best practice. However, the most significant incidence of airway damage still occurs in neonates, supporting the need for optimizing endotracheal tube standards for this population.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Brooke Skaggs**

**Ashlyn Russo**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Development of High-Fidelity Simulations for SRNAs: Airway Fire and Venous Air Embolism***

Student registered nurse anesthetists (SRNAs) must swiftly recognize and treat high-risk, low-incidence complications in a high-stress environment. Most SRNAs do not experience high-mortality or rare emergencies throughout their training. This project involves developing and implementing two high-fidelity simulations for airway fire and venous air embolism (VAE) to help SRNAs improve their skills in a safe learning environment. Objectives for this project include examining current evidenced-based literature to determine the efficacy of high-fidelity simulation on the SRNA's knowledge and performance post-simulation, determining the incidence, pathophysiology, and treatments for airway fires and VAE, creating two high-fidelity simulation scenarios, and integrating the scenarios into the anesthesia curriculum. The project was conducted at a doctoral nurse anesthesia program in southern Illinois. The project aimed to prepare SRNAs for low-incidence, high-mortality perioperative complications.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

## **Madeline Olson**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

### ***Anesthetic Management of the Parturient with Increased Intracranial Pressure***

The parturient experiences various physiologic changes that contribute to the potential for increased intracranial pressure (ICP). Patients with preexisting neurologic conditions such as Chiari Malformation I, pseudotumor cerebri, and mass occupying lesions are at significant risk of increased ICP. A literature review was conducted to determine the safest labor anesthesia options for the parturient with increased intracranial pressure. After the literature review, a PowerPoint presentation and reference guide were given to a group of anesthesia providers at a central Illinois hospital that discussed the evidence-based recommendations. A voluntary survey was completed after the presentation to assess an improvement in knowledge and staff willingness to use a reference tool to decide the safest anesthesia labor option. The survey showed improved knowledge of the anesthesia options for the parturient with increased ICP and willingness among providers to use the reference guide to determine the most appropriate and safest anesthesia option. The overall acceptance of this project promotes safe care for the mother and fetus while potentially reducing morbidity and mortality in a unique population.

# DNP POSTER PRESENTATION

Southern Illinois University Edwardsville

April 26, 2024

## **Britanie Sumpter**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

### *Anesthesia Management for the Preeclamptic or Hypertensive Parturient*

Preeclampsia is a placental disease characterized by abnormal maternoplacental blood vessels and placental dysfunction resulting in fetoplacental hypoperfusion and maternal multi-system organ dysfunction (Wang et al., 2019). Expectant management of a hypertensive or preeclamptic parturient includes antihypertensive medications, magnesium sulfate for seizure prophylaxis, and early delivery of the fetus (ACOG, 2020). Neuraxial anesthetic-induced sympathectomy combined with circulating antihypertensives, magnesium sulfate therapy, and intravascular volume depletion in preeclampsia is thought to contribute to exaggerated hypotension.

Persistent refractory hypotension after neuraxial anesthesia in parturients with preeclampsia or hypertension has been an ongoing issue affecting obstetric providers at the host facility. This project involved the creation of a communication tool to promote early consultation with the anesthesia team in the care of the preeclamptic parturient. Early anesthesia involvement can facilitate improved patient outcomes by providing early epidural analgesia, co-loading IV fluids, and appropriate timing or holding of antihypertensives. An educational PowerPoint presentation and communication tool were presented to the anesthesia providers at the host facility, followed by a short survey. The survey results were positive and indicated the communication tool was user-friendly and effective for improved communication. This project promotes best practice in caring for the hypertensive or preeclamptic parturient.



# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Aminat Yusuff-Akinbo**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Diversity, Equity, & Inclusion in Nurse Anesthesia: Bridging the Gap***

The nurse anesthetist plays a crucial role in the healthcare system. Through intensive training, they provide safe and effective anesthesia care to patients across various healthcare settings. Currently, the nurse anesthesia field lacks diversity, with underrepresentation of minority groups such as Black, Hispanic, and Indigenous individuals. The United States Census revealed that there are more than 325 million residents. Yet only 10.9% of nurse anesthetists are of diverse racial backgrounds. This lack of diversity limits the cultural perspectives and experiences brought to patient care and perpetuates disparities in healthcare outcomes. An increase in diversity can improve care for individuals and groups by increasing their awareness of the community's health needs, their ability to provide personalized care, and their capacity to continuously learn to serve everyone in their community. Addressing this issue is essential for creating a more inclusive and representative workforce that can better meet the needs of diverse patient populations. By increasing awareness in the nurse anesthesia field, we can encourage dialogue, advocacy, and action to promote diversity and equity. Some strategies to raise awareness within the nurse anesthesia field are targeted outreach programs to underrepresented communities, collaboration with diversity-focused organizations, and promoting diversity and inclusion initiatives within educational and professional settings. Broadening awareness of the need for diversity in anesthesia practice can improve the overall delivery of healthcare to all ethnicities.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Kaleigh Peters**

**Melody Gassoway**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Utilization of High-Fidelity Simulation to Improve Emotional Intelligence Skills of Student Registered Nurse Anesthetists***

Student registered nurse anesthetists (SRNAs) face many challenges in meeting the rigorous demands of their doctoral-level training. Research demonstrates that high levels of emotional intelligence (EI) contribute to SRNAs' academic and clinical success and improve patient safety and quality of care. Simulation is emerging as an educational tool to enhance the EI skills of students training in highly stressful professions and demonstrates promising benefits for SRNAs, such as improved decision-making, critical thinking, self-awareness, and self-regulation (Moriber & Beauvais, 2017; Dix et al., 2021). This doctoral project aimed to determine the efficacy of a high-fidelity simulation for strengthening the EI skills of first-year SRNAs at a mid-sized university in the Midwestern United States in preparation for their first clinical rotation. The students completed an introductory session presented by an EI expert and four active learning sessions presented by two second-year SRNAs. The students then divided into groups and participated in a clinically relevant high-fidelity simulation designed to elicit authentic emotions, followed by debriefing. EI levels were evaluated by comparing pre- and post-intervention Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) scores, and surveys collecting subjective data were distributed after the students completed the simulation and their first clinical rotation. MSCEIT results did not reveal any measurable, statistically significant increases in EI abilities; however, survey feedback was positive overall and indicated that the simulation improved students' self-perceived abilities to respond to challenging clinical situations.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Kendra Knaga**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Promoting the Incorporation of Regional Anesthesia to Improve Pain Management for Lower Extremity Surgeries***

Opioid addiction in the United States is a healthcare crisis and continues to increase yearly. Multimodal pain management is a priority intervention that needs to be implemented to manage pain with less intra and postoperative opioid use. Peripheral nerve blocks are one alternative that can be used to decrease opioid use and assist in controlling pain for foot and ankle surgeries. This project aims to educate, develop, and create a protocol for popliteal nerve blocks at Hillsboro Area Hospital in Hillsboro, Illinois. As a result, the long-term goal is to reduce opioid administration and improve pain control. An educational PowerPoint presentation was provided for the surgical perioperative personnel and anesthesia providers in July 2023. Pre- and post-presentation surveys were distributed to evaluate knowledge gained from the educational presentation. It was noted that there was a significant improvement between the pretest and posttest scores, indicating an increased understanding of the benefits of popliteal nerve blocks and the resultant reduction of opioid use and improved pain control. The results positively impacted the implementation of a popliteal block protocol and provided education for its use. Utilization of the popliteal block protocol could potentially reduce opioid administration for pain control of patients undergoing foot and ankle surgeries. As a result, it improves patient satisfaction, reduces the length of hospital stays, and reduces patient and institutional costs.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Rachel Geisenndorfer**

**Heather Milder**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Effectiveness of Virtual Reality in Anesthesia Machine Education***

The anesthesia machine is an essential part of anesthesia practice, as it connects the patient to the provider and provides a constant stream of vital information. Therefore, the Certified Registered Nurse Anesthetist (CRNA) should be trained to utilize and troubleshoot the anesthesia machine to deliver high-quality patient care. Education about the anesthesia machine begins with Student Registered Nurse Anesthetists (SRNAs) through various learning opportunities. Immersive virtual reality simulation has emerged as a potential educational aid to engage active learners. This project aimed to determine the effectiveness of utilizing the immersive virtual reality simulator SIMVANA for first-year Southern Illinois University Edwardsville (SIUE) SRNAs to learn about the components of the anesthesia machine. The study involved a pre-implementation survey, a hands-on session with SIMVANA, and a post-implementation survey. An additional survey was provided five months after the participants had experienced clinicals. The comparative analysis of the survey results showed that SIMVANA reduced the SRNAs' anxiety surrounding the anesthesia machine and improved the SRNAs' ability to utilize the anesthesia machine with confidence. Overall, the SRNAs recommended that SIMVANA be incorporated with future cohorts to become more confident practitioners with the anesthesia machine in preparation for clinical.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Lauren Hunt**

**Jessica Prost**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Evaluation and Education of Enhanced Recovery After Surgery Protocols for Total Knee Arthroplasty***

Enhanced recovery after surgery (ERAS) utilizes a multimodal, multidisciplinary perioperative protocol to minimize hospital length of stay, surgical complications, readmissions, and patient hospital costs (Frassanito et al., 2020). The protocols were initially established for abdominal and colorectal surgical patients; however, ERAS protocols are now widely used in other areas, including orthopedic surgery (Kaye et al., 2019). To achieve the maximum benefits, ERAS protocols must contain preoperative, intraoperative, and postoperative components. A rural critical access hospital in Eastern Illinois, Crawford Memorial Hospital, serves numerous patients requiring total knee arthroplasties (TKA). While the providers utilize some aspects of ERAS protocols for these surgeries, they lack a formal ERAS protocol and full utilization in practice. To promote the future implementation of an ERAS protocol for TKAs at Crawford Memorial Hospital, staff education about ERAS protocols is imperative and the primary goal of this project. To achieve this goal, the research was reviewed to obtain current evidence-based practices regarding all aspects of ERAS protocols for TKAs. A voiceover PowerPoint was assembled with the literature review results and emailed to the appropriate providers. The providers who participated in the PowerPoint presentation were asked to complete a pre-survey and a post-survey to assess increased knowledge about ERAS protocols and their willingness to implement the protocol in the future. The results of the surveys proved there was knowledge gained by the providers.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

## **Caleb Culbreath**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

### ***Promoting Quantitative Monitoring to Reduce Postoperative Residual Neuromuscular Blockade: An Educational Intervention for Anesthesia Providers***

The growing body of evidence linking residual neuromuscular blockade (NMB) to postoperative complications has underscored the need to integrate quantitative neuromuscular monitoring techniques into anesthesia practice. This study, conducted at a tertiary care center in southern Illinois, investigates the gap between current clinical practices and the latest evidence advocating for objective monitoring. The study utilized a non-experimental pretest-posttest design to evaluate an educational intervention's effectiveness in increasing anesthesia providers' knowledge of quantitative neuromuscular monitoring techniques and enhancing their awareness of the incidence and clinical implications of postoperative residual neuromuscular blockade. Analysis of the pretest and post-test responses revealed significant improvements in providers' knowledge, particularly in understanding the prevalence of residual neuromuscular blockade and the clinical relevance of the TOFR (Train-of-Four Ratio). However, gaps remained in participants' understanding of subjective assessment methods and factors affecting the accuracy of quantitative monitoring. Nonetheless, these findings highlight the critical role of educational interventions in advancing neuromuscular monitoring practices. Future initiatives should address economic and technical barriers to implementation and incorporate ongoing educational efforts to promote long-term practice change.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

## **Krista Bunch**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

### ***Enhanced Recovery After Surgery (ERAS) Protocol for Bariatric Surgery***

Bariatric surgery has been utilized in treating severe obesity and offers several benefits, such as sustainable weight loss, treatment of various metabolic comorbidities, and improved life expectancy (Sundbom et al., 2017). With these benefits and procedural improvements, there has been a marked increase in the demand for bariatric surgery and increased interest in shifting some of these procedures to an ambulatory care setting (Stenberg et al., 2022). However, postoperative complications such as pain, nausea, and inability to tolerate oral intake can cause patients to experience an increased length of stay in the hospital and suboptimal outcomes (King et al., 2018). To address this burden, enhanced recovery after surgery (ERAS) protocols have been implemented at institutions. These protocols are designed to improve surgical outcomes, decrease postoperative complications, decrease hospital length of stay, and reduce healthcare costs. The objectives of this quality improvement project were to research current evidence-based literature on ERAS protocol for bariatric surgery, synthesize the recommendations, and present the gathered information to perioperative team members. After viewing the presentation, participants completed a post-presentation survey. Results of the post-presentation survey demonstrated that nurse anesthetists strongly understood ERAS protocol. Participants also believed that a customized ERAS protocol could be implemented into practice at their facility. The evidence displayed the remarkable impact ERAS protocols can have on practice.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

## **Brock Thornton**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

### ***Evaluating the Efficacy of Perioperative Methadone in Cardiac Surgery***

Cardiac surgery includes a myriad of highly invasive and complex procedures that can lead to the development of chronic pain and delayed patient recovery (Murphy et al., 2015). Despite frequent administration of opioid medications, cardiac surgery is associated with moderate to severe pain in up to 75% of patients (Bolton et al., 2019; Choinière et al., 2014; Wang, Song, & Nault, 2021). Methadone, a long-acting synthetic opioid medication, improves analgesia and decreases the risk of chronic pain syndromes among multiple surgical populations. Literature within the last five years suggests a single dose of intravenous methadone in cardiac surgery (0.1-0.3 mg/kg or 20mg maximum) prior to surgical incision significantly decreases total opioid consumption and improves postoperative pain scores. This project aimed to review the literature surrounding perioperative methadone in cardiac surgery and bridge knowledge gaps among anesthesia providers on its pharmacology, contraindications, and clinical administration, by which future methadone protocols may be developed. A pre-test, PowerPoint presentation, and post-test survey were administered to anesthesia providers at a large tertiary care center in central Illinois. Evidence implementation significantly improved the providers' knowledge on the topic, and buy-in was achieved for the development of future methadone protocols.



# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

## **Rachel Vaughn**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

### ***Local Anesthetic Systemic Toxicity: LAST Protocol Development, Implementation, and Evaluation for Healthcare Providers***

LAST is an uncommon but deadly complication of local anesthetic administration. Healthcare facilities benefit from protocol implementation to help streamline best evidence-based practice. The American Society of Regional Anesthesia and Pain Medicine warrants a LAST emergency protocol for healthcare facilities practicing regional anesthesia. Healthcare personnel encountering patients at risk for LAST must understand the symptoms and treatment of LAST to improve response time and patient outcomes. The project implemented a LAST protocol at a rural hospital in Southern Illinois in July 2023. The investigator held an educational service to discuss the LAST protocol and implementation. The educational service included a PowerPoint presentation highlighting essential local anesthetic systemic toxicity and protocol information. Education provided healthcare personnel with information regarding LAST identification and treatment. This project educated staff on where to find the necessary equipment to treat LAST, including a grab-and-go LAST emergency response bag with intralipids and a step-by-step treatment guide. Participants were asked to complete a pretest before the educational service and a post-test after to assess the efficacy of the presentation. There was significant improvement between the pretest and post-test scores, indicating increased LAST knowledge and provider comfort in responding to a LAST emergency. These results support the positive impact of implementing a LAST protocol and providing education for this rare emergency. The results of this project suggest an improvement in provider knowledge and comfort levels, which may improve patient outcomes.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Christy Durrwachter**

**Haley Pschirrer**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Methadone in Anesthesia: A Novel Approach to Opioid Reduction and Postoperative Pain Management***

This study investigates the efficacy of intravenous methadone as an alternative to traditional opioids for postoperative pain management following major surgeries. A comprehensive literature review, including randomized controlled trials, meta-analysis, and retrospective studies, was conducted. The findings highlight methadone's effectiveness in reducing postoperative pain, with advantages over conventional opioids in various surgical scenarios. However, its use necessitates caution due to several potential risks. Methadone's dual role as an opioid agonist and NMDA antagonist makes it effective in preventing the transition from acute to chronic postoperative pain, positioning it as a valuable tool in chronic pain management. Its cost-effectiveness further enhances its sustainability for long-term pain management strategies. The study concludes with the development of a methadone protocol for a major hospital in central Illinois, aimed at improving the anesthesia staff's understanding and application of methadone. The project's findings were presented to hospital staff, with evaluations indicating significant knowledge enhancement and a willingness to incorporate methadone into anesthetic plans. This research underscores the potential of methadone in transforming postoperative pain management, emphasizing the need for ongoing research to refine dosing guidelines and broaden its application across diverse surgical procedures.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Ricardo Aranda**

**Giles Howard**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Developing a Ketamine Infusion Protocol and Patient Education Pamphlet for Complex Regional Pain Syndrome***

Complex regional pain syndrome (CRPS), formerly known as reflex sympathetic dystrophy (RSD) and causalgia, is a debilitating neurological disease accounting for 1.2% of all chronic pain conditions, with eighty percent being severely disabled (Zhao et al., 2018). Altered pain pathways in CRPS patients result in resistance to traditional methods of analgesia, contributing to poor quality of life and unanticipated hospitalizations. Multiple meta-analysis studies suggest ketamine infusions effectively lower chronic pain scores in CRPS patients. Despite the evidence, a lack of standardized ketamine infusion protocols creates a barrier to provider implementation. This Doctor of Nursing Anesthesia project aimed to develop a ketamine infusion protocol and patient education pamphlet for CRPS providers in a Midwest Hospital. Project implementation consisted of an educational presentation and pamphlet with a post-education survey completed anonymously by anesthesia providers and recovery room nurses. Analysis of survey responses indicated that the project successfully improved provider knowledge and comfort in managing ketamine infusions. The protocol is a potentially impactful clinical resource for pain management in the CRPS population.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Nicholas Bauder**

**Brittany Beler**

**Rachel Kister**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Iron Deficiency Screening Implementation for Patients with Heart Failure and Reduced Ejection Fraction***

Heart failure with reduced ejection fraction (HFrEF) significantly impacts patients' quality of life. Similarly, iron deficiency (ID) anemia decreases the patient's oxygen levels and functional ability due to fewer red blood cells and less oxygen binding capacity. Patients with heart failure frequently have a commonly overlooked comorbidity of ID anemia, which impacts almost 50% of the ambulatory patient population. Patients with HFrEF and ID anemia have decreased exercise capacity, increased fatigue, reduced oxygenation due to low hemoglobin, and increased hospital readmissions. The end goal of this implementation project was to increase the number of times providers screened for ID anemia in HFrEF patients and consideration of iron infusion when needed. Within two large suburban cardiology clinics, 15 patients with HFrEF were screened for ID anemia. The providers did not capture all patients screened at these facilities due to time constraints. A pre- and post-implementation survey was given to providers at the two clinics. Results from the survey found that most providers knew that screening HFrEF patients for ID anemia was necessary yet overlooked. Providers noted that they did not have a standard process for evaluating it. Providers' feedback suggested that the screening tool, while useful and easy to use, some changes are needed to make it a part of routine practice. Other concerns included the feasibility of screening due to provider time constraints and the cost burden of iron infusions to patients.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Alison Drerup**

**Kelsey Piper**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***EMR Templates for Age-Appropriate Well-Child Pediatric Visits***

The world of pediatric medicine is continually evolving. The Centers for Disease Control and Prevention (CDC) and the American Academy of Pediatrics (AAP) regularly update guidelines to have the most current information available to providers and their patients. The overwhelming majority of primary care offices have transitioned to electronic medical records (EMRs) for charting purposes. Templates included in EMRs ease the workflow and documentation process for providers. In the primary care setting, templates include essential information discussed at well-child visits, such as developmental milestones, vaccination schedules, and anticipatory guidance. The project's purpose was to update the age-specific well-child templates at a private suburban Midwest primary care office to ensure patients and their families receive the best quality care. After the updated templates were implemented, a chart review was completed to compare the accuracy and completeness of provider documentation on the new templates compared to the previous templates. The updated templates were found to have more patient education and anticipatory guidance documented in each visit. A questionnaire was also given to the providers for feedback about usability and provider satisfaction. Overall, the providers were satisfied with the updated templates and information included, but agreed there were limitations to being unable to upload the new templates to the EMR. The templates overall provided the patients and families with the most recent age-specific information.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

## **Jamie Swearingen**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

### ***Implementing Pain Management Policies and Procedures at a Rural Pain Clinic***

The United States is facing an uprising in opioid use disorder and a rise in overdoses due to the disorder. Due to the high addiction potential of opioids and the potential for overdose, providers must be cautious and conservative in their opioid prescribing practices. In 2022, the Centers for Disease Control (CDC) updated the Clinical Practice Guidelines for Prescribing Opioids for Pain to help in prevention of developing opioid use disorder and unintentional overdoses. The lack of an opioid use disorder risk screening tool, random urine drug screens, and clear pain management contracts were identified as issues at one rural pain clinic which placed patients at higher risk of developing opioid use disorder. Multiple interventions were implemented at this clinic which included the opioid risk tool (ORT) to screen patients for their level of risk for developing opioid use disorder, increasing the number of random drug screens, pain management contracts, and consistent use of the prescription drug monitoring system (PDMS). During the project implementation phase 218 ORTs were completed, the PDMS was accessed 288 times, 80 pain contracts were signed, 25 random drug screens, and 10 yearly urine drug screens were completed. Pain clinic staff quickly adopted the interventions of administering the ORT and checking the PDMS. Pain contract administration was slowly accepted but completing random and yearly drug screens was not fully implemented by clinic staff.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Alyssa Blake**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Identifying and Improving Developmental Delays in Children Within Central America***

Roughly 40% of children living in low-income countries worldwide are at an increased risk of not reaching developmental milestones. Many of these children are at risk due to lack of resources, quality healthcare, and proper developmental screenings. Short-term medical mission trips (STMMs) aim to improve the health of those residing in developing countries. However, although the U.S. does carry out many STMMs to developing countries within Central America to help improve health outcomes, pediatric developmental screenings are often not a part of routine health visits during these STMMs. This may be due to providers having a general lack of experience with pediatric patients or a lack of knowledge about cultural childrearing practices, pediatric norms, and resources available that promote development in the host country. This quality improvement project was based on evidence-based practices and aimed to use an online educational module to increase providers' knowledge on pediatric developmental milestones in children ages 1-3 years, as well as screen children on a STMM in Guatemala for developmental delays and provide intervention to those children who are shown to be delayed. Results from pre- and post-surveys within the educational module suggest an increase in knowledge of developmental milestones post-education. Results from a qualitative survey conducted on the last day of the STMM suggest that although the screening tool provided was difficult to use due to low health literacy levels in the patient population, interventions provided to the parents and children were positive.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

## **Shunera Wells**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

### ***Establishing Community Connections For A New Mobile Health Clinic***

Within the United States, there are many healthcare disparities. The supply and demand for mobile health have increased since the start of the COVID-19 pandemic. This project's purpose was to improve and develop partnerships between communities and a new mobile health clinic with the intention of increasing healthcare services availability. The new mobile health clinic is an extension of a well-established university brick-and-mortar clinic. A survey was sent to county housing authority residents to determine community healthcare needs for various services including preventative and acute care services. Residents filling out the survey provided information about the targeted patient population, what patients' needs are within that community. Residents were provided with information regarding the mobile health clinic and services that could be offered. The intention of the mobile health unit is to decrease disparities for the patients who may not have access to regular health care and for those who may feel more comfortable with health care services being provided within their community. The connections with community partnerships have substantial positive impacts on communities within the United States. Based on surveys, services that are desired include diabetes care, management of hypertension, depression, allergies, headaches, anemia, anxiety, arthritis, bladder infections, kidney disease, sleep disorders, low energy, poor circulation, gout, alcohol consumption, water retention, skin disorders, high cholesterol, menopausal, Alzheimer's, osteoporosis, smoking, acne, ADHD, COPD, lupus, thyroid management, heartburn, and calcium deficiency.



# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Dennezcha Young**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Increasing Oral Health in A Midwest Elementary School: Quality Improvement Project***

Marginalized communities experience barriers to accessing oral healthcare in the United States (US). Due to this, many children are left to use the emergency department (ED) for dental care. The purpose of this Doctor of Nursing Practice (DNP) project was to improve oral health services access in children at one suburban Midwest elementary school. The objectives of this project were: a) to improve the efficiency of students registering in Fall 2023 to access available oral health exam services, b) to increase the number of students who receive an oral health exam compared to the number in the previous school year. The DNP student worked with faculty and oral health program leaders as stakeholders to gather information about program implementation and evaluate the program based on the Health Belief Model (HBM) conceptual framework. As part of the Fall 2023 school registration, parents were able to electronically register their children for a school-based oral health examination and educational intervention through an established oral health provider. Evaluation found that the ability to electronically register for the oral health examination increased participation by 8% from the previous school year. Interviews with stakeholders found that school-based interventions are not feasible in low-capacity schools, as they are already overtaxed with policy-based educational obligations. As an impact on practice, oral health care should take place in clinical settings, and nurses should advocate for it to be provided free-of-charge at Federally Qualified Health Centers (FQHCs) in the US.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Randi Ballard**

**Heather Ackerman**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Education for Healthcare Professionals on Protocol for Prostate Cancer Screenings on Inmates***

Cancer is the leading cause of death for incarcerated individuals, prostate cancer awareness and screening guidelines are essential areas of focus for healthcare professionals (Puglisi et al., 2021). Prostate cancer screenings recommend that males between the age of 55-69 be informed of evidence-based guidelines and offered these screenings as a part of routine health maintenance (USPSTF, 2018). In 2019, the Illinois Department of Corrections (IDOC) was ordered to follow these guidelines for incarcerated individuals (Raba, 2021). As of 2021, the IDOC had yet to implement these screenings for incarcerated individuals within the state facilities. Two separate one-hour educational sessions regarding prostate cancer screening guidelines and recommendations were provided to staff members at a maximum-security prison in Southeastern Illinois. The project was quasi-experimental where participating staff completed pre-and post-education surveys. Out of the 16 participants, 12 pre- and post-surveys were received. The pre- and post-educational survey results indicated that the educational session was sufficient in explaining the positive outcomes of early detection of prostate cancer screenings. The overall goal of the project was to provide education surrounding prostate screening protocols for male inmates and reinforce the importance of aligning with the state legislature. In the future, education could be extended to other facilities within the Illinois Department of Corrections.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

## **Kayla Seed**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

### ***Implementation of Electronically Integrated Pediatric Screening Templates***

Evidence-based clinic guidelines improve patient outcomes by providing clinicians with research-based recommendations, and when combined with the electronic health record (EHR), clinicians have the potential to improve their documentation and reduce the time it takes to document a patient encounter. A pediatric clinic in the metro-east area of Southern Illinois lacked EHR templates during patient encounters that focused on depression, anxiety, ADHD, and concussion screening. Templates embedded in the EHR were created in a SOAP note format to aid the clinicians during patient encounters and aid in documentation. Clinicians were asked to utilize the templates over a 6-week period. The intervention was evaluated before and after the implementation. Post-implementation note quality and documentation time improved by 33% after implementing the intervention. Documentation also showed a 20% increase in thoroughness and organization. A multiple-choice survey was also used to determine the provider's current knowledge of the diagnoses and patient population being treated for depression, anxiety, ADHD, and concussions. There were many limitations in this study, including a lack of provider buy-in, limited sample size, and limited patient encounters. A larger provider buy-in and sample size would better represent the effectiveness of the templates in practice.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Lori Deibel**

**Allison Herrmann**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Implementing Perinatal and Postpartum Depression Screening at a Telehealth Company***

Depression is a leading mental health disorder. Depression occurring during the perinatal and postpartum periods has become highly prevalent throughout the world, impacting 5-10% of women during (van de Loo et al., 2018) and 9-23.5% postpartum (Bauman et al., 2020). Proper diagnosis and treatment of perinatal and postpartum depression (PPD) is crucial, as depression can lead to poor outcomes, including relationship complications, and negatively affect child development (Slomain, 2019). The implementation of screening tools can help identify women at risk based on signs and symptoms of PPD (Bauman et al., 2020). The primary goal of this project was to implement a standardized tool at a telehealth company for all providers to use to screen for perinatal and PPD and to provide further education to these providers regarding PPD. Pre and post-intervention questionnaires were utilized to assess the change in providers' knowledge and attitudes regarding PPD following an educational session on PPD. Prior to the educational sessions, 36% of participants felt strongly comfortable in addressing mental health concerns with this population, and 73% felt strongly comfortable in the post-survey. Additionally, there was an improvement in identifying signs and symptoms of depression, as well as increased comfortability with treating this patient population. Education on PPD and the introduction of evidence-based screening guidelines provide valuable tools for providers to use when caring for populations impacted by postpartum depression. The implementation of a postpartum depression screening tool can help providers deliver high-quality and holistic care to both new and expecting mothers.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Alissa Struble**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Implementation of Menstrual Cycle and Fertility Awareness Education for Community Healthcare Providers Serving Guatemalan Women***

Research indicates that lack of reproductive knowledge, literacy & academic attrition, lack of educator support, poverty, religion, gender inequality, and decreased access to electronic devices contribute to high numbers of teenage pregnancies in Guatemala. Educating United States (U.S.) healthcare providers and Guatemalan volunteers/workers about fertility awareness using Standard Days Method® (SDM) and CycleBeads® has the potential to empower young Guatemalan women and encourage them to make independent, informed reproductive decisions. In December 2023, a quality improvement project was implemented in a Guatemalan rural health clinic. Likert scale questionnaires were utilized to assess knowledge and comfort levels regarding fertility awareness. Analysis of results focused on the views of U.S. healthcare providers who travel to Guatemala, along with locals who live and interact with young Guatemalan women needing further education. U.S. healthcare providers had minimal changes in scores between pre- and post-education questionnaires. Indigenous providers were unable to complete a post-education questionnaire due to time constraints during the global service trip. This lack of data prevented statistically significant conclusions regarding SDM and CycleBeads® use from being drawn. However, indigenous provider buy-in was evident via observation and social media pictures posted showing indigenous providers and other Guatemalan women teaching each other how to make CycleBeads®. The success of other research studies and the positive reception indicates teaching the SDM, specifically with CycleBeads®, is an educational trend that could continue being taught in other countries.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Annmarie O'Connor**

**Grace Wilson**

Doctor of Nursing Practice

Psychiatric Mental Health Nurse Practitioner Specialization

## ***Improving Depression Screening in Primary Care***

Depression remains an increasingly prevalent and underdiagnosed disorder affecting approximately 21 million adults in the United States with only 66% seeking treatment (NIMH, 2022). Untreated depression can lead to worsening mental and physical health which negatively impacts a person's quality of life. The implementation of routine depression screening in primary care is recommended by the US Preventive Services Task Force (USPSTF) to improve early detection leading to improved outcomes (USPSTF, 2023). Despite increased depression prevalence and USPSTF recommendation, there remained an absence of routine depression screening in a primary care practice in Midwest Illinois which led to the development of this evidence-based quality improvement project (QIP). The goal of this QIP was to implement routine depression screening using the PHQ-2 and PHQ-9 to improve depression screening in adults encountered at this primary care practice. Methods utilized included integrating the PHQ-2 and PHQ-9 depression screening tools into the EMR, a staff educational session, a pre-and post-intervention staff questionnaire, and a post-intervention staff satisfaction survey. Results showed a 43% improvement in patients screened with 10% scoring positive on the PHQ-2; pre-and post-intervention staff questionnaires showed an overall improvement in knowledge, confidence, and frequency of screening; and the post-intervention staff satisfaction survey showed depression identification as a valuable aspect and concern was related to time constraints during patient visits. A recommendation to continue routine depression screening for all adult patients was conferred with this practice's personnel.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Riley Clubb**

**Jonathan Shafer**

Doctor of Nursing Practice

Psychiatric Mental Health Nurse Practitioner Specialization

## ***Evaluating Nurse Comfort Levels Assessing for Depression in an Urban Hospital Setting***

Evidence shows that a fraction of nurses are uncomfortable assessing patients for depression. When depression assessments are uncomfortable for the clinician, there may be inconsistencies in practice which can negatively affect patient outcomes. An evidence-based survey was developed and distributed to nurses at an urban hospital in Missouri. The survey assessed nurse's confidence, frequency of assessment, and understanding in evaluating patients for depression. Sixty-seven nurses took part in the confidential survey. Twenty-nine percent of the participants reported that they sometimes ask about mood and 22% reported that they rarely ask about mood. Although results showed that nurses were not comfortable assessing for depression, many of the nurses provided positive feedback of the need for future surveys to bring awareness to standards of care.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

## **Michael Ragen**

Doctor of Nursing Practice

Psychiatric Mental Health Nurse Practitioner Specialization

### ***Implementation of Weighted Blankets and Weighted Lap Pads on an Acute Psychiatric Unit and the Nurse's Experiences***

The complexity of treating sleep difficulties in patients with concurrent psychiatric disorders continues to be a struggle for the medical community. The mechanism that causes psychiatric disorders can induce insomnia or hypersomnia (Khurshid, 2018). There is also a growing interest in disturbed sleep ability to induce psychiatric episodes (Verkhatsky et al., 2020). This classic “Chicken or Egg Scenario” meets the modern focus on creating the best outcome for patients with the least medication, spurring interest in the holistic management of sleep disorders. The literature has little information on the use of weighted modalities for sleep management and anxiety in an inpatient psychiatric unit due to the difficulty of studying this population and the safety concerns. This DNP Project aimed to understand the nurses' experience using weighted modalities and identify barriers and safety concerns for future studies. Data was collected via anonymous surveys of nurses during the implementation of weighted modalities on a 13-bed secure acute psychiatric unit at a midwestern hospital. Results showed that using weighted lap pads for anxiety and weighted blankets for sleep could improve patient outcomes. Weighted modalities were well received by nurses and patients alike due to their positive impact on patients and the milieu while maintaining safety.



# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Thomas Dissette**

**Laura Hardiek**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Implementing the Edinburgh Postnatal Depression Scale in the Emergency Department and Family Care Settings***

Postpartum depression affects approximately 10% to 20% of patients who have given birth in the year prior and can detrimentally affect maternal-child relationships. Postpartum depression (PPD) is a mood disorder following birth, whereas postpartum psychosis (PPP) is a severe mental illness and a medical emergency. If untreated, both disorders can have long-term harmful effects on mothers, infants, and families. Utilizing screening tools, providers can identify these disorders in applicable patients. The Edinburgh Postnatal Depression Scale (EPDS) is an effective method of recognizing patients most at risk, with a positive score of  $\geq 10$  indicating the likelihood of depression. The purpose of this quality improvement project was to increase the number of patients identified and screened for PPD using the EPDS in two settings, the emergency department and a family care clinic. Staff training, education, and EMR hard stops were utilized to guide staff through the initiative. Three of the twelve patients screened in both facilities had positive scores, with two receiving interventions of medication, counseling, and/or hospitalization. A survey of all staff was completed post-initiative, with an overwhelming majority indicating the importance of screening patients in these settings. Project limitations were identified as a need for additional time that the screening and charting required, as well as a lack of knowledge about the disorders. Implementing the EPDS screening tool in the ED and family care settings could positively affect patient care and safety by allowing the opportunity to mitigate the negative outcomes commonly associated with these disorders.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Sarah Cobb**

**Glenda Mills**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Lung Cancer Screening in Coal Mine Primary Care Clinic***

Lung cancer is the leading cause of mortality for both men and women in the United States. Guidelines are set by the American Cancer Society for annual screenings of at-risk patients. Early identification of lung cancer risk and screening with low dose CT scans can increase detection and treatment thereby reducing risk of death or disability. Coal miners are exposed to numerous cancer-causing agents, such as toxic chemicals, dust pollution from coal, and diesel exhaust fumes. However, primary care clinics serving coal miners lack lung cancer screenings despite the increased risk miners face. Patients were screened using criteria set forth by the American Cancer Society: ages 50-80, current smoker or having smoked in last 15 years, and have a 20 pack-year smoking history. Brochures distributed by the American Cancer Society were given and option of pursuing further screening offered. Twenty patients were identified for use in the project with only six meeting criteria for a brochure. No patients opted for further screening. Limitations of the study include limited participation and change of clinic from primary care clinic at a coal mine to primary care clinic for all patient populations.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Akinola Oluronke**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Hepatitis C Management for Individuals in Custody***

The hepatitis C virus (HCV) is a pathogen that spreads through blood and causes hepatitis C disease, a liver infection. Early infection symptoms are rare, making it a silent killer. HCV, the chronic liver disease accounts for half of all hepatocellular carcinoma cases and is the leading cause of liver transplantation in the US. This quality improvement project aimed to create an educational toolkit for the Department of Correction staff working with individuals in custody refusing HCV treatment. The education tools comprised an infographic flyer (English and Spanish) to teach individuals in custody about HCV treatment and a PowerPoint presentation to educate staff who work with this population on how to deal with HCV treatment refusals. The total number of nurses who participated in the intervention was 15, and 100% of them completed the post-survey. Statistical analysis showed that 86.6% of the participants (n=13) strongly agreed that the presentation provided a clear understanding of risks associated with incarceration and HCV, including the impact of untreated HCV. Participants were asked to score their confidence level to assess the effect of the presentation based on the knowledge received; 73.3% of the participants (n=11) felt confident in their knowledge of strategies to address HCV treatment refusals in this population, although only 46.6% (n=7) reported they would be making changes to their current practices as a result of the presentation.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Marissa Schuette**

**Erin Brueggemann Robke**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Establishing Routine Multiple Micronutrient Supplementation During Pregnancy in an Impoverished Guatemalan Community***

Pregnant and breastfeeding women in impoverished settings face heightened nutritional demands, placing them and their children at increased risk of inadequate nutrition's detrimental effects. Existing literature suggests that supplementing with multiple micronutrients (MMS) may offer superior protection against morbidity and mortality compared to traditional iron and folic acid (IFA) formulations. This research is set in the Land of Hope (LOH) clinic, located in Escuintla, Guatemala, a community served by the non-profit organization ER Abroad. The study aims to assess the feasibility of standardizing MMS provision to pregnant women at LOH, coupled with supplementary education on pregnancy and nutrition. The team distributed 84 bottles of MMS, sufficient for an entire pregnancy, to on-site community health workers, accompanied by education on supplementation, nutrition, hydration, and basic maternal and infant care. Post-implementation interviews with staff, conducted 1 month after the intervention, revealed the distribution of 58 MMS bottles to pregnant women with minimal challenges. This initiative contributes to standardizing prenatal supplementation practices at LOH and disseminating critical knowledge about the significance of nutrition during pregnancy. The project's ultimate goal is to foster better birth outcomes through consistent MMS use and improved nutrition practices, thereby positively impacting the health of current and future generations in this underserved community.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Tracee Williams-Hubbard**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Improvement in Patient Compliance for Gynecological Care***

This quality improvement project implemented the patient-initiated follow-up (PIFU) pathway in a gynecology clinic setting. PIFU has potential to lead to decreased no-show appointments and increased patient autonomy in outpatient healthcare practices. Barriers that influence compliance with plans of care include lower socioeconomic status, racial and ethnic minorities, and unmet social needs such as food insecurity, healthcare travel and cost, and child/adult care needs. In addition to higher rates of no-show appointments, individuals facing these barriers have increased comorbidities. Prior to implementing the PIFU model, patients between the ages of 18 and 42 completed a patient satisfaction survey to better understand potential barriers resulting in no-show appointments. Based on their answers, the providers selected specific health conditions that would be appropriate to offer PIFU. 11 patients out of 36 that met the criteria for the intervention were offered the option of PIFU or continuing with fixed follow-up provided by the office. All 11 requested to remain in fixed follow-up but appreciated the option of increased autonomy with PIFU. Limitations included lack of electronic medical records and providers' lack of confidence that patients would follow through with scheduling autonomously. This PIFU model could be implemented in the future in gynecology, primary care, or other specialty offices to aid in the reduction of no-show appointments.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**James Eads**

Doctor of Nursing Practice

## ***Identifying SRNAs individual learning preferences utilizing the VARK Learning Inventory Tool***

All graduates of a doctoral anesthesiology program are required to successfully pass the National Certifying Exam (NCE). Since 2011, the national average passage rate has decreased from 89.1% to 84.1% in 2021 (NBCRNA, 2023). Yamaguchi's 2022 study revealed that students are positively impacted academically when they implement individual learning preferences. The purpose of this project was to identify individual learning preferences for students enrolled in the U.S. Army Nurse Anesthesiology program. The hypothesis was that students who recognize their preferred learning and incorporate preferred learning techniques would result in an increased percentage of passage rate scores for the NCE. Thirty-eight Military personnel enrolled in the U.S. Army Graduate Program in Anesthesia Nursing were administered the VARK (Visual, Auditory, Reading, Kinesthetics) learning inventory tool in the beginning of their first year in the program. The VARK learning inventory tool is a sixteen questionnaire that identifies an individual's learning preference based on the answers that he/she selects. After identifying the individual learning preference, everyone was given a 10-page performance template that outlined the various techniques that incorporated the individual learning preference to the daily learning and retaining of educational materials. The passage rate of the group involved in the project will be compared with the national average after taking the NCE.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Kathryn Patrick**

Doctor of Nursing Practice

## ***Human Trafficking and Resource Provision in the ED***

Human trafficking is both a human rights violation and a national health crisis. Despite nearly 165,000 identified cases in the United States since 2007, studies hypothesize that many more victims remain undetected despite up to 88% of trafficked persons interacting with the healthcare system during the time they are being trafficked. The lack of identification of these victims has often been attributed to healthcare providers' lack of knowledge regarding human trafficking indicators and lack of confidence in how to address trafficking situations when they are encountered. Emergency department care providers of a 500-bed central Illinois hospital received education and resource binders containing screening tools, action steps, and contact information for local human trafficking resources. A statistically significant increase in the confidence of the participants about identification and knowledge of how to care for human trafficking victims was observed. Increased awareness encouraged the identification of two possible victims of human trafficking and the development of an organization policy about how to care for potential human trafficking victims. Further recommendations for continued work would include a computer-based learning module to ensure completion of education, education provision to affiliate hospitals, and customization of education for areas offering outpatient services. Swift and easy access to protocols for actions to be taken and accessible support resources for trafficked persons appear to be the most impactful intervention of this quality improvement project.

# **DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Kristie Goeckner**

Doctor of Nursing Practice

## ***Implementation of a Prediabetes Class in the Primary Care Setting***

Prediabetes and type 2 diabetes are prominent health concerns with prediabetes progressing to type 2 diabetes if left untreated. This progression and the serious health complications caused by both can be minimized or eliminated if moderate lifestyle interventions are implemented early. Providing an educational intervention can target modifiable risk factors such as weight loss, diet, physical activity, and smoking cessation. While it is ideal for this education to start with the primary care provider, this in-depth information cannot be realistically taught during routine primary care appointments. Nurses play a fundamental role in educating patients. A nurse-led prediabetes class and handouts were developed and implemented in both rural and urban clinics within the same healthcare system in Southern Illinois to address diabetes progression in this population. Eighteen classes were offered over five months with thirty-three class participants. Participants reported the class was beneficial and motivated them to make changes to improve their health. Fifteen participants answered a follow-up questionnaire three months post-intervention. Positive efforts to adopt lifestyle modifications discussed during the class were demonstrated. Areas for future research include other options for content delivery and timeframes.



# DNP POSTER PRESENTATION

Southern Illinois University Edwardsville

April 26, 2024

**Jeffery Davis**

Doctor of Nursing Practice

## ***The Implementation of a Behavioral Intervention Checklist to Reduce Rehospitalizations in Skilled Nursing Facility Residents with Mental Illness***

Skilled Nursing facilities are an essential component of the continuum of care and, with the rapidly aging population, represent an increasing cost to the healthcare system. The policies beginning in the 1960s promoting the deinstitutionalization of mental health institutions have resulted in increasing numbers of individuals with serious mental illnesses now residing in skilled nursing facilities. The complex needs of individuals with mental illness have been associated with an even greater cost of care, deficient quality, and safety concerns. This quality improvement project analyzed the impact of an evidenced-based, structured behavioral intervention checklist on rehospitalization rates in individuals with mental illness residing in a skilled nursing facility. The checklist was designed to allow nurses to use an algorithmic methodology to deescalate the manifestations of mental illness to prevent rehospitalization. Staff were provided with education on the management of residents with mental illness and the use of the checklist throughout the process. Data was collected pre-and post-implementation of the checklist to measure 90-day rehospitalization rates, with a secondary measure reviewing lost census days and hospitalizations. The checklist showed limited improvement in 90-day rehospitalization rates ( $p < 0.04$ ). Lost census days to hospitalization showed a more robust improvement ( $p < 0.01$ ). While more research would appear warranted, the implications of these findings suggest that checklists or algorithms may be a viable care improvement tool in complex care environments such as skilled nursing facilities.

# VIRTUAL DNP POSTER PRESENTATION

Southern Illinois University Edwardsville

April 26, 2024

**Rebekah Gaffin**

Doctor of Nursing Practice

## *Implementing an Insomnia Assessment and Management Algorithm in a Rural Primary Care Clinic*

Insomnia is the most common sleep complaint and significantly impacts quality of life and productivity. The accumulated total of direct and indirect healthcare costs related to insomnia is estimated to be as high as \$100 billion/year and is associated with an increased risk of cardiovascular and cerebrovascular disease. Primary care providers play a critical role in identifying and implementing early interventions to address insomnia. However, this can be time-consuming, and providers may be unaware of the latest treatment guidelines and available resources. This project provided a research-based algorithm to identify and initiate treatment for patients 18+ with chronic insomnia in a rural primary care clinic in central Illinois. The project was implemented starting with a CME provider presentation surrounding researched-based treatment guidelines for insomnia management. An Epic “smart phrase” was created to be utilized in provider notes to guide management. Additionally, patient/provider resources were developed to support the algorithm. A direct referral was facilitated to a clinical psychologist for CBTi for patients with chronic insomnia. There was a 15% increase in Sleep Medicine referrals from the previous year during the same time interval and four direct referrals for CBTi for patients with severe insomnia. Providers noted that they found the education meaningful and adapted recommendations to their practice. The project benefited both providers and patients by delivering safe and efficient care for the substantial number of patients who experience chronic insomnia.

# VIRTUAL DNP POSTER PRESENTATION

Southern Illinois University Edwardsville

April 26, 2024

**Jennifer Isip**

**Damaris Peralta**

**Hannah Zions**

Doctor of Nursing Practice

## ***What's in Your Nursing Labor Toolkit? Promoting Patient Satisfaction While Decreasing Cesarean Section Rates***

Cesarean section is a complex surgical procedure with considerable risk for complications during and after surgery, increasing the likelihood of future pregnancy complications. It is crucial to properly educate patients and nursing staff regarding intentional maternal positioning to facilitate successful vaginal delivery through optimal fetal positioning in the vaginal canal throughout the labor process. This study reviewed 28 participants to determine if intentional maternal positioning can promote vaginal birth and increase patient satisfaction. Participants were pregnant women experiencing protracted labor/labor dystocia without a history of prior C-sections, uterine surgeries, or large gestational age (LGA) newborns. Patients who underwent primary cesarean section for indications other than “failure to progress,” “failure to descend,” or “failed induction” were excluded from the study. Data was collected in a “promoting vaginal birth” checklist provided by the investigators. Participants completed a 5-point Likert scale questionnaire regarding their labor experience. Results showed a 3% decrease in primary C-section rates over the 15-week data collection period, and patient questionnaires demonstrated overall satisfaction in the labor experience, specific to intentional maternal positioning and outcome. Limitations included lack of staff buy-in, sample size, and potential for pelvic inadequacy in nulliparous participants. Further efforts include extended data collection periods over larger sample sizes and applying additional educational materials from ILPQC’s Labor Toolkit to promote vaginal birth, including doula support, second-stage huddle, and standardization of protocols, guidelines, and algorithms. Implications conclude that with evidence-based guidance & support, successful vaginal delivery can increase while promoting patient satisfaction.

# VIRTUAL DNP POSTER PRESENTATION

Southern Illinois University Edwardsville

April 26, 2024

**Kimberly Dray**

Doctor of Nursing Practice

## *Introduction of Osteoporosis Screening within Orthopedic Clinics*

Osteoporosis affects millions of Americans, causing life-altering medical issues and an economic burden estimated to be over 17 billion dollars. Primary care providers are responsible for screening and early detection of osteoporosis; however, gaps have been identified. Orthopedic surgeons can screen during clinic visits to help close the gap. The purpose of this project was to introduce the usage of a screening tool in a large orthopedic clinic to improve detection. Participants were provided with education regarding osteoporosis and the screening tool with continued support throughout the 8-week study. Using the Simplified Calculated Osteoporosis Risk Estimation (SCORE) tool, patients meeting the criteria were screened, and referrals were placed if the patients were not already undergoing treatment. A post-study questionnaire was provided to the surgeons and clinic staff to evaluate the screening tool and the importance of screening in their clinic. Overall, 103 patients were screened, resulting in 22.3% referrals to primary care, bone density screening, or the osteoporosis clinic for further evaluation and treatment. Additionally, 67% of the high-risk patients screened refused a referral, 50% of patients screened were already undergoing treatment, and 23% were low-risk non-referrals. Survey results showed increased knowledge regarding screening, and all respondents reported they felt screening in the orthopedic clinic is essential. Limitations for this study included provider non-participation, providers out of the office, and convenience of the screening tool.

# VIRTUAL DNP POSTER PRESENTATION

Southern Illinois University Edwardsville

April 26, 2024

**Jonathan Alvarado**

Doctor of Nursing Practice

## *Nurse Anesthesiology Education for Regulators*

Governmental and regulatory entities like the state board of nursing have an active role in regulating all nursing fields, including anesthesiology. The lack of a required nurse anesthesiology representative on the board presents a potential knowledge gap related to anesthesiology practice. Board members and staff must make decisions related to nurse anesthesiology that may cause anxiety due to its complexity. The lack of education in this area allows one to make wrong decisions or spend extended time looking for the correct information. This project's main objective was to provide the state board of nursing commissioners and staff with an educational model on nurse anesthesiology practice. Pre and Post-test surrounding a lecture on the basics of nurse anesthesiology history, practice, and billing models and their effect on safety and access, attendees were given a questionnaire to assess knowledge regarding nurse anesthesiology practice. The literature suggests that nurse anesthesiology is a complex and unique area in the broad spectrum of nursing. The different providers, their educational pathways, backgrounds, scope of practice, and legislature restrictions make it quite difficult for leaders in regulatory bodies like the Nursing Care Quality Assurance Commission to understand, which could impact decision-making. The graded percentage for the pre-test was 34%, while the post-test was 79%. Based on these results, there is a strong indication that members of a regulatory body, like the Board of Nursing, should implement a continuous educational module in nurse anesthesiology to serve the public better. Some participants were in a virtual setting and, therefore, unable to answer both parts of the evaluation. Some participants expressed minimal knowledge and interest in the assessment and lecture.

# **VIRTUAL DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Areo Comonal**

**Jessica Goneh**

Doctor of Nursing Practice

## ***Discharge Lounge Utilization***

Efficient hospital throughput is crucial for maintaining quality patient care and managing healthcare resources effectively. This project examines the relationship between hospital throughput, measured by discharge lounge utilization, and the National Emergency Department Overcrowding Scale (NEDOCS) score. A mixed-methods approach was employed, combining quantitative analysis of discharge lounge utilization data with qualitative assessment of staff perceptions and operational challenges. The project was conducted over nine months in a large urban hospital. Results indicate a significant correlation between discharge lounge utilization rates and NEDOCS scores, suggesting that higher levels of discharge lounge utilization are associated with NEDOCS score improvement. Furthermore, qualitative findings reveal various operational barriers and staff perspectives influencing hospital throughput. This project contributes to a better understanding of the complex factors impacting hospital throughput and provides insights for improving healthcare delivery processes to enhance patient flow and alleviate overcrowding in emergency departments.

# VIRTUAL DNP POSTER PRESENTATION

Southern Illinois University Edwardsville

April 26, 2024

**Christine Hawkuff**

Doctor of Nursing Practice

## *Procedural Sedation Training: Competency Verification Through Simulation*

A 450-bed tertiary hospital in Central Illinois lacked a standardized process for competency verification for procedural sedation care by registered nurses (RNs). Despite recommendations by many organizations, there are no consistent or standardized guidelines for verifying competency in nursing care of the procedural sedation. This project implemented a Procedural Sedation Training Course comprising an in-person prelearning lecture, group simulation learning experience, and individual verification of competency through simulation. Fifty-six RNs completed the Procedural Sedation Training Course and demonstrated competency through simulation; 24 of these RNs completed a procedural sedation within the eight-month pilot period. Qualitative and quantitative data was collected from all 56 learners via the National League for Nursing Self-Confidence for Learning in Simulation and the Simulation Learning Effectiveness Inventory. Reports were reviewed to compare the procedural sedation documentation compliance for nursing-sensitive indicators of the pilot participants and all team member compliance. In addition, hospital safety event reports were reviewed for the pilot period. RNs were able to validate competence via simulation, and survey results demonstrated high self-confidence, learner satisfaction, and effectiveness in meeting learning objectives. Documentation compliance of study participants when compared with the general team showed consistent compliance rates with a less than 1% difference in any of the three nursing-sensitive indicators. Safety events reported during the pilot period indicated that RNs could rescue sedation patients who experienced adverse events.

# **VIRTUAL DNP POSTER PRESENTATION**

**Southern Illinois University Edwardsville**

**April 26, 2024**

**Nancy Moore**

Doctor of Nursing Practice

## ***Increasing OB/GYN Clinic Nursing Staff Knowledge and Comfort Level in Providing***

There are well known benefits of breastfeeding for both mother and child, yet the educational support from providers during prenatal visits is not consistent or well-documented. An educational presentation discussing guidelines of breastfeeding education, common breastfeeding problems and barriers to breastfeeding was developed and presented to a “Baby Friendly” hospital-based OB/GYN clinic staff at an urban St. Louis hospital. The goal was to increase staff knowledge and comfort providing education and resources surrounding breastfeeding to be used to increase discussion of breastfeeding during prenatal and postpartum visits. Evaluation of pre and posttest data showed an increase in knowledge regarding managing breastfeeding concerns and level of comfort providing education. The project succeeded in showing a need for increasing OB appointment time slots at implementation site to allow adequate time for breastfeeding education opportunities.



# VIRTUAL DNP POSTER PRESENTATION

Southern Illinois University Edwardsville

April 26, 2024

**Dina McNeil**

Doctor of Nursing Practice

## *Screening for Suicide in Veterans with Cancer*

Veterans are at a higher suicide risk than the general population. Veterans with cancer are at a 47% higher risk for suicide. The Veterans Health Administration has an annual suicide screening requirement, but no requirement for more frequent assessment in this high-risk population. Clinical staff may also be hesitant due to fear and anxiety, serving as a barrier to screening. The objective of this project was to educate oncology clinical staff about risk factors for suicide in veterans with cancer, the use of the Columbia-Suicide Severity Rating Scale (C-SSRS), referral processes, and local resources, and intended to increase the number of suicide screenings performed. The primary outcome measured was the number of suicide screenings performed after the education of staff. Data was reviewed for a sixty-day period, both pre-education and post-education. No screenings (n=0) were performed by the educated staff during the post-education period. Education did not affect the number of screenings performed. The secondary finding was that mandatory annual suicide screening was not being performed consistently. Mandatory annual suicide screenings must be addressed by the facility before implementing additional screenings within the oncology department for veterans with cancer. The Cancer Care Navigation Team is a potential solution in performing these screens since the team is responsible for managing cancer cases with complex treatment plans and evaluating veterans for psychosocial issues, making referrals as appropriate.

# VIRTUAL DNP POSTER PRESENTATION

Southern Illinois University Edwardsville

April 26, 2024

**Ayesha Baluch**

Doctor of Nursing Practice

Psychiatric Mental Health Nurse Practitioner Specialization

## *Integrating Psychotherapy in a Psychiatric Outpatient Clinic*

Mental illness is common in the United States, affecting millions of people. Although there are effective medications for mental illness, psychotherapy in addition to pharmacotherapy provides the best outcomes. This project aimed to improve providers' psychotherapy screening and education of patients about psychotherapy utilization. A pre-implementation survey was conducted to evaluate psychotherapy screening and the barriers faced by providers to utilize psychotherapy screening. An education session was provided to the providers about the importance of psychotherapy screening and education. Data showed that the providers discussed psychotherapy with eight patients (40%) and educated four patients (20%) pre-implementation. Data showed that the providers discussed psychotherapy with twenty-one patients (84%) and educated twenty-one patients (84%) post-implementation. The outcomes showed that project implementation significantly increased psychotherapy utilization. Limitations to this DNP Project were identified. The DNP leader was present in the room with the provider and all the patients during implementation. There is a possibility that the provider discussed psychotherapy because of the presence of the DNP leader. Patient satisfaction was not measured. Even though the provider discussed psychotherapy, it is important to know if the patient was satisfied with the discussion or required more information.

# VIRTUAL DNP POSTER PRESENTATION

Southern Illinois University Edwardsville

April 26, 2024

**Haley Junge**

**Gayle Schlabach**

Doctor of Nursing Practice

Psychiatric Mental Health Nurse Practitioner Specialization

## *Equipping Home Visiting Staff for High PHQ-9 Scores in the Home*

Postpartum depression can have a detrimental effect on a mother's functional capacity, thereby impeding her ability to care for herself and her children and resulting in negative consequences. The PHQ-9 is an evidence-based screening and diagnostic tool for depression. Outcomes of women with postpartum depression are impacted due to inadequate screening, and evidence suggests that screening is only completed 40% of the time. This project was conducted within a home visiting program for mothers and infants within a vulnerable population in Central Illinois over four months. Nurses were given a QR code with mental health resources that would help patients who scored high on the PHQ-9 questionnaire. The primary goal of this initiative was to provide timely and appropriate mental health services to those in need and to enhance nurses' comfort level in discussing mental health. The project results indicated that resources being readily available contributed to positive patient outcomes. Improving access to resources, such as counseling and medication, can positively impact the prognosis of mothers with depression.

# **DNP POSTER PRESENTATION**

**EPA Environmental Justice Week**

**October 31, 2023**

**Julia Buckles**

**Jewel Radford**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

## ***Addressing Air Quality Mitigation as a Key Factor in Asthma Management and Prevention***

Asthma is the most prevalent disease in childhood and disproportionately affects African American (AA) populations in terms of prevalence and frequency of exacerbations. Air quality and environmental factors are strongly associated with the diagnosis and management of asthma and AA children are more likely to live in areas with poor air quality. An air quality flag program was implemented in a daycare located in a county with a predominantly AA population with a high prevalence of asthma diagnoses. The goal of the intervention was to increase staff awareness of air quality and the impact it can have on asthma diagnosis and exacerbations. An educational session was provided to staff regarding the asthma disease process, factors affecting air quality, and its role in the development and management of asthma. Staff were educated about the EPA's air quality flag program and how to track the daily air quality. Air quality was monitored, and actions were taken according to the EPA's air flag program for 6 weeks. 12 pre-surveys were completed by staff before the educational session and 8 post-surveys were completed after 6 weeks of the intervention. Post-survey results indicated an increased understanding of the role that air quality exposure plays in the development of asthma (25%) and asthma exacerbations (34%). Additionally, survey results indicated a 30% increase in respondents who agreed there were steps they could take to prevent a child from having an asthma exacerbation. Results were not statistically significant due to sample numbers, but anecdotally significant.

# **DNP POSTER PRESENTATION**

**15<sup>th</sup> Annual Research Symposium**

**Belleville, Illinois**

**November 17, 2023**

**Alexa Brummund**

**Kristen Mattson**

Doctor of Nursing Practice

Nurse Anesthesia Specialization

## ***Recommendations for Sugammadex Administration in Standard and Special Populations***

The purpose of this project was to collect evidence-based information regarding sugammadex administration in both standard and selected special populations. Special populations included renal failure, breastfeeding, pregnancy, and pediatrics. The objectives of the project were to collect and present current research to the host facility, define barriers to the use of sugammadex, and assess the participants' knowledge of sugammadex use in special populations. A guideline for sugammadex administration was created and presented to the host facility through a poster presentation and quick reference guide. A voluntary post-implementation survey was implemented, and the results were recorded, analyzed, and displayed in the final dissemination. Results showed an overall increase in provider knowledge in the use of sugammadex in special populations, improved confidence in use of medication, and found the quick reference guide to be user friendly. The small sample size and use of a convenience sample limited the ability to generalize the results to the larger population. Additional long-term research is still required for the use of sugammadex in special populations. However, current evidence shows sugammadex to be superior for prevention of postoperative pulmonary complications in standard populations. Sugammadex is a useful drug in clinical anesthesia practice requiring additional education for providers to ensure best practice.

# **DNP POSTER PRESENTATION**

**Memorial Hospital  
Belleville, Illinois  
November 30, 2023**

**Anne Hocking**

Doctor of Nursing Practice

## ***Implementation of the Adult ADHD Self-Report Scale in a Mental Health Clinic***

Less than 20% of adults with attention deficit hyperactivity disorder (ADHD) are adequately treated due to overlapping symptomology of comorbid psychiatric conditions. Anxiety and depression are the most common comorbid psychiatric conditions in adults with ADHD. Diagnosis, treatment, and outcomes of adults with ADHD are impacted due to inadequate screening. The setting for this project occurred in a Veteran Affairs mental health outpatient clinic in central Illinois. The process was implemented by screening adults diagnosed with depression or anxiety using the adult ADHD self-report scale (ASRS). Of the 150 participants, 90 scored higher than 17 on the self-report scale, indicating further ADHD evaluation. Incorporating screening for ADHD in adults with comorbid psychiatric conditions will improve diagnosis and treatment, leading to improved mental health outcomes.

# **DNP POSTER PRESENTATION**

**Memorial Hospital  
Belleville, Illinois  
November 30, 2023**

**Louisa Ustrzynski**  
Doctor of Nursing Practice

## ***Road to Recovery for Craniotomy Patients***

Complications from craniotomy surgery can range from 8-33%, leading to prolonged hospital stays, increased costs, increased risks for complications, and decreased satisfaction. An extensive literature was conducted highlighting Enhanced Recovery After Surgery (ERAS) protocol enhances patient outcomes by emphasizing education, early mobilization, pain management, and proper medication use before surgery. This quality improvement project focused on implementing preoperative and postoperative education in a tertiary hospital outpatient setting targeting adults undergoing craniotomy surgery. The process was implemented by a preoperative checklist and education materials to aid in educating patients on ERAS protocol to decrease the length of stay and increase patient education on their recovery. The 20 patients who were given the preoperative ERAS education pamphlets were also given an evaluation of the pamphlet, indicating an average score of greater than 90% were satisfied and indicated that the education aided in their recovery. Results found that the previous length of stay averaged 3.6 days before implementation, and recent results of 2.8 days were based on metrics obtained from the Epic system. The limitations acknowledged included a small sample size and short implementation and retrieval of information. However, the results indicated an overall decrease in length of stay and satisfactory results indicating that patient education helped aid their recovery. The project discusses the critical role of ERAS principles in patient education to help reduce hospital stays and improve patient satisfaction.

# **DNP POSTER PRESENTATION**

**Sigma Theta Tau Consortium**

**Town & Country, Missouri**

**April 2, 2024**

## **Kaitlyn Stroh**

Doctor of Nursing Practice

Family Nurse Practitioner Specialization

### ***Pneumococcal & Influenza Vaccine Co-Administration in the Incarcerated Population***

Background/Significance: Streptococcus pneumoniae is responsible for 20-60% of U.S. bacterial pneumonia cases and has a mortality rate of 10-30%. Invasive pneumococcal disease (IPD) occurs when streptococcus pneumoniae invades otherwise sterile sites. Adherence to immunization guidelines is 60-70% effective at preventing IPD. Co-administration of pneumococcal and influenza vaccines has shown promise at increasing uptake of the pneumococcal vaccine and enhancing immunological response. Population/Setting: A state-run Department of Corrections (DOC) clinic system serving just over 30,000 individuals was the site for this project. Incarcerated individuals present an increased risk of contracting pneumococcal disease due to close living quarters. Other risk factors such as airway disease, immunocompromise, and smoking also compound the disease burden in this vulnerable population. Intervention: To increase pneumococcal vaccine uptake, co-administration of influenza and pneumococcal vaccines was offered during influenza clinics. A video update on the pneumococcal immunization guidelines was shared with staff. Clinic participants were educated with updated infographics in English and Spanish about their eligibility for vaccination and the risk of harm from IPD. Participation was voluntary. Results: The percentage of DOC participants vaccinated against pneumococcal disease increased from 43% (n=500) to 45% (n=523) of those >=65 years of age and those ever offered the vaccine increased from 48% (n=558) to 54% (n=651) during the study period. Comparing pre-and-post survey data, improvements were observed in the percentage of DOC staff stating they feel confident recommending pneumococcal vaccines (8.8% increase) and stating they are knowledgeable about the 2021 updates to the ACIP guidelines (28% increase).



## **DNP POSTER PRESENTATION**

**Trauma Center Association of America 26<sup>th</sup> National Annual Conference  
Nashville, Tennessee  
April 30, 2024**

**Tamine Gogel**

Doctor of Nursing Practice

### ***Blunt Cerebrovascular Injury (BCVI): Universal CTA Neck Screening at Level 2 Trauma Center***

Blunt Cerebrovascular Injury (BCVI) refers to injuries to the vessels supplying blood to the brain, primarily carotid and vertebral arteries, and can result from trauma, resulting in stroke by vessel dissection, thrombus formation, embolization, and hemorrhage. Timely identification is crucial for effective intervention and improved outcomes. This doctoral project proposes the implementation of universal screening using Computed Tomography Angiography (CTA) of the neck during initial workup for blunt force trauma at a Level II ACS-verified trauma center. The primary objective is to mitigate potential delays in diagnosing and treating BCVI, thereby reducing the likelihood of complications. Patients  $\geq 15$  years old with significant blunt-force trauma activations from March 2023-January 2024 will receive CTA neck with a 128-slice computed tomography scanner during initial trauma workup. During the study period, 395 patients had level I and level II trauma activations, 210 (53.16%) of which met the criteria for BCVI screening. CTA neck was completed on 156 individuals (74.29%), 11 (7.05%) of which exhibited evidence of BCVI. The variables "BCVI Followed" and "Positive BCVI" displayed a significant correlation ( $r=0.97$  and  $p<0.001$ ). A strong positive linear relationship between the two variables was observed. The implementation of universal screening with CTA neck for BCVI detection holds promise for advancing trauma care practices. This doctoral project provides evidence-based recommendations and insights to guide similar initiatives in trauma centers, improving patient outcomes and reinforcing the commitment to excellence in trauma care.