

DNP PROJECT ABSTRACTS

ROOM 11

Preoperative and Intraoperative Interventions for Enhanced Recovery after Gynecological Surgery

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Problem and Purpose: Surgery causes a neuroendocrine and inflammatory stress response on the body that impairs hemostasis. Often, many of the interventions implemented during the perioperative care of patients are not evidence-based but rather due to tradition. Enhanced recovery after surgery (ERAS) programs consist of evidence based interventions implemented during the preoperative, intraoperative, and postoperative phases of surgery. Researchers have found that ERAS programs lead to a reduction in hospital length of stay, cost, and complications. At a community hospital in the mid-Atlantic region, anesthesia providers sought ways in which hospital length of stay and complications can be reduced in patients undergoing GYN surgery. In addition, GYN surgery is one of the most frequent types of surgical procedures performed at this institution. The purpose of this quality improvement project was to develop a clinical practice guideline regarding ERAS for GYN surgery in order to optimize the perioperative care of patients.

Methods: An expert panel was formed consisting of the chief nurse anesthetist and anesthesiologist of the institution. A need for an ERAS CPG was established based on several meetings with key stakeholders. A literature review was conducted to develop the CPG and a draft was presented to the expert panel. Next, a Non-Human Subjects Research (NHSR) was sought from the Institutional Review Board at the University of Maryland. The Agree II Tool was utilized by the expert panel to evaluate the quality of the CPG. Feedback from the expert panel was then incorporated into the final draft. The CPG was presented to the anesthesia providers of the institution. Practitioner Feedback Questionnaires (PFQs) were distributed and anonymously collected at the end of the presentation. A descriptive statistical analysis was performed utilizing Microsoft Excel with the data obtained from the AGREE II Tool and PFQ surveys.

Results: The results of the AGREE II tool were favorable with an overall calculated total domain score of 92%. The individual total domain scores are as follows: scope and purpose 97.2%, stakeholder involvement 100%, rigour of development 87.5%, clarity of presentation 94%, applicability 92.9%, and editorial independence 89.6%. The return rate for the PFQ surveys is 100% (n=15). The PFQ survey results revealed that 100% of providers believed that there is a need for an ERAS CPG for GYN surgery, that its utilization will benefit patients, and that the draft guideline recommendations will be supported by other anesthesia providers of the institution. This is indicative of the usability and wide acceptance of the CPG by the facility.

Conclusion: Due to the favorable results of the AGREE II Tool and PFQ survey evaluations, it is evident that the developed ERAS CPG is of high quality and its use will be accepted at this institution.

Implementing an Evidence-Based Tobacco Cessation Protocol in an Adult Behavioral Health Unit

Ozioma Erundu

Problem & Purpose: Tobacco use is a common problem among adult behavioral health (BH) patients, and presents as a major cause of avoidable morbidity and mortality in the United States. Multiple professional organizations recommend the implementation of a tobacco cessation protocol for BH patients. Adult BH patients who reported the use of tobacco at the time of admission to the BH unit (BHU) were provided nicotine replacement therapy (NRT) during their inpatient stay without a structured tobacco cessation plan for continuation following discharge. The purpose of the project was to implement and evaluate an evidence-based tobacco cessation protocol for these patients.

Methods: The protocol was implemented over 11 weeks. During the 3-week baseline phase, data were collected on NRT accepted at discharge. During the 8-week implementation, tobacco-using patients completed the Fagerstrom Test for Nicotine Dependence (FTND) and the Readiness Ruler (RR) to assess nicotine dependence and readiness-to-change. Nurses determined the patient's interest in ongoing NRT after discharge based on levels of dependence and readiness; provided 1-3 minutes of brief smoking risk reduction counseling; assisted patients in the preparation to develop a quit plan; and offered referrals to the State's Quitline. Prescribers then offered NRT continuation at discharge.

Results: Of 26 tobacco users, 46% accepted NRT at discharge ($n=12$) during the baseline phase. During implementation, 170 patients were assessed. Of 90 tobacco users (53%), 82% received brief counseling, 33% completed the FTND, 29% completed the RR, and 47% accepted NRT at discharge. Only one patient (1%) agreed to a Quitline referral. There was no statistically significant relationship between higher levels of dependence and higher levels of readiness ($p=.9$) or between receipt of NRT and higher levels of dependence ($p=.3$), or higher levels of readiness ($p=.2$).

Conclusion: While 82% of patients who used tobacco products received brief counseling, there was no significant increase in NRT uptake at discharge from BHUs over the baseline ($p=.96$), referral to the state's Quitline was not well accepted, and prescribers anecdotally reported resistant to utilizing FTND and RR scores to make decisions about NRT prescribing.

Dental Disease in Pregnant Women: A Screening and Referral Process

Cara M. Greely

Problem & Purpose: Adverse health outcomes increase with poor maternal oral health in pregnant women and their infants. Dental screenings and treatment during pregnancy are found safe and effective in improving women's health in pregnancy. Adult women on Medicaid are only eligible for dental benefits while pregnant, but in 2016, only 26.1% of pregnant women in Maryland on Medicaid utilized the dental benefit, resulting in the lowest utilization in four years. The purpose of this quality improvement project was to implement and evaluate a screening tool and dental referral process at a local federally funded community organization.

Methods: The dental screening used was the Maternal Oral Health Tool for pregnant women on Medicaid. The screening tool included two questions assessing if the woman 1) had seen a dentist in the last year or 2) has any current dental concerns and then when the screening indicated that a woman needed further dental treatment and evaluation, she was referred to the dental clinic. Once referrals were received, the dental clinic provided outreach to the women to educate and make appointments.

Results: Over 12 weeks, 23% of all pregnant women seen at the community organization were referred to the dental clinic and 25% of pregnant women referred scheduled appointments at the clinic. 87% of all women screened required further dental evaluation, indicating the need and importance of dental care for pregnant women on Medicaid in this area.

Conclusions: This project indicates the need for dental care in this population. The overall recommendation is that staff continue to educate women about the importance of dental care, their benefits during pregnancy, and provide resources and information of dental clinics that accept Medicaid. To improve referral compliance, it's recommended that the screening be embedded in the electronic intake system.

Implementation of a Standardized Discharge Bundle: An Enhanced Recovery After Surgery Initiative

Heather E. Johnson

Problem and Purpose: Complex surgical procedures are increasingly being performed on an outpatient basis, with an emphasis placed on enhanced recovery and fast-tracking patients for discharge. The absence of standardization of discharge criteria can negatively affect efficiency, available resources, and patient safety. The purpose of this quality improvement project is to implement a “standardized discharge bundle” (SDB) for patients undergoing vaginal or robotic hysterectomy procedures, now transitioning to a same-day discharge model, as part of this small community hospital’s enhanced recovery after surgery (ERAS) initiative.

Methods: A GAP analysis for involved nursing staff was conducted to assess knowledge and confidence in this patient population pre- and post-implementation. During the 12-week implementation period, nursing staff were educated on the SDB components which were used for patient education, discharge assessment, and documentation. An ERAS SMART Phrase discharge note was documented to ensure all required patient discharge criteria were met. Data collection, through chart audit, included frequencies of same-day discharges, unscheduled office triage calls/visits, readmission/ER visits, and length of stay (LOS).

Results: 26 patients met project inclusion criteria, with approximately 73% eligible for a same-day discharge using the SDB; however, no patients experienced a same-day discharge during the 12 weeks of project implementation. The GAP analysis pre-implementation established that current nursing staff were ambivalent about their knowledge or confidence in caring for this patient population, yet the post-implementation analysis indicated improved scores in all areas, with staff agreeing to having knowledge and confidence in caring for this patient population.

Conclusion: Through the GAP analysis, scoring indicated improved knowledge and confidence in caring for this patient population by nursing staff. This project was successful in demonstrating feasibility of the bundle, while highlighting that same day discharge is possible for the majority of this patient population.

Implementing Behavioral Screening Protocols to Reduce Violence in the Emergency Department

William Mangana

Problem and Purpose: The opioid crisis and lack of mental health resources for patients are two leading causes of elevated levels of violence in the emergency department. As a result, a rise in patient aggressive behavior including verbal and/or physical attacks against emergency department staff has occurred. This increase in violence led to a new restraint protocol and a subsequent increase in restraint orders, though restraint use is not recommended evidence-based practice. The purpose of this quality improvement project was to implement a behavioral assessment protocol for identifying aggressive patient behaviors and reduce physical restraint use in the emergency department at a community hospital.

Methods: The protocol was implemented through a quality improvement project using two behavior identification tools to reduce possible violent incidences against staff thus reducing the number of restraint orders. A modified Dynamic Appraisal Situational Aggression was given to every patient in the emergency to self-identify potential aggressive behavior. The Violence Assessment Tool was completed by the nurse on patients when their score on the modified Dynamic Appraisal Situational Aggression was greater than three. Anytime the Violence Assessment Tool has to be completed, the nurse was required to evaluate the combined tool scores for level of risk. Risk reduction and de-escalation strategies were implemented based on the identified risk level.

Results: The data reflects a successful implementation of the protocol with 95% of the emergency department nurses completing the protocol when required, along with patients completing the modified Dynamic Appraisal Situational Aggression at a rate of 98% upon intake. Analysis of the data's clinical component reflects successful reduction of restraint orders from 27.5% to 1.5% percent.

Conclusions: The project can be replicated across all departments in the hospital, specifically acute settings and mental health. Educating all new staff regarding the implementation protocol and the de-escalation methods is recommended. In addition, adding a flag to the electronic medical record to alert nurses that a patient completing the modified Dynamic Appraisal Situational Aggression has met the threshold and the completion of the Violence Assessment Tool is necessary. Both recommendations will allow for the results of the project to be sustained and replicated.

Evidence-Based Policy Toolkit Supporting Prescriptive Authority
for Maryland Nurse Anesthetists

Myra N. Njapau-Dove

Problem & Purpose: Current Maryland law does not grant Certified Registered Nurse Anesthetists (CRNAs) prescriptive authority thereby limiting the number of providers able to help combat the opioid crisis. With opioid-related overdose deaths at 29.7 per 100,000, Maryland is above the national average of 13.3 per 100,000. The lack of prescriptive authority also strains an already burdened healthcare system by further limiting access to care and medical services for patients in rural areas. Approximately 47 million people in the United States are considered vulnerable (low-income, Medicare and/or Medicaid recipients) and most of this population resides in areas where CRNAs are the sole anesthesia providers. The purpose of this project was to develop, implement and evaluate an evidence-based health policy toolkit. The toolkit would be a resource used when meeting with policymakers and petitioning them to support legislation to grant CRNAs prescriptive authority.

Methods: The toolkit and evaluation survey were sent by email to CRNAs who met the inclusion criteria. Survey responses were anonymous and captured using SurveyMonkey. Results were analyzed via Excel.

Results: Survey results indicated that 57.1% strongly agreed while 28.6% agreed that CRNAs should have prescriptive authority and that the lack of it hinders the CRNA profession and patient access to care. Most respondents (87.8%) also agreed that the policy decision brief in the toolkit provided accurate information and demonstrated the need for policy change. Results further indicated that 71.4% strongly agreed and 28.6% agreed that the toolkit was needed and would be supported by Maryland CRNAs.

Conclusions: Data analysis illustrated that the toolkit is a valuable resource. Furthermore, granting CRNAs prescriptive authority would help mitigate the opioid crisis, decrease healthcare costs as well as increase access to healthcare. At this time the toolkit has won CRNA approval but is yet to be utilized.

Perioperative Anesthetic Antiobesity Medication Management: Clinical Practice Guideline

DeVontee Rayford

Problem and Purpose: By 2030, it is expected that 45% of the US population will be obese which correlates with an increased use in antiobesity medications, 2.35 million to 2.74 million between the years 2008 and 2011. These increasing trends have led to an increased number of surgical patients consuming antiobesity medications. For the anesthesia provider, antiobesity medications are not amongst commonly encountered medications which results in varied experience. A local hospital in Maryland expressed the need for the development of an evidence based clinical practice guideline (CPG) regarding the anesthetic management of antiobesity medications. Due to the wide variations in antiobesity medications, the CPG focuses on current U.S. Food and Drug Administration (FDA) approved antiobesity medications including their medication specific anesthetic implications and associated interventions.

Methods: Guideline development included input from an expert panel, which included an anesthesiologist, two nurse anesthetists, pharmacist, and a Doctoral Doctor of Nursing Practice (DNP) student. A CPG draft was created and assessed via the AGREE II tool which provides a systematic approach to assess guideline quality. After members of the expert panel completed the AGREE II Tool, revisions were made, and an updated draft guideline was completed. The final draft was presented to anesthesia providers during a departmental meeting accompanied by a Provider Feedback Questionnaire (PFQ). Feedback from the PFQ was used to further revise the CPG to best fit the needs of the institution. A final guideline was then presented to the Chief Nurse Anesthetists, the Chief Anesthesiologist and Vice-Chief Anesthesiologist. After presentation, the Chief Anesthesiologist gave final approval for project continuance. The finalized approved CPG was disseminated to the anesthesia department electronically via email to promote ease of access. To facilitate sustainability, a CPG change champion was identified and is responsible for continued advocacy and guideline updates.

Results: The overall average CPG AGREE II assessment score was 85%, indicating moderate guideline quality with key stakeholders recommending guideline use in the organization. The PFQ revealed an overall agreement percentage of 82.5% indicating applicability of the guideline for providers at the specific institution. Demographic data was not collected to ensure data remained unidentifiable as the stakeholder group was small (n=13).

Conclusion: Secondary to trends in antiobesity medication use, an increasing number of surgical patients are presenting for surgery taking antiobesity medications. New FDA approved antiobesity medications pose a unique issue for anesthesia providers. These medications have unique anesthetic implications and interventions, confirming the need for the development of an evidence based CPG to facilitate knowledge, management, and avoidance and/or reduction of adverse outcomes. The CPG was successfully implemented to meet the needs of a specific institution and is not intended to be generalized.

Implementing a Pneumococcal Polysaccharide Vaccine Screening Tool for Adults with Diabetes

June H. Struder

Problem & Purpose: Pneumococcal disease has a high rate of morbidity and mortality in the United States, especially among those with certain chronic and immunocompromising conditions. Adult patients aged 19-64 years with diabetes are approximately 3.5 times more likely to contract and have complications resulting from pneumonia than their non-diabetic counterparts. The Centers for Disease Control and Prevention recommends a one-time vaccination of pneumococcal polysaccharide vaccine (PPSV23) at time of diagnosis or any encounter thereafter for these adults. Pre-implementation data showed patients aged 19-64 with diabetes who were eligible for the PPSV23 vaccine were not being screened for or offered the vaccine. A knowledge gap was identified where nursing staff were only screening adults aged ≥ 65 years for pneumococcal vaccine need. The purpose of this process improvement project was to implement a vaccine screening algorithm and patient education pamphlet as visual provider prompts in an effort to increase the proportion of adult patients with diabetes who receive the PPSV23 vaccination at a primary care clinic.

Methods: Prior to project implementation, staff were educated on health implications of diabetes, and the CDC recommendations surrounding the PPSV23 vaccination for this particular patient population. An algorithm was developed and used to allow nursing staff to identify patients who met inclusion criteria, which prompted providers to recommend the vaccine. A patient education pamphlet was introduced during week six of the implementation period.

Results: During the 13-week implementation period, there were 170 patients seen in the clinic who met the project eligibility criteria. A total of 71 patients were appropriately screened, and 46.48% (n=33) obtained their vaccine prior to leaving the primary care clinic. A Chi-square test for independence showed a significant relationship between screening the patient and the patient obtaining their vaccine ($\chi^2 = 57.10$, $p < .001$). A Fisher's exact test showed that the intervention was effective ($p = .046$).

Conclusion: The results support the need for implementing provider prompts related to adult vaccination needs. Adjustments to the preventive services portion of the electronic health record (EHR) with integration of prompts and drop-down options can improve workflow and increase buy-in. Organizational culture and change champions are critical components to the success of process improvement projects.

Tamara Wiseman

Let's Talk: Post Critical Incident Debriefing Project

Problem and Purpose: Structured debriefings rarely occur in a level IV Neonatal Intensive Care Unit (NICU). Lack of a structured debriefing process negatively impacts provider physical/emotional health and patient outcomes. Lack of debriefing conversations leads to unconstructive feedback and unidentified areas for team and patient outcome improvement. The purpose of this quality improvement (QI) project is to implement, the Team Strategies and Tools to Enhance Performance and Patient Safety Debriefing Tool (TeamSTEPPS) following high-risk deliveries in infants 22-32-week gestation and emergency/resuscitation codes in a 52 bed, level IV NICU in the mid-Atlantic region. The goal is to facilitate debriefings after 100% of the critical events and enhance positive team communication during debriefings.

Methods: The QI project was implemented during a 12-week period. The targeted population included a multidisciplinary NICU staff. The QI project involved training staff on the use of the standardized debriefing tool elements, documenting high-risk deliveries, frequency of debriefing guided by the TeamSTEPPS debriefing tool, and reviewing debriefing outcomes using the REFLECT Tool. The primary QI metrics included the number of staff trained and educated, patient gestational age, high-risk delivery and emergency codes, occurrence of debriefing, debriefings guided by TeamSTEPPS Debriefing Tool, and staff assessment of the meetings using the REFLECT Tool. Data was analyzed using descriptive statistics to identify trends in the percentage of debriefings that occurred following 22-32 weeks gestation deliveries and emergency/resuscitation codes.

Results: During implementation phase, twenty percent of the NICU staff were trained in the debriefing process. A total of four debriefings occurred using the TeamSTEPPS Debriefing Tool. Post critical events debriefings increased from one percent to fifteen percent. Team communication, role delineation, and patient stabilization time improved during a subsequent critical event following a debriefing session with the same team members.

Conclusions: This QI project demonstrated the feasibility of implementing a structured debriefing tool in a high acuity NICU, to improve team communications and patient outcomes following critical events. Increased nursing and provider staff engagement, and ongoing training would enhance debriefing facilitation. Future considerations include expanding debriefing after all emergent deliveries, including the labor and delivery team, and piloting in smaller NICUs.