

# DNP PROJECT ABSTRACTS

## ROOM 2

### Post-Operative Urinary Tract Infection Reduction: Discharge Bundle Implementation in Outpatient Urogynecology Patients

Christina Allen

**Problem and Purpose:** Post-operative urinary tract infections (UTIs) are a common, costly and potentially serious post-surgical complication amongst urogynecology patients undergoing surgical pelvic procedures. A Maryland hospital's urogynecology program had post-operative UTI incidence rates above the American College of Surgeon's quality improvement program's nationally desired metric (NSQIP), and previous interventions proved ineffective. The purpose of this project was to incorporate a standardized discharge care bundle, aimed at reducing UTI rates by at least 50% in post-surgical urogynecology patients. The intervention was a discharge care bundle which included non-prescription, pharmacologic supplements (cranberry & probiotic supplements).

**Methods:** Patients who had surgical procedures during the months of October 2019 through December 2019, received education and after surgical care instructions encouraging intake of a standard 30 day supply of cranberry tablets and lactobacillus acidophilus chewable wafers, along with instructions for 32 ounces of daily water intake for 30 days post-operatively. Patient follow up at 2, 4 and 6 weeks, assessed for compliance and UTI symptom development. Baseline UTI data was then compared to post intervention data.

**Results:** NSQIP UTI rates for the 3-months post-bundle implementation were favorable at 0%; below the expected rate of <4%, and demonstrated a 6% drop from the clinic's 3-month pre-implementation rates.

**Conclusion:** A decrease in UTI rates was seen after implementation of a UTI discharge bundle within the selected urogynecology cohort. This intervention demonstrates the potential for effective use of supplements to avoid post-operative UTIs for patients undergoing urogynecology procedures.

## Reducing Iatrogenic Anemia Using Blood Saving Techniques

Chad Copeland

**Problem and Purpose:** Anemia is a multifactorial problem affecting 58.4% of hospitalized patients. Hospitalized patients lose upwards of 50 milliliters of blood daily, resulting in healthcare acquired anemia (HAA) which is associated with longer length of stay (LOS) and higher mortality rates. Use of small volume tubes (SVT) (3mls) for phlebotomy reduces volume of blood loss and has shown improvements in patient outcomes. The purpose of this quality improvement (QI) project is to establish a standard of practice, in which all patients within the 29-bed medical intensive care unit (MICU) at a large urban quaternary care facility are phlebotomized with SVT.

**Methods:** Following procurement of the SVT products, MICU nursing staff were assigned education providing detailed instructions on SVT use. After SVT introduction, 10 volunteer nurses randomly observed SVT compliance, which was totaled on a Microsoft Excel<sup>®</sup> run chart to track progress. Newsletters were used to update staff on SVT success and to encourage project involvement. Changes in daily blood volume were calculated using laboratory data; RBC usage, LOS and mortality rates were requested from the facilities informatics departments and then analyzed using inferential statistical testing of an independent t-test.

**Results:** Weekly observations met the 100% compliance benchmark by September 22<sup>nd</sup>, 2019. Total blood volume saved during the project was 7,641 mls., a 47% monthly reduction. Though non-significant ( $p=0.54$ ), mean RBC transfusions were reduced by 10.5% monthly and three fewer patients were transfused compared to the current year. Results failed to meet statistical significance ( $p=0.54$ ) and monthly mean LOS remained consistent with the literature (5.6 days to 5.9) days during the QI period, failing to meet statistical significance ( $p=0.64$ ). Interestingly, unadjusted mortality demonstrated a reduction of 8.6% from the previous year's mean but was not statistically significant.

**Conclusion:** Weekly SVT compliance was 100% by the end of September's education deadline and remained there throughout the project. A substantial volume of blood was saved with associated improvements in patient outcomes, like the literature. Considering the ease of SVT implementation, improved patient outcomes, and reduced costs associated with its introduction, it is recommended that this product be used for all adult patients being phlebotomized at the target facility.

## Implementation of a Handoff Report Tool Among Trauma Intermediate Care Nurses

Shanna Fortune

**Problem and Purpose:** An estimated 70% of serious errors and sentinel events are attributable to miscommunication during patient handoffs. Since 2010, the JCAHO has required that during transitions in care, healthcare providers engage in handoff communication between the giver and receiver of hospitalized patients. Inadequate patient handoff communication remains a key contributor to medical errors, preventable adverse events, and sentinel events. The illness severity, patient summary, action list, situational awareness and contingency planning, and synthesis by receiver (I-PASS) method was created with use of a tool to improve handoff communication practices. The handoff tool was designed to decrease medication errors and enhance the safety and quality of patient care. Among nurses working in a multi-trauma intermediate care unit, a standardized patient handoff process with the critical elements of communication was lacking at a tertiary academic hospital in the Mid-Atlantic region. The nurse manager of a trauma intermediate care unit reported large nursing staff turnover and concerns about novice staff members' handoff communication effectiveness. With high acuity and a complex patient population, effective handoff is essential to maintaining patient safety as well as minimizing omissions in care and potential errors.

**Methods:** The purpose of this Doctor of Nursing Practice quality improvement project was to implement and evaluate the I-PASS handoff tool for perceived handoff report communication among nurses. Compliance with the verbal communication and written report tools were audited weekly. A pre/post perceived handoff communication survey was also distributed prior to and after the 15-week project period.

**Results:** Findings indicated that staff compliance with the I-PASS handoff report tool reached or exceeded the goal of 75% from week five to week 14. When using handoff report tool, perceived handoff communication increased by 9% post implementation. The medication error event rate declined by 47% during the implementation period.

**Conclusion:** The I-PASS handoff report tool improved perceived handoff communication among nurses. Subsequent quality improvement projects are recommended to evaluate the use of adapted unit-specific I-PASS handoff report tools to further validate the method's effectiveness and potential to improve medication-related and patient safety events.

## Abstract of Implementation of the Patient Activation Measure for Mental Health for Pediatric Parents

Ashley Gyer

**Problem and Purpose:** There are risks of developing psychiatric disorders in children of parents with mental health diagnoses. Interventions are needed to address the parents needs and decrease the risk of children being diagnosed with a mental health disorder. Parents who are motivated to participate in their mental health care have better outcomes, with a positive effect on their children's care. While psychotherapy may be beneficial for many mental illnesses, not everyone benefits to the same degree and patient motivation is a crucial requirement for successful therapy. The purpose of this project was to screen parents of children being treated in the clinic with the Patient Activation Measure for Mental Health (PAM-MH) to identify parents who are motivated to enter a program to improve their own mental health. Parents were screened and placed in one of four activation levels. The results may be used to tailor treatment to the specific child.

**Methods:** A tool to identify patient motivation, the Patient Activation Measure (PAM), was introduced in 2004. The PAM was adapted for use in people with mental health conditions with development of Patient Activation Measure for Mental Health (PAM-MH) and it has been demonstrated to be a valid, reliable, and accurate measure of patient motivation. The PAM-MH is licensed by Insignia health and a research license was granted for this project. The screen consists of 13 questions administered by a licensed therapist. It takes approximately 10 minutes. The screen was scored by Insignia and one of four activation levels was applied for therapy use.

**Results:** There were 299 parents eligible for screening. During the project 104 were screened. There were 31 males, 83 females, 71 natural parents, 31 guardians, 17 white, 79 black, and 6 other. At project end, 34.8% percent were screened and assigned activation levels.

**Conclusion:** The project demonstrated that parental screening for activation is possible. The screen identified 38% parents in the 2 highest levels of motivation. Parents in higher levels of motivation are activated to assist in their therapy and referral to therapy would be of benefit. These findings further supported the project as a viable concept.

## Screening, Brief Intervention, and Treatment in a Latina Immigrant Prenatal Clinic

Jules Kennedy

**Problem and Purpose:** Babies born in Maryland found with drugs in their systems has increased 57.6 percent in the last 9 years (data collection up to 2015). The American College of Obstetricians and Gynecologists recommends universal screening for substance use disorders at first prenatal visit. Substance use disorders (SUDs) is a behavioral health issue. Behavioral health issues are interrelated to each other and a more comprehensive screening for behavioral health issues is needed to fully increase screening and treatment success. The use of a screening, brief intervention, and referral to treatment (SBIRT) protocol combined with motivational interviewing has shown success in earlier identification and more successful referrals of behavioral health issues. The aim of this MAP-IT guided, quality improvement project is to educate, better detect, and successfully refer out a Latinx immigrant prenatal patient population with suspected behavioral health issues to specialty behavioral health treatment centers to decrease negative long term behavioral health issues occurring in the community.

**Methods:** Implement an SBIRT protocol for behavioral health. Train and use motivational interviewing (MI) techniques when interacting with patients; support patients throughout the specialty referral process by being present and using same-day appointments; increase education about of behavioral health issues and their treatment; and track behavioral health issues from the clinic to the specialty referral site.

**Results:** During the 12-week implementation period, four patients were identified with behavioral health issues with one patient being successfully referred to county behavioral health.

**Conclusions:** The Latinx immigrant culture stigmatizes behavioral health. Increasing education and trust for behavioral health treatment must be a focus. Prenatal clinic employees should be trained in MI techniques and cultural engagement to successfully engage in patient collaboration for behavioral health issues. Repeated behavioral interventions are needed to increase the motivation needed to accept treatment. Behavioral health experts embedded in prenatal clinics would help make referrals and treatment more successful.

## Appropriate Operating Room Antibiotic Re-dosing for General Surgery Patients

Kelly Meginnis Lock

**Problem and Purpose:** Antibiotic prophylaxis is a necessary measure aimed at decreasing the number of perioperative infections. Surgical antibiotic prophylaxis is defined as the use of antibiotics to prevent infections at the surgical site. Such infections result in roughly \$3.5 to \$8 billion dollars in yearly costs, in addition to longer hospital stays for patients. Prophylactic antibiotic administration leads to a decrease in the incidence of surgical site infections for hospitalized patients. Patients, who are in long surgical procedures, should receive appropriate re-dosing of antibiotics throughout the remainder of the case.

**Methods:** A retrospective quality improvement project was conducted at a large teaching institution in Baltimore, Maryland. Data was obtained from a three-month period of time and focused on inpatient general surgery patients that underwent surgical procedures longer than 4 hours in length. Descriptive statistics were used to evaluate the data gathered. Interviews were conducted with staff Certified Registered Nurse Anesthetists and Pharmacists to obtain insight into what barriers exist to re-dosing of antibiotics. Interviews also focused on strategies for improvement of re-dosing adherence.

**Results:** From August to November 2019 there were a total of 243 general surgery cases. Of those cases, 25% (n=61) received antibiotics that did not require re-dosing. A total of 74.5% (n=182) of patients received Cefazolin for antibiotic prophylaxis. Of those patients, 4.3% (n=8) did not receive proper antibiotic re-dosing during the procedure. It should be noted that 2 of the 8 patients had cases that ended just past the 4-hour mark. Interviews with staff members showed that further prompts within the documentation system, continued chart audits and peer comparison and education would be beneficial to increasing compliance with antibiotic re-dosing.

**Conclusion:** Continued education, changes to the documentation system and peer accountability all have the potential to lead to increased compliance with re-dosing of intraoperative antibiotics. Implementation of these strategies and follow-up data collection are the next steps in this Quality Improvement Project.

# Implementing TEAMSTEPPS Tools to Improve Staff Communication at Inpatient Psychiatric Hospital

Oluwakemi D. Ogunseye

**Problem and Purpose:** Inpatient psychiatric hospital units have high rates of violence that place the safety, health of patients, and staff at risk. These risks adversely affect nursing performance. Poor staff communication often results and is a factor that hinders teamwork, lowers the quality of care delivered to patients, and contributes to an environment with dissatisfied patients who are more prone to violence. At one psychiatric hospital with an average daily count of 320 patients, violent incidents increased in the years 2016 and 2017 from 38 to 61 episodes per month. The purpose of this project is to examine the question: Does implementation of the Team Strategies and Tools to Enhance Performance & Patient Safety (TeamSTEPPS) in staff training improve staff members' team structure and communication skills during handoffs, and shift reports.

**Methods:** Modified TeamSTEPPS Team Perceptions Questionnaire (T-TPQ) was administered pre and post-implementation to assess the perception of staff in the domain of team structure and communication. Twelve weekly training sessions were done on the use of the Situation, Background, Assessment, Recommendation (SBAR) worksheet to evaluate the flow of communication skills. Data were collected on completed SBAR worksheets, training attendance sheets, and the pre-post questionnaire. Frequency distributions, ANOVA, a Paired t-Test, was carried out to determine if there was a significant difference in the Pre-test and Post Test scores. Also, a run chart was done to determine the trends of SBAR worksheet utilization. A p-value of  $p < 0.05$  was used to assess significance for t-tests and ANOVA.

**Results:** In the team structure and communication domain, there is a significant statistical difference between the pre-test and post-test scores with a negative correlation ( $\alpha = 0.05$ ,  $p < 0.0032$ ,  $t \text{ Stat} = 2.94$ , Pearson Correlation =  $-0.12$ ). The communication domain fared nearly the same with a positive correlation and statistically significant p-value ( $\alpha = 0.05$ ,  $p < 0.000036$ ,  $t \text{ Stat} = 4.64$ , Pearson Correlation =  $0.27$ ). Therefore, we reject the null hypothesis that there is no statistical difference between the pre-test and post-test scores in the team structure and communication domains. There was a significant increase in the use of SBAR worksheet post-training.

**Conclusion:** Observable data revealed that TeamSTEPPS implementation had statistically significant improvements in scores and has impacts on team structure and communication.

## Implementation of a Child Abuse Screening Program in a Pediatric Emergency Department

Joseph Russo

**Problem and Purpose:** Physical child abuse is a serious problem of childhood, resulting in an estimated 1.3% to 15% of physical injuries requiring Emergency Department (ED) care (Higginbotham et al., 2014). Child abuse is often underestimated in the ED setting, risking a 35% to 50% chance of repeat abuse and a 10% to 30% chance of mortality (Carson, 2018). The purpose of this Quality Improvement project was to implement a Child Abuse Screening Program over a 12-week period to improve the detection and management of child abuse in a Pediatric Emergency Department (PED) in a large, urban academic-medical center. The site is a 23-bed PED with approximately 21,000 patient visits/year.

**Methods:** The Child Abuse Screening Program consisted of an initial screening using the *Escape Instrument*, and if positive, performance of diagnostics and referral for child protective services. All pediatric patients age 8 or younger who presented to the PED with an injury-related chief complaint, including falls, head injuries, lacerations, fractures, bruising, and/or burns were eligible for inclusion. A PED triage nurse placed the *Escape Instrument* on the paper chart of eligible patients for completion by the PED resident physician during the patient/provider encounter. In the event of a positive screen, the PED resident physician consulted with an attending physician and social worker for further diagnostic evaluation and disposition. Statistical Process Control was utilized to demonstrate child abuse screening and referral changes over the life-cycle of the project.

**Results:** Data reveals that 148 out of 203 eligible patients who presented to the PED were screened, resulting in an overall screening rate of 73%. A total of 11 patients screened positive, and all received physician and social work consultation, further diagnostic evaluation, and referral to Child Protective Services.

**Conclusions:** Results indicate that the Child Abuse Screening Program is effective to identify children experiencing abuse and facilitating appropriate standard of care procedures for the safety and wellness of children. Instrument and process simplicity were identified, as initiative facilitators, while the use of a paper process, as compared to electronic, is a barrier for future remedy.

# Implementation of Restorative Sleep to Combat Workforce Fatigue during Night Shift

Caitlin Thomas

**Problem and Purpose:** Healthcare workers uniquely experience high levels of fatigue, adversely impacting patient care. In the three months preceding implementation, 30% of staff at the project site admitted to committing an error and 23% reported falling asleep while driving home due to fatigue. Nursing organizations and high-quality studies support planned naps due to the positive effects on cognitive performance, information processing, and alertness (American Nurses Association, 2014; Ruggiero & Redeker, 2014; Lovato et al., 2009; & Chang et al., 2014). The purpose of the quality improvement project was to implement and evaluate the effectiveness of Restorative Sleep, a brief, purposeful sleep period, to combat fatigue among night shift staff in a Pediatric Intensive Care Unit.

**Methods:** Institutional Review Board approval was obtained. A Restorative Sleep policy was approved by leadership and suitable sleep spaces were procured and equipped. The policy permitted a 30-minute, non-paid, nap during a scheduled work shift. Sleep space use was championed throughout the project, with use of existing processes to provide clinical coverage during the off-unit time. Pre-initiative and post-implementation *Fatigue in the Workplace Surveys* were administered to assess the impact of Restorative Sleep. A Restorative Sleep Utilization Tool was developed to track patterns of use, pre-nap sleepiness, sleep inertia, and perceived helpfulness of the nap.

**Results:** Restorative Sleep was performed 95 times by 36 staff. Of the 90.5% of staff who intended to sleep, 75.6% were able to sleep, with a range of 5 to 52 minutes. Staff reported a high level of helpfulness of Restorative Sleep (7.6 on a 1 to 10 scale) and a low level of sleep inertia (24.2%), defined as reduced alertness upon waking.

**Conclusions:** Results indicate that naps are feasible, reduce fatigue, and are recommended for routine practice. Utilization was impacted by leadership support, patient acuity, unit staffing, characteristics of the spaces, and unit culture, consistent with findings in the current literature.