

DNP PROJECT ABSTRACTS

ROOM 1

Implementing Virtual Handoff with a Standardized Tool

Temitope Ajayi

Problem and Purpose: Patient handoff presents a vulnerable time for patients and nurses. A study released in 2016 estimated that communication failures in U.S. hospitals and medical practices were responsible for approximately 30% of all malpractice claims, resulting in 1,744 deaths and \$1.7 billion in malpractice costs over five years (Joint Commission, 2017). The Joint Commission recommends that accurate, high-quality handoffs occur for every patient during every transition of care. The Joint Commission supports the use of mnemonics such as SBAR and technologies to improve hand-offs. The PACU is an active, high turnover unit that requires nurses to remain in the unit to care for other patients and maintain workflow making interdepartmental handoff impractical. Therefore virtual patient handoff can supplement nurse face to face patient handoff. The purpose of this Quality Improvement project is to implement and evaluate the effectiveness of virtual handoff using SBAR format during patient transfer from the PACU to the General Surgical Unit at a large community hospital in Maryland.

Methods: PACU, GSU leadership team and the IT team created a safe, HIPAA compliant zoom video call network for patient handoff for only PACU and GSU nurses to access. Nurses were randomly assigned to give patient report via video call in SBAR format. Education was provided on how to use a zoom video call. Outcome measures included: number of incidents related to patient handoff from GSU to PACU, length of time it takes to complete patient handoff and nurse perception of handoff.

Results: No incidents related to patient handoff from PACU to GSU were reported pre and post-implementation. The average length of time to complete patient handoff via video call was 7 minutes compared to those done via phone call which averaged 5 minutes. There were no changes in nurses' perception of handoff using HES. Forty Four percent of nurses who completed the survey agreed that the video call was a helpful tool in completing patient handoff.

Conclusion: Nurses were able to successfully utilize the new technology and anecdotally shared the ability to visualize patients was helpful. Using a standardized SBAR increased the clarity of the communication and the quality of the information shared.

Implementation of Carbohydrate-Based Liquid Nutrition in Labor

Richard P Conley Jr

Problem and Purpose: At a large community hospital in the mid-Atlantic region, with over 2,400 deliveries yearly, all women were kept fasting during labor. This outdated practice can lead to increased stress, pain and dissatisfaction with the labor experience. The primary purpose of this quality improvement project was to implement an evidence-based policy for oral carbohydrate-based liquid nutrition in laboring women at low risk of operative delivery.

Methods: An evidence-based tool was developed to assess risk of operative delivery. Women at low risk were cleared to receive a carbohydrate-based clear liquid diet. The unit personnel were educated on the new policy, assessment tool, and orders prior to implementation. Implementation tactics included staff specific policy verbal and email reminders. Inpatient charts were reviewed to track and evaluate the number of high and low risk patients, diet orders and frequency of high-risk characteristics. Data analysis included the use of descriptive statistics and a run chart with daily staff compliance rates.

Results: A total of 235 women had vaginal deliveries (58% high-risk, 42% low risk) during the nine-week project implementation. Following staff education, diet order compliance rates in both high and low risk groups was 61%, increasing to 75% by the end of implementation. The initial compliance for low risk patients was only 38% following education but increased to 55% by the end of the implementation. In contrast, the compliance rate for high-risk women was 98% after education and 100% at the end of implementation. There were no recorded incidences of pulmonary aspiration or complications during implementation.

Conclusion: This project was successful in implementing a policy and assessment tool for carbohydrate-based liquid nutrition for women in labor. Barriers to compliance included the additional step of adding the clear liquid diet order in the electronic medical record and disagreement with the high-risk characteristics in the assessment tool. Recommendations for continued success include adding the clear liquid diet order to the admission order set and adjusting the risk factors in the assessment tool to allow more women to be categorized as low risk of operative delivery and receive carbohydrate-based liquid nutrition.

Integration of TeamSTEPPS Framework and Escape Room Learning to Improve Teamwork and Collaboration

Suzanna Fitzpatrick

Problem and Purpose: As the need for health care professionals continues to grow, different learning environments have been assessed to optimize knowledge while keeping the student engaged. Escape rooms, live action, team-based exercises (Adams & Crawford, 2018), supplemented with TeamSTEPPS tools can assist in overall team performance, while keeping the participant engaged in a new learning environment (Sheppard, Williams, & Klein 2013). The goal of this project is to enhance team-work and collaboration among a Senior Clinical nursing leadership Emergency Department group through the integration of TeamSTEPPS concepts and escape room action learning. This quality improvement project aims to improve communication and teamwork skills in a small cohort of nurse leaders in a large urban academic medical center, while exploring the engagement and depth of learning experience for the participant. This concept was explored through the integration of TeamSTEPPS tools and strategies in an escape room setting to improve team dynamics and cohesiveness in a new dynamic way in a small cohort of nurse leaders.

Methods: Twelve nurse leaders completed two different escape rooms while observers completed the TeamSTEPPS observation tool assessing team dynamics and performance and participants assessed their perceptions before and after intervention. These nurses also were observed at staff meetings and completed a perceptions tool on teamwork pre and post intervention. A post-escape room validated survey was completed by participants to assess learning and interest in this interactive learning exercise.

Results: There was a significant statistical difference after TeamSTEPPS and escape room intervention (Mean 17.3 and $p=0.004$ SD 5.9) when compared to before intervention as well as has a more positive sense of teamwork was noted. In addition, 75% of the nurses strongly agreed that the escape room was engaging and fun with 25% agreeing. 91.7% agreed or strongly agreed that the escape room was an effective team building exercise with 100% agreeing or strongly agreeing to recommend the escape room experience to others who are interested in team work.

Conclusion: This group of nurse leaders validated the integration of TeamSTEPPS tools and strategies in an escape room setting as an enjoyable and engaging way to learn while providing an effective team building activity. This small cohort demonstrates that new methods of learning such as an escape room show be explored further for engaging participants and improving communication and teamwork skills.

Protecting Their Skin: Implementing a Neonatal Skin Care Bundle

Krystal M. Gue

Problem and Purpose: Physiological characteristics of neonatal skin mandates a streamlined and objective skin assessment method. The 2018 Association of Women’s Health, Obstetric and Neonatal Nurses (AWHONN) Neonatal Skin Care Evidenced-Based Clinical Practice Guidelines recommends using the Neonatal Skin Condition Score (NSCS) tool for all infants aged 0-28 days, as an objective scale to quantify overall skin condition. Prior to implementation, an evidence-based skin assessment tool was not used in the Pediatric Intensive Care Unit (PICU) at an urban academic medical center in the Mid-Atlantic region to quantify skin injury for patients 0 to 28 days. The Braden Q, which is not validated for neonates 0 to 3 weeks, was used for infants greater than 29 days to identify pressure injury risk. A practice gap existed. The purpose of this Doctor of Nursing Practice (DNP) project was to implement a skin care bundle for neonates 0-28 days that decreases the risk of skin injury by modifying current skin care practices to include the NSCS tool, diaper care and emollient application based on the AWHONN guidelines.

Methods: Implementation of the DNP project included educating PICU staff and completion of a case scenario post-test. The NSCS tool was incorporated into the electronic health record (EHR) to minimize documentation barriers. Also, a quick facts sheet, reference guide and laminated NSCS tools were posted throughout the unit. Diaper care and emollient supplies were readily available on the unit without requiring an order by a provider.

Results: Minimal number of staff (16%) completed the education. Ten neonates qualified for the project. Daily NSCS scores, and documentation of diaper care, emollient application and referrals were collected through audits. Data was collected and reviewed weekly. Descriptive statistics and quantitative analysis were used to evaluate and interpret the results.

Conclusion: Neonates are a vulnerable population with unique skin care needs. This DNP project was intended to demonstrate the practicality of implementing the NSCS tool in the PICU to assess neonatal skin injury and modify skin care practice to meet AWHONN guidelines. Mechanisms are in place for this project to be sustained with potential dissemination throughout the organization.

STOP-BANG Screening for Obstructive Sleep Apnea in Adult Pre-Operative Patients

Kathleen Kang

Problem and Purpose: Despite the national prevalence of OSA, surgical patients were not routinely screened for OSA at the community hospital. Unidentified and untreated OSA can have serious negative outcomes such as escalation of care and prolonged hospital stays. The purpose of this project was to implement the STOP-BANG questionnaire for all pre-operative, adult surgical patients admitted with a BMI > 35 kg/m², not previously diagnosed with OSA, and not undergoing bariatric surgery.

Methods: Process measures included the percentage of Pre-Op and PACU registered nurses (RNs) trained throughout August and September 2019 on how to administer the STOP-BANG screening questionnaire, the number of notifications to anesthesia about high-risk patients for OSA, and how many resulted in referrals to respiratory therapists (RTs). Inclusion criteria were based on increased risk factors, which were BMI ≥ 35 kg/m², ≥ 18 years old, no OSA diagnosis, being admitted post-operatively, and not undergoing bariatric surgery, since these patients were already screened for OSA. Data outcomes measures included percentage of patients requiring escalation of care, particularly for those who scored high-risk for OSA on the STOP-BANG questionnaire. Preliminary data estimated 15-20 patients would be eligible per day. This project was implemented from October 1 through December 31, 2019.

Results: An average of 7 patients per week were eligible for screening. Each week, an average of 6 patients were screened for OSA. 31% of the individuals screened were high-risk for OSA. None of the patients screened required an escalation of care. Overall, 41% of the eligible males and 88% of eligible females were screened. 76% of the PACU RNs and 85% of Pre-Op RNs received training.

Conclusions: This quality improvement project demonstrates that it is feasible to screen adults preoperatively for OSA using the STOP BANG tool, and that the tool does identify people at risk of or who have OSA. While 31% of the patients screened high risk for OSA, none required an escalation of care. Adherence to the screening was more favorable for female patients, at 88% screened than male patients at 41% screened. Further evaluation of the inclusion criteria may identify opportunities to include more patients for screening.

Improving Nurse-Nurse Communication to Reduce Patient Bounce-Back

Natalie Marchione

Problem & Purpose: A deficit in nurse communication was identified, causing 2-5% of patients bounced-back (readmitted) to the emergency department (ED) from the psychiatric emergency services (PES). No report tool was currently used. This suboptimal communication contributed to a lack of rapport, poor workflow, and reduced patient safety, making implementation of a communication tool for the receiving nurse in PES essential. The purpose of this project was to implement and evaluate a psychiatric SBAR tool (PSYCH) utilized by PES nurses when receiving report on patients from the ED. The goal was to reduce the current rate of 2-5% patient bounce-back in PES to 0% through improvements in nurse communication.

Methods: The theoretical framework used was Kurt Lewin's Change Theory, guided by the MAP-IT model. Subjects included were all PES nurses. Data was collected using the AHRQ TeamSTEPPS T-TAQ Communication Scale, Random Observations, and Patient Bounce-Back Audit Form. The T-TAQ communication scale was identified to collect data on nurse perception of communication between PES and the ED, analyzed by Independent samples *t*-tests.

Results: Pre-T-TAQs found the ED perception of communication ($M = 24.25$) was hypothesized to be lower than PES's perception ($M = 25.75$). This difference was found to be significant, $t(30) = -1.85$, $p = 0.04$. Post- T-TAQ scores were not found to be significant. Patient bounce-back reduced to 0.8% throughout implementation.

Conclusion: This project showed the feasibility of a PSYCH tool used during report between two emergency units to improve communication. It allowed nurses to comprehend information gathered, enhancing efficiency by reducing redundancy. The project reduced patient bounce-back and identified security concerns impacting patient and staff safety. The results reinforced the importance of gathering all pertinent data using a standardized tool for furthering effective communication

Decreasing Fetal Mortality:
Promoting Fetal Movement Awareness and Decreased Fetal Movement Management

Evgenia Ogorodova

Problem and Purpose: The perinatal fetal death (PFD) rate has remained unchanged in the U.S. since 2014 and has been identified as a top priority issue by the Maryland Department of Health. Women experiencing decreased fetal movements (DFM) are at increased risk of adverse outcomes, including stillbirth. However, up to 60% of women report a lack of formal fetal movement (FM) education, and the ability to recognize clinically significant changes in FM. Results of several large trials indicate that standardized FM patient education leads to a significant reduction in PFD. The purpose of this quality improvement project was to implement standardized evidence-based FM patient education at a large obstetric/gynecological clinic to decrease the PFD rate.

Methods: Comprehensive FM education with eight topics and a handout was provided by registered nurses (RN) at each routine prenatal care visit for all pregnant women 28 or more weeks gestation. The intervention was implemented over nine weeks in the fall of 2019, after initial RN training. Primary outcomes measured included a) percentage of eligible patient encounters with documented FM education, and b) percentage of eligible patients who received FM education at all their appointments. Data were derived from RN documentation.

Results: At least one of the eight fetal movement education topics was documented in 73.5% (162 of the 223) ($n=223$) eligible patient encounters. And 73% (40 out of 60) of eligible patients with multiple appointments during the implementation period had at least one FM component documented. RN knowledge and competency increased an average of 34% ($p=0.001$) from 42% to 76%, although none scored at least 90% of the post-training assessment.

Conclusion: Research supports the implementation of DFM bundle to reduce PFDs. This bundle can be implemented at other OB practices in the country. To address barriers and sustainability organizational policy for comprehensive FM education, integrated electronic health record FM education documentation tool, and integration of FM competency into RN continuing education and on-boarding requirements should be implemented. Implementing standardized DFM management protocol in addition to FM education and handout will aid in decreasing the PFD rate.

Violence Risk Assessment Tool:
Dynamic Appraisal of Situational Aggression-Inpatient Version

Jyoti Rimal

Problem and Purpose: Aggressive behaviors exhibited by patients in inpatient psychiatric units are a challenging safety problem. Early identification of aggressive behavior is vital to help nurses develop proactive interventions that focus on prevention. Structured violence risk assessments identify the level of risk and allow for early interventions. Despite this evidence, a violence risk assessment tool was not utilized on an inpatient psychiatric unit and the rate of coercive measures as seclusion and restraints was higher than desired. The purpose of the project was to implement a structured violence risk assessment tool, Dynamic Appraisal of Situational Aggression- Inpatient Version (DASA-IV) to predict and mitigate instances of aggressive behaviors in an 18-bed inpatient psychiatric unit. The long term goal was to reduce the events of seclusion, restraints and staff injuries by 50%.

Methods: The Theory of Interpersonal Relations by Hildegard Peplau (1997) guided by MAP-IT was the framework used to guide this Project. Data was collected using Nurses Compliance to Utilization of DASA-IV Audit Form, Monthly Seclusion and Restraints Audit Form and Post DASA Implementation Questionnaire (PDIQ).

Results: The average compliance of nurses utilizing the tool was 74.5 %. A Mann-Whitney U test showed there was not a significant difference in seclusion and restraints [U-stat = 873, U-critical = 682 (U-stat > U-critical)] and staff injuries [U-stat = 870, U-critical = 682 (U-stat > U-critical)] pre and post implementation of the DASA-IV tool. However, PDIQ survey showed nurses positive perception towards the tool in managing patients' aggression (M = 25.71, SD = 1.76, n = 17).

Conclusion: The addition of a structured tool to nurses' clinical judgement for appraising risk for imminent aggression in psychiatric unit can assist nurses in the initiation or prevention intervention and improve safety.

Mindfulness-Based Meditation and Stress Reduction in Healthy Adults

Nomy Thomas Jacob

Problem and Purpose: Stress is a significant public health concern that contributes to serious health consequences in our communities. Studies show that managing stress can be achieved by practicing evidence-based, mindful meditation (MM) daily, and an evidence-based tool kit can help to guide practice. At a community outreach health department in rural Maryland, there was a steady inquiry by community members for guidance on how to manage stress as there was a lack of programming and education. The purpose of this quality improvement (QI) project was to implement and evaluate the feasibility of the MM program among healthy, stressed adults in the community.

Methods: The 12-week MM program had three phases. The pre-intervention phase included a train the trainer program that prepared the project champions (PC) to facilitate MM programs in various community settings. The intervention phase included a six-week pilot program where a sample from the community [project participants (PP)] participated. In the post-intervention phase, the PP practiced MM daily and concluded with a reunion. Pre-post questionnaires assessed the knowledge and skill level of PC related to stress and its management, as well as the tool kit's usefulness. An audit tool provided a feasibility measure of the number of pilot sessions completed by each PP. In the end, a survey questionnaire assessed the usefulness of the program. The framework used for this project was Roger's theory of diffusion of innovation.

Results: The post-survey showed an increase in knowledge and skill level of PC and their perception of using the resource tool kit. More than 70% of PP attended each week's pilot class and 100% stated that the MM program was useful.

Conclusion: MM is a brief and cost-effective stress management intervention that is easy to implement in various community settings. Practicing MM for five minutes helps to reduce stress. The tool kit contained resources that helped both PC and PP. Therefore, it can be used in MM programs and kept as an educational resource in community settings. Future QI projects should replicate the MM project in a diverse sample and integrate physiological markers of stress for reliable findings.