2015 National Teaching Institute Evidence-Based Solutions and Chapter Best Practices Abstracts

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EB40 Implementing a Systematic Progressive Mobility Program Throughout a 5-Hospital System
Abbie Purney; Valley Health System, Las Vegas, NV

Purpose: Improve patient outcomes by standardizing and implementing a nurse-driven progressive mobility program in the intensive care units (ICUs) for a 5-hospital system. Additionally, implement and monitor for delirium throughout ICU hospital stay and treat delirium as recommended by evidence-based practice guidelines. Finally, implement and manage sedation per recommended evidence-based practice guidelines.

Description: Critical care patient outcomes are closely evaluated and analyzed for trends, variance in practice, and unfavorable outcomes. As regulatory agencies monitor patient outcomes, nursing practice should be driving improved patient care delivery, especially in critical care. An assessment of critically ill patients in a 5-hospital system revealed an opportunity to improve patient outcomes. A retrospective review of ICU length of stay, ICU readmissions, patient ventilator days, and hospital-acquired pressure ulcers showed an increased trend for 4 out of the 5 hospitals in 12 months. A systematic and comprehensive progressive mobility program was developed by using the AACN’s ABCDE bundle. Consistent and comprehensive education was provided to all critical care registered nurses, respiratory therapists, and physical therapists to ensure a high probability of success. Participation in multidisciplinary rounding was facilitated to promote consistency among the ICUs. After program implementation, postimplementation data were tracked and compared with preimplementation data.

Evaluation/Outcomes: Among the 5-hospital system, there was a significant decrease in ICU length of stay in 4 out of the 5 hospitals within 90 days after implementation. Additionally, there was a decrease in ventilator days, as well as unplanned extubations. Based on the data, implementation of a systematic progressive mobility program will decrease length of stay, ventilator days, and complications that can arise in the ICU. The length of stay decreased in 4 out of the 5 hospitals, and ventilator days decreased with program implementation, so patients are demonstrating positive outcomes from the mobility program.

EB41 Cultivating Competent Nurses 1 Step at a Time
Suzan Miller-Hoover; Rady Children’s Hospital San Diego, San Diego, CA

Purpose: In a journey to competence, remove silos and inconsistencies in care by defining objective measurements for evaluation of skills and knowledge spanning all disciplines.

Description: Published reports support the idea that years of experience do not independently equate to nursing competence. The combined experience of all staff must be integrated with processes and competency validations, all of which will culminate in a
higher quality of care and help ensure positive patient outcomes. As the nation’s health care system evolves, there is a growing need to ensure patient safety through the maintenance of competency-validated staff. The Joint Commission has established standards to assess competence objectively. To this end, a dedicated multidisciplinary team of clinical experts joined together with the goal of rebuilding the foundations of hospital practice, policy and procedure, standards of care, and a process for validating competency at orientation and ongoing assessment beyond initial validation. In 3 years, the individual unit standards of care were unified into 2 comprehensive nurse practice guidelines, neonatal and pediatric, with addenda for specific care delivered by the individual units. Next, the policies were reviewed and revised to include evidence-based practice. The final step was to create a competency-validation process. Evaluation/Outcomes: Rebuilding a stronger foundation for practice has been arduous; however, it has been a valuable undertaking. The practice guidelines defined the care that every patient receives regardless of physical placement within the facility. Standardizing the policies and procedures resulted in an efficacious and evidence-based approach to clinical practice. The competency validation process ensured that the staff delivers the same level of care to patients of the same acuity. This process is an ongoing, ever-changing process and will never be done, as the world of medicine is ever changing.

EB42 Redefining Relationships in Health Care: Partnering With Families During Rounds and Bedside Report

Jennifer Hayakawa, Flor-Lucero Meza, Lisa Penna, Alison Mastroianni, Jennifer Hayes, Kara Bame, Alissa Blankenship, Anja Thomas; CHOC Children’s, Orange, CA

Purpose: Family-centered care redefines relationships in health care. It places an emphasis on collaborating with patients and their families and acknowledges that patients’ families, however they are defined, are critical to patients’ health and well-being and are key partners in the decision-making process. The purpose of this evidence-based change in practice was to partner with families and engage them in daily rounds and bedside report. Description: An essential part of creating and sustaining a healthy work environment is fostering relationships among and between the health care team and patients’ families to accomplish common goals. Research has shown that attendance of families during rounds fosters this relationship by enhancing communication and facilitating information sharing. Our pediatric intensive care unit’s (PICU) Clinical Practice Council (CPC) led an evidence-based change in practice to redefine how we partner with the patients’ families that we care for. As of April 2013, such families are formally invited to participate in daily multidisciplinary rounds. The next step in this process has been involving families in hand-off communication during the shift change bedside report. This was formally implemented in the PICU in July 2014. Studies show that benefits of family involvement in bedside report include enhanced patient safety, standardization of the reporting process, and continuity of care. The PICU nurses are held accountable in their performance evaluation to delivering compassionate patient- and family-centered care and for engaging patients’ families at this level. Evaluation/Outcomes: These evidence-based initiatives promote open communication and feedback among patients’ families and the other members of the interdisciplinary team. The CPC monitors and collects data to measure the outcomes of this change in practice. Data collection includes patient/family satisfaction scores, report audits, and staff surveys. Since implementing this change in practice, we have seen a subsequent increase in family satisfaction scores as well as nurse and physician satisfaction scores. By partnering with our patients’ families and collaborating with one another, we truly live our commitment to patient- and family-centered care.

EB43 Ensuring the Provision of Optimal Nutritional Therapy in Pediatric Critical Care

Jennifer Hayakawa, Kara Bame, Flor-Lucero Meza, Alison Mastroianni, Lisa Penna, Anja Thomas, Alissa Blankenship; CHOC Children’s, Orange, CA

Purpose: Research has shown that early enteral nutrition reduces morbidity and mortality, preserves protective gut barrier function, and improves overall nutritional status. The purpose of this evidence-based practice initiative was to continue, resume, or initiate enteral feedings within 24 hours of admission to the pediatric intensive care unit (PICU) and reach target nutritional goals earlier for all patients (including patients receiving mechanical ventilation) who are unable to maintain adequate oral nutrition. Description: The PICU at CHOC Children’s has worked hard over the past several years to create a culture of inquiry that empowers
nurses at all levels to examine their professional practice and to use evidence to improve quality of care. The PICU enteral nutrition protocol is a recent example of how direct care nurses translated new knowledge into practice by questioning their practice, reviewing the literature, implementing guidelines, and performing audits to measure outcome. Our unit’s participation in the 2012 Pediatric Intensive Nutrition Survey (PINS) revealed an opportunity for improvement in delivering early and adequate nutrition to our patients. The unit’s Clinical Practice Council (CPC) collaborated with the dietitian, physicians, and pharmacists to develop an evidence-based enteral nutrition protocol to guide the selection of formula; the advancement of trophic, continuous, and/or bolus feeding; the signs and symptoms of feeding intolerance; and a bowel management plan. The unit pilot tested the guidelines for 1 month and then incorporated feedback based on the pilot study into the development of a formal order set in the electronic medical record. Evaluation/Outcomes: The CPC conducted audits during the pilot phase to assess adherence to the guideline. Once the order set was developed, these audits were automatically generated through the computerized documentation system to evaluate ongoing compliance with use of the protocol. Postimplementation data were compared with baseline PINS data to determine that the implementation of the standardized guideline led to an improvement in the overall delivery of early and adequate nutrition and led to an enhanced awareness of the PICU staff on the importance of ensuring adequate nutrition in our patient population.

EB44 TMI: Reducing Ventilator-Associated Pneumonia in the Surgical Intensive Care Unit
Jeremiah Darnell; Scripps Memorial Hospital, La Jolla, CA

Purpose: The surgical intensive care unit (SICU) provides care for an extremely vulnerable neurotrauma, postsurgical, and stroke population, many of whom remain on ventilator support for weeks at a time. In 9 months, rates of ventilator-associated pneumonia (VAP) in the SICU had increased to unacceptable levels above the 75th percentile, per National Healthcare Safety Network (NHSN) benchmarks. Continuous audits for compliance with the ventilator care bundle showed that we were nearly 100% compliant, so staff took it upon themselves to make a change and eliminate VAP.

Description: A comprehensive literature search was done to identify gaps in our care. We already had our ventilator care bundle in place, but it clearly was not effective enough. What we found in the research was that, although we appropriately maintained our ventilator bundle measures, they did not include prevention of “microaspiration.” Microaspiration occurs when bacteria in ventilator tubing or around the cuff of the endotracheal tube is translocated into the lungs, leading to infection. According to the Center for Disease Control and Prevention’s guidelines for preventing health care–acquired pneumonia, microaspiration is the “most important” of the possible routes of infection to identify and eliminate. We were seeing patients experiencing bouts of coughing when lying down for repositioning, as well as secretions that had gathered in the humidified ventilator circuits being inhaled during turns. So, we came up with a method to change the risk factors we could control and standardize interdisciplinary practice. Before repositioning, nurses, respiratory therapists, and lift team would ask each other, “TMI?” a play on the popular “too much information” phrase. TMI stands for Tubing clear, Mouth care, and In-line suction (as needed), before putting the head of bed lower or flat for ANY reason. Evaluation/Outcomes: The data for the first quarter after implementation was discouraging at first. VAP rates continued to rise, and they spiked higher than we had seen in almost 2 years. However, with TMI compliance increasing, the next quarter’s data were better, as we broke our upward trend and reduced our VAP rates by more than 50%. After successful and sustained practice of the TMI process, SICU saw a reduction in VAP rates that continued to decrease, finally reaching 0 at the 1-year mark. Thereafter, we have been able to maintain VAP rates below the NHSN benchmark, and we continue to use TMI to this day to provide the best quality care for our ventilator patients.

EB45 A Collaborative Approach Reduces Central Catheter–Associated Bloodstream Infections to Zero
Rosmond O’Berry, Angela Erskine; Virginia Commonwealth University Medical Center, Richmond, VA

Purpose: Staff in a high-acuity cardiac surgery progressive care unit (CSPCU) noticed an upward trend in central catheter–associated bloodstream infections (CLABSSIs), whose rate in the first quarter of 2011 was at an all-time high of 5.9%. Evidence suggests that patients
who undergo cardiac surgery are at higher risk than others for development of infections related to cardiopulmonary bypass. As many patients were affected by this risk, a collaborative approach by clinical nurses to reduce CLABSIs was started on the CSPCU. **Description:** Literature, specialty practice guidelines, and the organizational policies and procedures were reviewed in the beginning of 2012. After review and discussion with the chief cardiac surgeon, a revised process was developed for central catheter care. The primary modification included changing central catheter dressings more frequently than the organizational guidelines with the use of a chlorhexidine-impregnated sponge.

Previously, a circular technique was taught for cleansing the site during dressing changes, but a back and forth scrubbing motion with the chlorhexidine and isopropyl alcohol swab stick was recommended by the manufacturer. A tag line, “scrub the hub,” was introduced to remind all nurses to adequately cleanse the central catheter’s end cap before access. Next, a group of clinical nurses, or “champions,” was developed to ensure consistency of central catheter care. Each nurse was deemed competent with the new process and began unit-wide education. Daily responsibilities for each champion included assessing all central catheters with the bedside clinical nurse, monitoring dressing changes and blood sampling, ensuring return demonstration of the correct dressing change technique, and reviewing for catheter necessity. **Evaluation/Outcomes:** Within 3 months, a reduction in CLABSIs occurred, which inspired us to continue with the practice. This project demonstrated success by helping us achieve the goal of 0 CLABSIs since December 2, 2012. The CSPCU then collaborated with the cardiac surgery intensive care unit (CSICU), whose rate had approached 5.2% in the second quarter of 2013. After implementation, the CSICU had 0 CLABSIs for the following 2 quarters. This action plan proved that revising the current practice and continued peer surveillance and education resulted in cost savings and lower rates of bloodstream infections for cardiac surgery patients.

**EB46 Heavyweight Champion Fights for a Cause: Best Practice in Daily Weight Monitoring for Patients With Heart Failure**

Monette Mabolo, Laurie Freeman; Moses Cone Hospital, Greensboro, NC

**Purpose:** To appoint a “heavyweight” champion on a unit to ensure daily weights are accurately taken and documented for patients with heart failure and ensure that patients receive excellent care. **Description:** One important prevention tool for patients with heart failure is weight monitoring. When our heart failure department began to struggle with consistent documentation of daily weights, we assigned a “heavyweight” champion. Through random audits, we discovered an inconsistent accuracy of daily weights. The audits revealed that only 30% of patients with heart failure had consistent daily weights documented, along with the scale type. The nurses were being notified on weight gain of 2 lbs (0.9 kg) or more, 15% of the time. Both physicians and nurses identified variances in daily weight comparisons. Leadership along with the heart failure department’s medical director suggested a dedicated person to monitor daily weight documentation. These triggers prompted us to ask: Would a dedicated weight champion assist with daily weight monitoring in heart failure patients? Using the IOWA model, we formed an evidence-based practice (EBP) team to examine the evidence. Our literature review yielded strong evidence to support weight monitoring as an essential component of care of patients with heart failure. We collected baseline data on weight documentation and examined our current practice. We appointed a champion to do weight audits on the department and notify the nurse. **Evaluation/Outcomes:** Weight documentation in reference to scale type and notification of nurses improved from 30% and 15% to 90% and 100%, respectively. Assigning a dedicated champion to monitor daily weight documentation allowed immediate follow-up with staff. By improving our daily weight accuracy and documentation process, this project has improved the care of our heart failure patients. Physicians can more adequately assess the fluid status of their patients, thereby improving quality of care. Although weight documentation had been addressed previously, staff engagement in EBP was essential this time. By assigning a dedicated “heavyweight” champion, we enabled our patients to benefit from best practices in heart failure care.

EB47 Educators Fuel the Front Line: Improving Quality of Care and Outcomes

Alyson Kelleher, Mary Beth Makic, Linda Staubli; University of Colorado Hospital, Aurora, CO

**Purpose:** Clinical nurse educators (CNEs) have an unparalleled ability to improve quality outcomes by
Empowering front-line staff to implement evidence-based nursing interventions. Five CNEs from different intensive care units (ICUs) identified an increasing incidence of catheter-associated urinary tract infections (CAUTIs) at a large academic medical center. The team developed a process to engage bedside staff and provide ongoing education platforms to successfully reduce CAUTI rates across 6 diverse ICU patient populations. 

**Description:** CAUTIs are a potentially preventable complication of hospitalization that increase mortality and costs. Nonetheless, CAUTIs remain the most common hospital-acquired infection. A team of CNEs from different ICUs collaborated with a critical care research nurse scientist to develop and implement education platforms to address this quality and financial metric. The first initiative focused on re-education of staff on evidence-based CAUTI prevention interventions through a poster presentation. The second phase of the initiative included weekly prevalence and practice audits by a bedside nurse champion. These audits provided an ongoing evaluation tool to assess intervention compliance and an avenue for real time peer-to-peer education. Bedside discussions provided champions an opportunity to identify barriers to compliance and relay these to the CNE group. The CNEs focused on removing identified barriers, including updating documentation screens to accurately reflect care provided and placing chlorhexidine wipes in a more easily accessible area. In addition to nurse engagement at the bedside, the CNE group provided patient care assistants with simulation training on CAUTI prevention.

**Evaluation/Outcomes:** The research nurse scientist and professional research assistant completed analysis on the weekly prevalence audits. Audit results and corresponding CAUTI rates were distributed back to the units. CAUTI rates for the ICUs before re-education and focus on implementing evidence-based practice interventions ranged from 1.0 to 5.1 per 1000 device days. After 6 months of focused practice improvement, the CAUTI rate range decreased to 0 to 1.6 per 1000 device days. This innovative format combining CNE education, peer-to-peer education, and simulation training successfully decreased CAUTI across 6 diverse ICU patient populations. This approach could be applied to multiple quality improvement initiatives.

**EB48 Empowering Nurses to Use a Chain-of-Command Algorithm to Decrease Failure-to-Rescue Events**

Liane Fujita, Hang Saito; The Queen’s Medical Center, Honolulu, HI

**Purpose:** Nurses play a critical role in the vigilant detection of patient decline and subsequent treatment to prevent failure-to-rescue (FTR) situations. Rapid response teams (RRTs) and adult emergency protocols address immediate management, but persistent decline must be addressed. Trends from nursing peer review (NPR) identified recurring FTR events prompting the need to develop a step-by-step algorithm through the joint efforts of nursing and medical staff. 

**Description:** A subgroup led by a critical care research nurse specialist that comprised an intensivist and nurses, including RRT nurses, initially created a chain-of-command (COC) algorithm and policy approved by medical staff that specifically addressed time frames for physician response. Recurrent FTR events prompted the need to revise this algorithm to incorporate specific actions a nurse may autonomously implement (eg, directly consult with intensivist) for unresolved patient conditions and/or if a nurse does not agree with orders received. The revision emphasizes the effective rescue response in addition to ongoing surveillance and timely identification of complications described by Clark and Aiken in 2003 to rescue patients from danger. The revised algorithm establishes the foundation for nurse empowerment to ensure patient safety and well-being are addressed promptly, which is the culture established by the organization. It encourages moral courage inclusive of “ethic of care” characterized by behaviors such as attentiveness, responsibility, competence, and responsiveness to advocate for a patient. Use of succinct SBAR communication (situation, background, assessment, recommendation), activation of the nursing COC, team effort, and individual accountability also are emphasized. 

**Evaluation/Outcomes:** Communication on the revised COC with Unit Council chairpersons for dissemination to their units and at the Nurse Manager Council meeting was completed. Huddlegramms were created and e-mailed to all nurses who completed an online education module. Badges illustrating the algorithm were given to each nurse and larger laminations were posted on units. Success was measured by a decrease in FTR events as reflected by NPR data. Trends from NPR data were analyzed and reported as a percentile from the total cases reviewed. Following strategic implementation on the revised COC policy and algorithm, NPR data showed a progressive decrease in FTR-related cases from a peak of 33% in fiscal year 2013 to 20% in fiscal year 2014.
EB49 Weekly Peer Rounding Puts Knowledge Into Action to Decrease Hospital-Acquired Pressure Ulcers
Sheryl Boonstra, Catherine Kutschinski, Debra Crawford, Kallie Kraker, Adriene Green; Spectrum Health, Grand Rapids, MI

Purpose: Nurse skin champions noted that current education and hospital-acquired pressure ulcer (HAPU) prevention tools were not effectively being implemented at the bedside. The mean HAPU incidence in our 5 adult critical care (ACC) units from quarterly hospital audits in 2012 to 2013 increased from 5.25 to 12.25. Would weekly peer rounding increase nurses’ knowledge and use of methods to prevent skin breakdown and would monthly skin audits show decreased HAPUs in all 5 ACC units?

Description: Nurse skin champions—introduced in 2010 by wound ostomy continence nurses (WOCNs)—disseminated skin education quarterly to ACC nurses. Although champions were given case studies and tools to encourage best practices, no sustained improvements were seen in ACC quarterly HAPU audits. In January 2014, a current state analysis revealed a lack of knowledge and communication gaps between peers and with leadership. A literature search for techniques or new interventions to prevent critical care HAPUs resulted in few new ideas. However, a Colorado hospital that had used peer-to-peer rounding and reduced their HAPU rates to 0 was inspiring. Using process improvement methods, we replicated the rounds. The skin champions, assisted by WOCNs and the ACC clinical nurse specialist, created weekly peer rounding questions based on Braden Scale subcategories. These rounds, started in March 2014, provided “in the moment” patient-specific education about assessments, interventions, and prevention. Nurses also used updated care plans to communicate more effectively about skin with the interdisciplinary team. Finally, monthly audits were initiated to evaluate the impact of weekly peer rounds on HAPUs. Evaluation/Outcomes: Weekly rounds identified skin assessment, intervention, and prevention deficiencies that could be corrected in real time. Tests of nurse technicians’ and nurses’ knowledge of pressure ulcer prevention given before and 6 months after rounding showed improved (nonsignificant) nurses’ scores. More specific skin education is planned for nurse technicians. Our monthly audits showed an overall 33% decrease in incidence of mean HAPUs in all ACC units and helped us specifically identify device-related pressure ulcers as our next interprofessional focus. The use of intensive peer rounding has been an effective strategy to raise nurse awareness, implement patient-focused strategies, and decrease HAPUs in our ACC units.

EB50 Improving Collaboration With Palliative Care: Nurse-Driven Screenings for Palliative Care Consultations
Melissa Browning, Ann Lough, Stacey Harvey, Lillian Hall; Rush University Medical Center, Chicago, IL

Purpose: More than end-of-life care, palliative care services provide complex pain and symptom management, establish goals of care, and provide support to patients’ families. Historically, intensive care units (ICUs) have underused this valuable resource, leading to futility of care concerns and subsequent moral distress among nurses. By collaborating with palliative care services and implementing a nurse-driven palliative care screening process, ICU nurses have been empowered to improve the quality of care provided. Description: Four adult ICUs formed an interdisciplinary palliative care committee. After a literature review, the team implemented a nurse-driven screening process to increase collaboration and consults with palliative care services. A barrier was identified with surgeons (surgical ICU) and heart failure physicians (cardiac ICU) agreeing to the nurse screenings. Based on that, it was decided to implement the screening process with the medical ICU and neuroscience ICU first (September 2013) as they had established a collaborative process with palliative care. The palliative care screening included the nurse determining if a patient met any of the following criteria: > 1 month hospital stay, cardiac arrest with Advanced Cardiac Life Support, family request, multisystem organ failure, stage IV cancer, poor neurological prognosis, nontransplantable liver failure, and disagreement with goals of care. If a patient met criteria, the nurse notified palliative care staff, who then reviewed the electronic medical record and discussed appropriateness with the unit intensivist. If deemed appropriate by palliative care and the intensivist, a consultation was ordered. For tracking purposes, the screening tool was added to the critical care flow sheet in the electronic medical record. The tool was implemented in the cardiac ICU in January 2014 and in the surgical ICU in February 2014. Evaluation/Outcomes: Screening data showed the following: March 2013 (83 positive screenings resulting in 12 consultations), April (85 positive screenings resulting in 6 consultations) and
May (81 positive screenings with 12 consultations). Data collection is ongoing and the screening process is increasing the number of palliative care consultations ordered. From fiscal year 2012, there were a total of 194 ICU palliative care consultations. From July 2013 to December 2013, there were 197 consultations, showing tremendous growth. In addition, surgical ICU nurses have seen an increase in overall nursing morale from 25% to 51% based on a morale survey conducted in April 2013 and June 2014.

**EB51 Bottoms Up: Prone Positioning Protocol in a Community Hospital—Improving Outcomes in Acute Respiratory Distress Syndrome**
Diane Barkas; Santa Barbara Cottage Hospital, Santa Barbara, CA

**Purpose:** Several studies have shown improvement in oxygenation of prone patients with acute respiratory distress syndrome (ARDS) who are receiving mechanical ventilation. Recently a prospective, multicenter, randomized controlled trial showed that mortality was halved with prone positioning. The purpose of this poster is to describe the implementation of a prone positioning protocol for adult patients with ARDS. The outcomes related to mortality, complications, and cost are compared with the recent study. **Description:** Prone positioning is not a new intervention for the treatment of ARDS. Several studies have shown improvement in oxygenation with prone ARDS patients receiving mechanical ventilation. With mortality rates in ARDS at 35% to 48% worldwide, a recent study showing mortality was halved with prone positioning has quickly gained interest. Protocols such as prone positioning can be implemented safely and successfully in the community hospital environment. Using the IOWA Model for Evidence-Based Practice as the evidence-based model for implementation of this project, the clinical nurse specialist (CNS) developed a multidisciplinary team to develop and implement a prone positioning protocol based on the current literature. Favorable outcomes can be attributed to prone positioning in adult patients with ARDS. This poster reviews the protocol implemented and describes the patient outcomes related to mortality and specific complications. The costs associated with complications are multifaceted and include financial impact, mortality outcomes, and patient long-term-care outcomes. **Evaluation/Outcomes:** The IOWA Model includes a feedback loop of evaluating the implementation of a new protocol. After 18 months of data collection on patients in the prone positioning protocol, various end points were evaluated. These end points include mortality and survival data, along with identified complications. Mortality data are equal or slightly better than those in the current literature. Hospital-acquired pressure ulcers (HAPUs) were the greatest complication identified. The long-term patient outcome and financial costs associated with HAPUs have a significant impact on both patients and hospitals. The protocol has been revised on the basis of the evaluation data.

**EB52: Early Mobilization in Cardiac Surgery Patients Decreases Complications, Length of Stay, and Readmission**
Sandra Waugaman, Charlotte VanNortwick, Heather Dionne, Elizabeth Whitmore, Leeann Bradley; Rex Healthcare, Raleigh, NC

**Purpose:** To initiate mobilization and physical therapy earlier in the postoperative course, provide uninterrupted sleep to decrease fatigue, and involve patients, their families, and staff in the overall mobility program for cardiac surgery patients in an effort to decrease postoperative complications. The evidence-based solution addressed early mobility and the positive impact on the postoperative course for cardiac surgery patients. **Description:** As part of the Raleigh Durham cohort of the AACN’s Clinical Scene Investigator (CSI) Academy, we chose early mobilization as our project focus. Baseline data were collected via the hospital’s Society for Thoracic Surgery registry data base on length of stay in the cardiothoracic intensive care unit (CTICU) and hospital, postoperative complications of pneumonia/deep venous thrombosis, and readmission rates for a 6-month period. Evidence on the impact of early mobility on surgery patients was identified through literature searches and a webinar series on mobility from the Institute for Healthcare Improvement, which provided a baseline for the process to improve mobility. Literature review including early mobility in the ICU by St Vincent’s CSI team and “Developing a Mobility Protocol for Early Mobilization of Patients in Surgical/Trauma ICU” by Zomorodi, Topley, and McAnaw reiterated the impact of early mobilization. Clinical pathways were developed for patients and their families, outlining the cardiac surgery pathway from preadmission testing.
through discharge emphasizing mobility. White boards were purchased for the CTICU and the surgical telemetry unit, identifying each patient’s goals for mobility and incentive spirometry. Physical therapy evaluation was initiated on postoperative day 1. Staff were educated on the impact of mobilization for cardiac surgery patients.

**Evaluation/Outcomes:**

1. Overall mobility increased from 46% to 56% for cardiac surgery patients.
2. Postoperative complications for pneumonia decreased from 2% to 1.1% and DVT decreased 0.1%.
3. Readmission rates decreased from 14% to 10%.
4. Overall hospital length of stay decreased 0.1 days.
5. Process improvement surveys before and after implementation of the mobility project show an improvement in sleep depth, latency, awakenings, returning to sleep, and sleep quality. The success of our project was measured through projected cost savings of $99984 per year not including readmission savings. But more importantly, the impact of early mobility has been recognized by our surgeons, patients, patients’ families, staff, and administration.

**EB53 Focus the Flame: Fueling the Fire for Catheter-Associated Urinary Tract Infection Reduction in Intensive and Progressive Care Units**

Sarah Pangarakis, Carol Amis; Park Nicollet Methodist Hospital, St Louis Park, MN

**Purpose:** The goal of the evidence-based practice solutions initiative was to develop innovative interventions that were practical and meaningful to critical care and progressive care team members to reduce occurrences of catheter-associated urinary tract infections (CAUTI). In 2013, 32 CAUTIs occurred in the entire hospital. Fifty percent of those (16) occurred in the ICU and progressive care units. Beginning in 2014, health care systems are no longer reimbursed for hospital-acquired infections such as CAUTIs in the ICU setting. **Description:** A CAUTI work group was established in June 2013 to develop strategies to reduce the occurrence of CAUTIs. Members included nurse educators, clinical nurse specialists, nursing informatics, and infection preventionists. The work group met weekly to review best practice guidelines and prioritize areas of focus. The team developed practical interventions for CAUTI reduction including:

- (1) a peer-to-peer competency tool to ensure aseptic insertion;
- (2) poster display with each unit’s CAUTI data and performance goals along with a catchy acronym “Dr. DUFF” for catheter maintenance tips;
- (3) bladder scan protocol order allowing nurses autonomy to order intermittent and indwelling catheterization according to bladder scan criteria. The protocol order was embedded into multiple order sets, and prechecked to facilitate use;
- (4) 1 standardized urinary catheter order that included protocol verbiage for nurse to remove catheter once criteria met and a hard stop for insertion indication based on guidelines from the Centers for Disease Control and Prevention. Final measures included dissemination of interventions via e-learning for nurses and physicians in December 2013. **Evaluation/Outcomes:** The overall aim of the project to decrease CAUTI was successful in both hospital-wide and ICU/progressive care units.

Hospital-wide incidence between 2012 and 2013 decreased from 54 to 32 (40% reduction) and from 2013 to 2014 decreased from 32 to 11 (66% reduction). From 2012 to 2013, CAUTI incidence decreased from 27 to 16 (41% reduction) in the ICU and progressive care unit, and from 2013 to 2014, CAUTI incidence decreased from 16 to 5 (69% reduction). Overall change from 2012 to 2014 for ICU and progressive care was a 81% improvement in CAUTI reduction.

**EB54 Performance Improvement Medical Emergency Team**

Sandra Tordoff, Rhae Newbill, Lyn Rose Calderoni; Centra, Lynchburg, VA

**Purpose:** The medical emergency team (MET) was developed in response to a need for emergent advanced assessment skills outside of the intensive care unit (ICU) providing immediate bedside expertise to manage patients experiencing sudden clinical changes. Timely intervention and crisis prevention are key principles. **Description:** MET nurses are an elite team of experienced nurses within the medical ICU holding Advanced Cardiac Life Support certification and are trained in the fundamentals of critical care support. They provide around-the-clock coverage 7 days a week, driving incredible changes in the volume of MET calls as well as the reduction in codes outside the ICU. Also, a considerable decrease in the percentage of patients requiring a transfer to a higher level of care with the MET nurse interventions has occurred. In addition, our hospital had a considerably longer door-to-balloon time (D2B) for inpatient cases of acute ST-elevation myocardial infarction (STEMI) than for patients coming to the emergency department. The Centers for Medicare and Medicaid Services set a goal...
DEB time of 90 minutes or less for patients coming to the emergency department. With a dedicated MET nurse allocated, it was possible to create a hospital STEMI protocol that provided an increase in early inpatient STEMI detection and rapid transfer to the cardiac catheterization laboratory initiated by the MET nurse. In lieu of the implementation of a dedicated MET nurse, significant results have been recognized and sustained. **Evaluation/Outcomes:** These changes drove a 132% increase in the volume of MET calls. Substantial data on the implementation of a dedicated MET nurse indicates a 60% decrease in codes outside of the ICU and a 49% decrease in transfers back to the ICU after MET calls. With a dedicated MET nurse and a STEMI protocol providing an increase in early inpatient STEMI detection and rapid transfer to the cardiac catheterization laboratory, symptom to balloon time has been reduced by 44%, from 105 minutes to 59 minutes. Secondary benefits of the dedicated MET nurse include improved communication and collegiality among care providers, and more robust staff education.

**EB55 Surviving Sepsis: Our Improvement Story**
Karen Young, Andria Sievers; Alameda Health Systems, Oakland, CA

**Purpose:** Sepsis is a leading cause of mortality in critically ill patients. Our goal was to develop and implement a standardized sepsis protocol and comprehensive sepsis education program in order to reduce sepsis mortality by at least 15% in our patient population. **Description:** We used a multidisciplinary approach, including physician and nurse champions, as well as representatives from pharmacy, respiratory care, information technology, and the laboratory to attack the problem. Based on the recommendations of the “Surviving Sepsis Campaign,” nurses began screening for sepsis every 8 hours. Point-of-care measurements of lactate levels were initiated for every “positive” screen, and the rapid response nurse was notified. Lactate was identified as a “critical value” by the laboratory. A standardized “Severe Sepsis Orders and Protocol” was developed and initiated. To engage staff in the education process, a sepsis rap video was written, produced, and placed on YouTube. This video used staff from throughout the hospital in patient vignettes, demonstrating the use and implementation of the sepsis protocol. Concurrent data collection and analysis allowed the staff to quickly recognize areas needing improvement. Continuing education included an e-learning module, sepsis updates during annual competencies, as well as an annual “surviving sepsis” campaign. We continue to develop the role of a “sepsis nurse” to enhance staff education and patient care.

**Evaluation/Outcomes:** At the beginning of the program, our hospital experienced a sepsis mortality rate of 34% and sepsis bundle compliance of less than 25%. For the fiscal year 2013-2014, our mortality rate was 14.9%, with bundle compliance increasing to 68.8%. Although we continue to strive to decrease mortality and increase sepsis bundle compliance, we believe our hospital will “survive sepsis.”

**EB56 A Multidisciplinary Approach to Decrease Unplanned Extubations in the Pediatric Critical Care Unit**
Kristin Bowen, Diana James, Leslie Golden, Ashley Ide; Levine Children’s Hospital, Charlotte, NC

**Purpose:** Unplanned extubations are serious adverse events that can result in increased morbidity and mortality, prolonged intubation and mechanical ventilation, increased length of stay, and increased health care costs. An increase in the frequency of unplanned extubations was noted in our unit during 2012. An interdisciplinary work group of nursing, respiratory therapy, pharmacy, and physicians identified risk factors and implemented evidence-based strategies to decrease the incidence of such events. **Description:** A respiratory work group was formed in April 2013 and began evaluating each unplanned extubation event from 2012. Medical records of unplanned extubation events during 2012 were reviewed and common causative factors were identified. Suggested clinical practice changes were gleaned from a review of the literature on unplanned extubations in adult and pediatric populations. The multidisciplinary team combined the data collected with suggested practice improvement strategies to create a plan-do-study-act (PDSA) improvement plan. Clinical practice changes included (1) adding a metric for “unplanned extubation” to the unit’s MDI (Management for Daily Improvement) huddle board for 62 weeks (continues to be updated daily), (2) developing a debriefing tool that is completed and discussed by the clinical team after an unplanned extubation event, (3) requiring that 2 clinical staff members (nurse, respiratory therapist, physician) be present at the bedside whenever certain high-risk procedures are initiated.
performed on patients less than 3 years of age, (4) having the respiratory therapy department review and establish a standardized endotracheal tube taping practice, (5) displaying a uniform document displaying endotracheal tube size and depth of insertion at each patient’s bedside. **Evaluation/Outcomes:** The number of unplanned extubations decreased from 32 to 17 events in 2013, a 47% reduction. The rate of unplanned extubations per ventilator day decreased from 13.9 in 2012 to 9.4 in 2013. Use of this metric on the MDI huddle board increases awareness of the unit’s performance and opportunities for improvement. Subcommittee work groups were formed to focus on specific elements of unplanned extubations including sedation weaning, ventilator weaning, and standardizing portable airway carts. The additional teams have increased awareness and enhanced multidisciplinary engagement.

**EB57 Increasing Patient Hand Hygiene to Reduce the Spread of Infection**
Stacy Haverstick; University of Michigan, Ann Arbor, MI

**Purpose:** Surgical infections can lead to increased lengths of stay and higher mortality rates. Hand hygiene is the single best method to prevent the spread of infection. Patients’ experiences and survey data demonstrated that patients’ ability to practice hand hygiene in the hospital room is limited and requires reinforcement by nursing staff. Increasing patients’ hand washing by educating patients on the importance of hand hygiene as well as providing patients with access will reduce infection rates. **Description:** Patients were not able to perform hand hygiene because they did not know how important hand hygiene was to preventing infection, they did not usually wash their hands at home, or they were unable to wash their hands because they rely on staff to offer them the opportunity. A survey previously used by Burnett, Lee, and Kydd in 2008 was implemented to study both staff and patients’ attitudes toward hand hygiene and to determine whether opportunities for hand hygiene were offered. Preintervention data gathered via survey indicated that patients were offered the opportunity to complete hand hygiene 53% of the time before eating or after toileting. Nursing survey data indicated that nursing staff believed that 97% of the time they encouraged patients to complete hand hygiene. Interventions were implemented on August 5, 2013; upon admission, the nurse reviewed the literature about the importance of hand hygiene. With a Fostering Innovation Grant provided by the University of Michigan, bed-bound patients received hand sanitizer wipes or alcohol-based hand sanitizer. Staff was encouraged to be aware of patients’ access to either alcohol-based hand sanitizer or to soap and water after any tasks that necessitated hand hygiene. **Evaluation/Outcomes:** Although results are inconclusive due to limited length of time, it appears that patients’ hand washing is effective in decreasing infection. Seventeen percent more patients were offered the opportunity to wash their hands during the stay after the intervention than before the intervention. By averaging the new case rates before and after the intervention, it was found that rates of *Clostridium difficile* infection had decreased 33%, methicillin-resistant *Staphylococcus aureus* infection had decreased 36%, and rates of infection with vancomycin-resistant enterococci had decreased 38% in the past 9 months.

**EB58 Family-Centered Multidisciplinary Rounds on the Pediatric Intensive Care Unit**
Joyce Weishaar; Ann & Robert H. Lurie Children’s Hospital of Chicago, Chicago, IL

**Purpose:** Family inclusion in bedside medical rounds in the pediatric intensive care unit (PICU) has proven beneficial. Yet, the remainder of the multidisciplinary team, social services, case manager, physical therapist, and occupational therapist historically rounded in a meeting room away from the nurse and the patient’s family. The purpose of the project was to improve family participation in the child’s plan of care, to enable staff nurses to be a part of the discussion, and to provide opportunities for patient advocacy. **Description:** Research has shown that family presence on medical rounds not only increases family satisfaction but also presents an opportunity for the team to learn useful information from the family. Multidisciplinary rounds held in a meeting room were found to be dissatisfying by the team. A pilot study was designed applying the concept of bedside medical rounds to PICU multidisciplinary rounds to engage family, staff nurses, and each member of the multidisciplinary team to interact and enhance the plan of care together. The staff nurses were educated through meetings and website information. Families were prepared by a staff nurse who described the process and provided a handout inviting their participation. Bedside staff nurses presented the patient,
and when appropriate, made recommendations for therapies or referrals benefitting the patient and family. Successful implementation of the process was contingent on each member’s participation. **Evaluation/Outcomes:** Outcomes of this process were measured by timing of additional service referrals, the number of patients with families participating on rounds and bedside nurse satisfaction. An average of 20 to 30 monthly referrals were generated for additional services earlier in the PICU hospitalization. Families present and participating on multidisciplinary rounds averaged 75% to 90% per month. Satisfaction rates among bedside nurses indicated that 34% liked the process, 40% were neutral, and 26% were less satisfied. Eighty-six percent made recommendations for patient care, and 61% felt that they were contributing to care with recommendations. Barriers to the process were described.

**EB59 Implementing a Radical and Aggressive Strategy to Fulfill Recruitment and Retention Challenges**

Mary Lindsay, Kelly Spillane; Duke University Hospital, Durham, NC

**Purpose:** In response to a 9% growth in patient volume, an 18.8% vacancy rate, and plans for a 25% unit expansion, the leadership team of the cardiothoracic surgery ICU (CTICU) was faced with a seemingly impossible task: add more than 70 full-time employees in 10 months, retain the existing number of staff, and improve the work culture. Collaboration and partnership were the vital behaviors to accomplish this daunting yet vital challenge. **Description:** The CTICU leadership team partnered with nurse recruitment staff to implement innovative recruitment and retention initiatives to support growth, offset departures for nurse anesthetist programs and acute care nurse practitioner roles, and prepare for the move to a new facility. Recruitment strategies included specialized training for staff nurses on behavioral interviewing techniques and hiring practices, quarterly open houses with staff-facilitated tours and interviews, and an advertising/marketing campaign.Retention efforts included department retreats and award programs inclusive of preceptor recognition, seniority, and time and attendance. Key initiatives focused on staff professional development, selection of staff to chair unit committees, crucial conversations with tenured staff, and leading work culture focus groups. Engaged staff nurses transformed the morale of the unit, improved work culture by creating a culture of peer accountability for retaining newly hired nurses. Aggressive targets were set for both recruitment and retention. Weekly meetings ensured quick and consistent hiring decisions. **Evaluation/Outcomes:** The results of the combined recruitment and retention partnership led to improved outcomes. The CTICU met all recruitment and retention goals, and the program became a model for the organization adopted by heart center units. Our results include improved retention with decreased turnover from 20.9% to 7.9% (year to date). A record 75 full-time employees were hired during the 10-month period. Work culture commitment scores increased 3%, with increases in the following areas: growth and development (.05), teamwork (.01), and leadership (.06). The number of staff agreeing that “My supervisor gives me useful feedback” increased 11%. These programs are still in place, keeping us on target to meet an additional 28% growth in capacity for the CTICU.

**EB60 Improving the Bereavement Process in the Critical Care Unit**

Kimberly Gorman, Phyllis Berkey; DLP Conenamgh Memorial Medical Center, Johnstown, PA

**Purpose:** The critical care unit recognized a need for a process that would improve and further enhance the care of patients during the time when their care has changed from preserving life to allowing death with dignity. Although each nurse has his or her own process of approaching the family and the patient during this difficult time, it is imperative that as a unit we provide the same level of care for the patient and the patient’s family. A bereavement committee was formed to develop this process. **Description:** In 2008, the bereavement committee was formed after research into the process that was used in other facilities. This information was shared with a variety of staff members in the intensive care unit that shared a common belief that there was a need for an improved bereavement process. The hospital chaplains were an essential part of the original process, providing feedback for this process. The bereavement committee developed a scenic picture that incorporated a poem and the ability to place the patient’s handprint on the card-stock picture. The picture allows the family to have a keepsake of their family member to take with them, leaving them with a lasting memory. This card-stock photograph can also be copied to allow multiple
EB61 Evidence-Based Guidelines and Scripting to Support Nurses in Sepsis Recognition, Reporting, and Treatment

Dawn Drahnak; University of Pittsburgh School of Nursing, Johnstown, PA

Purpose: A review of 9 months of medical records (July 2012-March 2013) revealed that sepsis was one of the top 10 diagnoses (diagnosis-related groups 870, 871, and 872). A chart audit also revealed that nurses were not consistently completing the sepsis screening and that compliance with the Institute for Healthcare Improvement’s 3- and 6-hour bundles was inconsistent. The goal was to improve sepsis care by adopting the Surviving Sepsis Campaign (SSC) 2012 International Guidelines for Management of Severe Sepsis and Septic Shock.

Description: (1) Plan for and implement use of an underused existing commercially available electronic health records (EHR) tool to capture sepsis screening, recognition, and reporting according to the SSC’s 2012 guidelines. (2) Develop an educational intervention for nurses to improve their knowledge of sepsis, the SSC’s 2012 guidelines, and the recommended approach for sepsis screening, recognition, reporting, and treatment. (3) Assess the nurses’ perceptions and attitudes regarding their sepsis awareness and confidence in reporting before and after the educational intervention. (4) Assess the nurses’ knowledge of sepsis and the SSC’s 2012 guidelines and recommendations before and after the educational intervention. (5) Assess institutional sepsis care by compliance with recommended sepsis screening, recognizing, and reporting for all hospitalized patients before and after adoption of the SSC’s 2012 guideline, nurse education, and use of the EHR sepsis screening and documentation tool. Nurses received an educational intervention on the IHI bundles and SSC guidelines during competency updates. An EHR tool was reintroduced that provided a platform for sepsis screening. Evaluation/Oucomes: The bereavement committee has evaluated the effectiveness on the response from the family members of the patients that we have offered the handprint, angel wings, and informational folder. We have had good feedback on the process and a family member who brought their framed handprint with a picture of the deceased for us to view. We did not have a formal tracking of the effectiveness but we are in the process of a formal survey to evaluate the effectiveness of, perception of, and overall compliance with the process. The institution has realized the benefits that the family receives during the bereavement process and has begun absorbing the cost of supplies.

EB62 Sleep Promotion in the Cardiac Intensive Care Unit: A Quality Improvement Project

Sara Knippa, Liana Hochhalter; University of Colorado Hospital, Aurora, CO

Purpose: Disrupted sleep is a common physical and psychological stressor for intensive care unit (ICU) patients. Sleep for ICU patients is often fragmented, and patients in this cardiac ICU reported dissatisfaction with their sleep. Many adverse effects have been linked to the lack of restorative sleep. The purpose of this project was to enhance patient-reported sleep quality in cardiac ICU patients by implementing an evidence-based sleep protocol.

Description: Bundling of sleep promotion aids improves sleep quality. A multidisciplinary team created the evidence-based sleep promotion bundle. The Confusion Assessment Method for ICU (CAM-ICU) was used to assess presence of delirium and the Richards-Campbell Sleep Questionnaire (RCSQ) was used to
assess patients’ self-reported sleep quality before and after implementation of the sleep promotion bundle. The sleep bundle included environmental adjustments and nonpharmacological sleep aids. A sleep menu was created for patients and placed near the message board in each patient room. The menu offered nonpharmacological sleep aids such as earplugs, music, aromatherapy, and warm blankets. Checklists were used by staff to address sleep hygiene interventions for day shift and night shift. The night shift checklist included environmental adjustments such as light and noise reduction, and workflow changes that provided reminders to offer the sleep menu, less frequent assessment of vital signs for specified patients, and different times for collecting specimens for laboratory tests. The day shift checklist included activity promotion and obtaining orders for less frequent vital signs for stable patients. 

**Evaluation/Outcomes:** Pre/post data were collected on RCSQ score and unit delirium rates. A total of 106 patients (53 before, 53 after) were surveyed about their sleep. Sleep quality improved from a mean of 53 to 59 on a 100-point Likert scale (range 0-100 before and after). About 34% of patients surveyed had been offered the sleep menu; 57% chose something from it. Warm blanket (33%) and music (25%) were the most popular nonpharmacological sleep aids. The percentage of patients experiencing delirium increased from 5% to 10%, but more patients after implementation had been CAM positive at ICU admission. Staff found the sleep promotion bundle valuable, and implementation improved patient-reported sleep quality.

**EB63 Eliminating Catheter-Associated Urinary Tract Infections in the Trauma Intensive Care Unit**

Jana Elliott, Derek Drake; Renown Regional Medical Center, Reno, NV

**Purpose:** A urinary tract infection (UTI) is an infection involving any part of the urinary system, including urethra, bladder, ureters, and kidney. Most hospital-acquired UTIs are associated with indwelling urinary catheters and are classified as catheter-associated urinary tract infections (CAUTIs). Catheter-associated UTIs are the second most common hospital-acquired infection. The goal of this study was to eliminate the incidence of CAUTIs in the trauma/surgical intensive care unit (ICU). 

**Description:** Renown Regional Medical Center in Reno, Nevada uses transformational health care for continual process improvement. Transformational health care is an approach to our everyday work based on Toyota manufacturing principles that puts the patient at the center of care and the team members at the center of the improvement process. It emphasizes quality and safety, and it eliminates waste and inefficiencies by engaging all team members in continuous improvement. A rapid process improvement workshop (RPIW) is a 5-day workshop focused on a particular process in which the people who do the work are empowered to eliminate waste and reduce the burden of work. Team members are selected by leaders based on their experience with the process to be improved. During the RPIW, team members used current literature and guidelines from the Centers for Disease Control and Prevention (CDC) to rewrite policy and create standard procedure for indwelling urinary catheter insertion and maintenance. Additional work created more stringent indications for catheter utilization and laboratory analysis of urine.

**Evaluation/Outcomes:** Extensive nursing and physician education and continual commitment and dedication to hardwiring process changes created during the RPIW resulted in a dramatic reduction in CAUTI rate for the ICU as well as the entire Renown Health Network. The trauma/surgical ICU CAUTI rate was reduced from 5.093 in 2012 to 0.919 in 2013 for medical patients, and 0.339 in 2012 to 0.192 in 2014 for trauma patients. The hospital-wide CAUTI rate was reduced from 1.164 in 2012 to 0.546 in 2013 with even greater reductions in 2014.

**EB64 Bringing it Back to the Bedside! Making Bedside Report Work!**

Mary Lindsay; Duke University Hospital, Durham, NC

**Purpose:** Ineffective communication is the most frequently reported cause of sentinel events in US hospitals. Handoff at change of shift is a critical time in which crucial information must be relayed. After review of internal processes, we discovered some opportunity. We describe the successful implementation of a bedside report on 3 very acute cardiothoracic step-down units in a quaternary Magnet-designated academic facility.

**Description:** An internal review of system processes on 3 cardiothoracic units reflected opportunities to improve patient safety and satisfaction. Several metrics were reviewed, including response times to call bells, Hospital Consumer Assessment of Health Care Providers and Systems (HCAHPS) scores, and adverse drug events.
ADEs related to medications, order entry, and handoff at change of shift. Based upon this information, the clinical operations director of cardiothoracic surgery initiated a practice change by implementing bedside report on the step-down units (SDUs). To ensure success and buy-in, she presented a review of the literature, benchmarking comparison facilities, as well as the “what’s in it for me” to the SDU clinical practice committee (CPC). CPC members became champions and were instrumental in improving patients’ experience. A multitude of resources and support were provided including leadership presence on all shifts; development of an electronic documentation template; communication to physicians, patients, and patients’ families; and offering simple resources (eg, clipboards). Ongoing data collection and “wins” were shared frequently with the team. Evaluation/Outcomes: Frequent staff meetings were facilitated to review, clarify, and modify the process as needed. Leadership and CPC champions rounded at change of shift to increase comfort level with the process. Within 6 weeks of implementation, one unit saw a 43% improvement in HCAHPS staff responsiveness scores while another reflected 13% improvement. Call bells at change of shift decreased 53%. High-severity ADEs decreased on each respective unit. Our HCAHPS score “communication with nurses” has consistently maintained the 79% to 80% ranking since implementation of bedside report; a 15% increase. We have since collaborated with the postanesthesia care unit on successfully performing bedside report.

**EB65 Focus on Eliminating Pressure Ulcers in Patients Undergoing Extracorporeal Membrane Oxygenation**

Barbara Logue, Cynthia Copeland, Barnes Jewish Hospital, St Louis, MO

**Purpose:** Extracorporeal membrane oxygenation (ECMO) provides continuous cardiopulmonary support for management of severe cardiac and/or respiratory failure. ECMO cannulas often limit patients’ mobility. Turning may decrease tissue perfusion and oxygenation. With a recent increase in the number of ECMO patients, we had an increased incidence in our pressure ulcer rate. The purpose of our evidence-based practice project was to reduce the rate of hospital-acquired and unit-acquired pressure ulcers in patients on ECMO support. **Description:** Our team developed a nurse-driven action plan for use with all ECMO patients. We began using a rotation and pressure redistribution bed to improve patients’ mobility and to provide pressure reduction. We programmed the beds to rotate every 30 minutes at 10° to 30°, depending on the patient’s tolerance. We gave in-service trainings to all ICU staff and to relevant operating room (OR) staff about the new guidelines and use of the bed functions. In the ICU, specific roles were assigned to technicians, secretaries, and charge nurses. Secretaries checked the OR schedule daily to determine bed needs and ordered the correct beds. Technicians set up the ordered beds and took them to the OR suites. The charge nurses worked with the technicians and secretaries and communicated with the OR charge nurses regularly to ensure that all ECMO patients were placed on these specific beds. Anonymous audits were conducted twice daily to evaluate patients and to ensure that the beds were programmed appropriately and the rotation function was in use. We collected data about unit-acquired (UA) and hospital-acquired (HA) pressure ulcers in our ECMO patients before and after we implemented this plan to assess our results. **Evaluation/Outcomes:** Before implementation 47 patients received ECMO; 26 received ECMO after implementation. There was no significant difference in ICU, hospital, or ECMO days between the 2 periods. Before implementation, 9 pressure ulcers developed in 7 patients (15%); after implementation, pressure ulcers did not develop in any of the 26 patients. Before implementation, 9 patients (19%) had 15 HA pressure ulcers develop; after implementation, 3 patients (11.5%) had 3 HA pressure ulcers develop. The decreases in UA and HA pressure ulcers were clinically significant but not statistically significant, most likely due to our small sample size. A multidisciplinary, multidpartment improvement process targeting prevention of pressure ulcers can lead to significant decreases in development of pressure ulcers in this critically ill patient population.

**EB66 Hospital Certification Library Maximizes Efficiency and Decreases Unit Burden**

Claire Curran, Christian Turner; University of North Carolina Hospitals, Chapel Hill, NC

**Purpose:** For several years, participants at our annual certification celebration identified the cost of study materials as a major barrier to certification. As a large medical center, we have 13 intensive or progressive care
units that employ nurses eligible for the CCRN or PCCN examination; however, there was no systematic method of purchasing, maintaining, and updating those items. The certification committee wanted to design a system that would remove this barrier in a cost-efficient manner. **Description:** Several problems were detected. First, one of the Department of Nursing’s strategic goals was to improve certification rates; yet nurses had identified cost of study resources as a primary reason for not seeking certification. Second, we found inefficient management of existing resources, as units had siloed systems. Some units did not budget for study materials at all. Other units had purchased books, but found problems such as extremes in borrowing (very low or high), difficulty tracking materials, or housing outdated books. Thus, budgeted funds were not being used to maximum capacity. Our literature search yielded little information on how to manage such resources for a large institution, except for unit-based systems. As a result, we developed a hospital-wide certification library located in the Department of Nursing Practice and Professional Development. The library consists of review books, question and rationale books, CDs, and flashcards. Resources were chosen by nurse educators in collaboration with the certification committee. Day-to-day operation of the library is managed by an administrative assistant. We created guidelines for users, a system for tracking materials, and a process for adding new resources. **Evaluation/Outcomes:** The initial outlay for the library was $3843, with $440 spent on CCRN or PCCN materials. In its first year, we had 162 users, with 47 borrowing materials for the CCRN or PCCN examinations. By housing items centrally, we decrease the burden on individual units to budget, track, evaluate, and maintain resources. Nurses are able to check out a wider variety of items for a single examination compared with our previous process. Because we reach a larger audience, we have the potential to generate rich information on our users’ experience and outcomes. Our house-wide library has allowed us to remove a barrier to certification, manage funds wisely, and decrease the burden on unit leaders.

**EB67 Focusing the Flame: Using a Blog to Keep the Lamp of Knowledge Lit Through Peer-to-Peer Education**

Melanie Nedder, Paul Sedgwick, Kathleen Ryan-Avery, Caroline Galligan, Karen Reilly, Sharon Levine; Brigham and Women’s Hospital, Boston, MA

**Purpose:** Many of the nursing staff in the cardiac intensive care unit (CCU) attend professional education opportunities-conferences, meetings and other events. However, it can be difficult to share this information with all 48 nurses on staff, both part time and full time, on 5 different shifts. The effectiveness of using a blog, “CCU Ed-ventures,” as a forum to provide peer-to-peer sharing of relevant professional education was explored. **Description:** Social media can be a powerful tool for information sharing, but there is very little research on using social media for peer-to-peer nursing education. The literature on use of social media in nursing focuses on educating nursing students or the use of YouTube to illustrate a concept or technique. Using a simple, free, blogging website, the unit’s nurse practice council developed a private blog for educational information sharing among the staff in the CCU. Two staff nurses from the nurse practice council were appointed as administrators. The hospital social media relations personnel ensure that compliance with hospital policies regarding social media is maintained. Any staff nurse can post a review of what (s)he has learned at a professional conference with the entire staff via the CCU blog. Links to new blog posts are made available to the CCU staff through hospital e-mail, SharePoint, and on the unit’s Facebook page. Recognizing that patient acuity and care may limit time for peer-to-peer educational sharing, the blog provides staff with a way to learn at their convenience on their computers, smart phones, and tablets. **Evaluation/Outcomes:** After 15 months, an online survey was administered to the CCU staff with a 64% response rate. All respondents stated awareness of the blog, and 86% have read/will continue to read the blog. Most agreed that the blog is an effective way to share professional education (85%), keeps them abreast of evidence-based practice (80%), and has led to practice change (57%). Eighty percent of respondents agreed that they are more likely to attend professional conferences, and 60% would contribute blog posts. The blog has received 2900 hits and 20% of our staff has contributed to the blog. These findings suggest that blogging is an effective method of peer-to-peer sharing of education.

**EB68 Implementation of an Early Mobility Program by Using the Comprehensive Unit-Based Safety Program Model**
Shalan Stroud, Michelle Foss, Shelly Buse; Shawnee Mission Medical Center, Shawnee Mission, KS

**Purpose:** To determine the impact of using a multidisciplinary team to promote early mobilization, patients receiving mechanical ventilation were mobilized after clinical stability criteria were met following admission to the intensive care unit (ICU). We predicted that these patients would have decreased ventilator times and shorter ICU stays. **Description:** Immobility contributes to ventilator-associated complications, neurological dysfunction, pressure ulcer development, and physical disability following an ICU stay. Despite this, limited physical therapy and excessive sedation continue, often prohibiting significant mobilization. Early mobility reduces delirium and ventilator days and facilitates a return to independent function. Using the comprehensive unit-based safety program model, a multidisciplinary group implemented an early mobility program in the mixed medical-surgical ICU of a community hospital. A readiness screening tool and algorithm were chosen from the literature and modified by the front-line staff. Readiness for mobilization was assessed within 24 hours of admission and a stepwise progression from passive range of motion to hall ambulation with clinical criteria to support continuing or termination of a session was implemented. Standing orders for bed rest were modified to accommodate the use of the protocol. Using the risk-adjusted predictions/outcomes ratios from the Acute Physiology and Chronic Health Evaluation (APACHE) IV on our target diagnosis groups of respiratory disorders and sepsis, we collected data on ICU length of stay and ventilator days from before and after implementation of the protocol. **Evaluation/Outcomes:** For the 4 quarters preceding the program, our length of stay was 167 days ($768,200) over the APACHE prediction. In the 4 quarters following implementation, the length of stay was 13 days under predicted ($828,000 reduction). Ventilator days were similarly reduced, with ventilator days being 17.48 days over predicted and 72 days under predicted, respectively. A multidisciplinary approach to early mobility in the ICU led to reduced length of stay and ventilator times. Although sedative use and development of delirium were not assessed, it is reasonable, based on published reports, that these factors most likely also resulted in a decrease in both.

**EB69 Combating Sepsis: A Multidisciplinary Approach to Identification and Treatment**

Cynthia Zaletel, Amanda Testin, Mary Sue Dailey, Hayley Ermer, Sue Durkin, Susan Moy, Kim Gutierrez; Advocate Good Samaritan Hospital, Downers Grove, IL

**Purpose:** Sepsis ranks as the top readmission diagnosis within 30 days of discharge at Advocate Good Samaritan Hospital. Sepsis is associated with higher mortality rates and increased hospital costs. Our objective was to develop screening tools and staff education regarding early identification and treatment of sepsis by using the 2012 Surviving Sepsis Campaign (SSC) guidelines. Ultimately, use of a protocolized approach to care will improve outcomes and decrease associated complications and mortality. **Description:** A multidisciplinary team was created that included physicians, critical care and emergency department nurses, advanced practice nurses, and representatives from the laboratory, respiratory care, pharmacy, quality improvement, specialty transport team, Lipinski Education Center, eICU, and clinical informatics. Screening tools and clinical pathways for the critical care unit (CCU) and emergency department were developed and implemented along with staff and physician education. Compliance with screening tools was measured by using MIDAS, a strategic performance management system. Metrics tracked include the SSC care bundles for 3 and 6 hours. The sepsis team’s participation in the nation-wide Surviving Sepsis Campaign’s “Sepsis on the Floors Quality Improvement Collaboratives” has facilitated the development of education and screening tools for units throughout the hospital. Additional guidelines and protocols were shared with our community skilled nursing facility (SNF) partners to help decrease readmission rates related to sepsis. **Evaluation/Outcomes:** Monthly audits revealed poor compliance with the use of the SSC care bundles and screening tools in both CCU and emergency department. Tools were revised and additional education in both units slowly improved compliance in 6 months. Ongoing education of physicians and staff continues to ensure compliance. Nurse-driven protocols for identification and treatment of sepsis were developed. Overall mortality rates related to sepsis decreased by 8% for all units and 30.7% in the CCU after education and implementation of the guidelines and standing orders.

**EB70 Nurses Driving Excellence: Preventing Pressure Ulcers in the High-Risk Population**

Gennifer Baker, Karol Jones, Joan Wofford, Jennifer
Purpose: Huntsville Hospital noted an increase in hospital-acquired pressure ulcers (HAPUs) and deep tissue injuries (DTIs) in the first quarter of 2013 in the cardiovascular intensive care unit (CVICU). Based on the national average cost of $42,123, there is an opportunity to save approximately $900,000 annually minus the cost of supplies. The objective is to decrease and prevent hospital-acquired sacral and heel breakdown, thus decreasing hospital cost in high-risk patients. Description: In August, a team of nurses met to analyze the issue of sacral and heel breakdown in the CVICU and the surgical trauma intensive care unit (STICU) and complete a comprehensive literature review on HAPU/DTI prevention. In September, the sacral and heel 5-layer soft silicone adhesive border dressings were tried for 45 days. All cardiovascular operating room (CVOR) patients with perioperative time greater than 4 hours, all CVICU patients meeting inclusion criteria, all STICU patients placed on lateral rotational therapy beds, and all nonrotational patients meeting inclusion criteria were included in the trial. Education on pressure ulcer prevention was given to staff before the trial followed by training on inclusive criteria, proper placement technique with 5-layer soft silicone adhesive border dressing, and data to be collected. A 5-layer soft silicone sacral and heel dressing was placed on all 110 patients, and skin assessments were completed minimally each shift by peeling back the dressing, examining the skin, and replacing the dressing. Evaluation/Outcomes: the incident rate for HAPUs/DTIs decreased to 0% in ALL patients included in the trial. The CVOR, CVICU, and STICU continued to maintain a HAPU/DTI incident rate of 0% since the implementation of the 5-layer soft silicone adhesive border dressing. After completion of a 45-day trial, sacral and heel 5-layer soft silicone adhesive border dressings are now being placed system-wide on all inpatients who meet the criteria.

EB71 Improving the Efficiency of Daily Rounds in the Intermediate Care Unit

Danielle Fraser, Dawnsherie Henry, Linsey Davis, Monique Dillon, Antoinette Ellis, Eddie Moody; WellStar Kennestone Regional Medical Center, Marietta, GA

Purpose: Daily rounds provide an opportunity for the multidisciplinary team to review the patient’s current condition, set daily goals, and develop a plan of care for the patient. Although the team in the intermediate care unit (IMCU) had participated in daily rounds for several months, prolonged rounding time resulted in delays completing patient care and other administrative responsibilities. The purpose of our project was to improve our rounding times while maintaining a comprehensive process. Description: A Lean Six Sigma and DMAIC (define-measure-analyze-improve-control) method was used to guide our project. Stakeholders were identified, goals developed, and baseline data collected. Two project goals were identified: (1) report will be completed in 3 minutes or less per patient and (2) total waiting time for the rounding team will be 10 minutes or less. A gemba was performed to observe the current process and determine areas of opportunity. Two types of waste were discovered: (1) waiting—idle time when the primary nurse was not available to present the patient and (2) defects/errors and rework—pertinent information was not readily available during rounds. A fishbone diagram was developed to analyze potential root causes. Team members brainstormed and recommended several solutions for improvement including a consistent daily rounds start time, assigned rounding times for each nurse, standardized hand-off processes, and finally a change in rounding start time. Changes were implemented in 3 phases and results were analyzed for each phase. Evaluation/Outcomes: Mean report time decreased during phase I but was not maintained during phase II. In phase II, we had longer report times and greater variation in times when compared with baseline and phase I. Mean waiting time was essentially unchanged during phase I and phase II when compared with baseline, but precision was better. Phase III results were dramatically improved with reductions in both mean report time and waiting time. Precision was also notably improved. The Lean Six Sigma and DMAIC method provided a structured approach for the IMCU team to enhance the efficiency of daily rounds by minimizing waste and reducing variation in our process.

EB72 Code Green for Workplace Violence

Yana Dilman; Pinnacle Health System, Harrisburg, PA

Purpose: Workplace violence is a nationwide problem. Health care is the most affected industry. The goal of this project was to share the results of an evidence-based practice intervention adopted by a local hospital...
to safely resolve volatile and escalating situations. Code Green Response Team was activated in April 2013. Data were collected for a year. The success of the intervention was measured by reduction of behavioral restraint application, since restraint use is an undesirable outcome.

**Description:** Review of literature and clinical experience revealed that early recognition of a potentially violent situation and rapid intervention with verbal de-escalation result in less restraint application and better patient outcomes. The intermediate care unit (IMCU) has historically treated a large population of behaviorally challenging, delirious, and violent patients. The history of being the only inpatient toxicology unit in the country has provided immense experience in managing volatile situations. Ensuring staff and patient safety is a priority on the unit. The IMCU nurses now share expertise with other units when they face potentially violent situations by activating a Code Green Response Team. The goal of the team is to employ the least restrictive means possible to help the person regain control of the violent behavior. The IMCU charge nurse leads the team in the resolution of violent or escalating situations. Other members of the team include nursing supervisor, security department, physician, primary and charge nurse of the unit involved. Nurses in the hospital are empowered and encouraged to page the Code Green Response Team when an actual or potentially violent situation with a patient/visitor/staff member arises. **Evaluation/Outcomes:** A postviolence debriefing tool and incident report are completed after each Code Green episode. The information is used to evaluate the effectiveness of the interventions and improve the process. About 85% of Code Green calls were successfully resolved with verbal de-escalation and noncoercive use of medications. There was an 11% decrease in restraint application in areas using Code Green Team compared with 2012. The Code Green Response Team is a recent, but successful, intervention providing opportunity to de-escalate a patient and reduce the number of restraint applications.

**EB73 Reducing Intravenous Medication Errors in Critical Care by Managing Distraction**

Leah Brown, Brenna Kilrain, Stephanie Hohmeister, Samantha Stoeff, Rosario McGrath, Megan Linnett, Marabeth Cooper, Karen Reavis, Mary Wisdom; Sharp Memorial Hospital, San Diego, CA

**Purpose:** In 2012, 5 significant medication errors occurred with potentially devastating effects on both patients and nurses. These errors in the administration of titratable high-risk intravenous medications were investigated with root-cause analyses that identified distraction as a contributing factor. Therefore, a project was implemented in the medical intensive care unit (MICU) to provide nurses with the means to avoid distraction and improve safety during intravenous medication administration. **Description:** A review of the literature on reducing sources of distraction during medication administration was completed. Many studies examined external strategies such as vests or signs during medication administration; however, the most successful projects emphasized that nurses reduce errors by fostering mindfulness during critical tasks. The practice council queried the staff and shared data on the recent errors in the MICU. Additionally they communicated strategies for risk avoidance, obtaining buy-in for the project. Signs were posted in the medication rooms stating, “No talking” and “Maximum of 2 people at one time.” To provide the opportunity for a deliberate pause during the initiation or titration of a continuous infusion, the council members initially consulted another nurse to act as a witness. However, this process proved cumbersome. Subsequently, nurses began to write the infusion name and concentration when a new bag was started. When barcoding was implemented hospital wide, this step was made optional. Working with a hospital-wide taskforce, changes were made to forward phone calls after 4 unanswered rings. Nurses were instructed to ignore their ringing phone while in the process of medication preparation and administration. **Evaluation/Outcomes:** Medication errors are monitored, and no serious events related to titratable infusions have occurred since implementation of this project. The medication rooms are now quiet and nurses are heard requesting the time and space to focus and concentrate during medication preparation and administration. Nurses have been empowered to speak proactively to patients, families, and coworkers when they are performing critical tasks such as initiation or titration of a continuous infusion. A culture of mindfulness and an awareness of the risk involved have significantly decreased intravenous medication errors in the MICU.

**EB74 Transforming Critical Care Nurse Education: Making It SIM-tastic**

Christine Lawlor, Mary Ried; NorthShore University HealthSystem, Evanston, IL

www.ccnonline.org
**Purpose:** Unit education for critical care nurses can be improved by using simulation. Strong project development, clear objectives, and the right clinical scenario are key to a successful program. Annual needs assessment determined a need for education for continuous renal replacement therapy (CRRT). Since this therapy is used infrequently, many nurses do not believe they are competent. Simulation as a means of education offered a safe environment to practice with equipment and assess response to alarms. **Description:** The chaotic environment of the intensive care unit with an inability to standardize critical components of the learning process makes the simulation environment perfect for educating innovative practices unique to critical care. It was believed that repeated education would show increased confidence. Before the education, nurses’ comfort was assessed. Didactic education used PowerPoint in a classroom setting for basics. Partnering with the Center for Simulation and Innovation, initial CRRT training was provided. Each nurse participated in a simulation case involving a critically ill patient undergoing CRRT. The goals of education were as follows: increase nurses’ comfort and confidence level in performing CRRT and increase in knowledge from baseline for intervening and responding to change in patients’ status during CRRT. Additionally, targeted performance responses during simulation included 3 critical actions: identify an alarm-troubleshoot and intervene, treat hypotension by decreasing vasoactive medications and disconnecting from CRRT within 5 minutes to avoid a clotted catheter. Debriefing was provided after the simulation. Then nurses’ comfort level in caring for patients receiving CRRT was reassessed via questionnaire. **Evaluation/Outcomes:** Data showed that nurses comfort level with CRRT and targeted performance responses increased greater than 75% from baseline. More importantly, these data were maintained with annual CRRT simulation education for years 2 and 3. Staff nurses report that repeated simulation training is beneficial and have requested this practice not only to continue for CRRT, but also to include other innovative practices unique to critical care especially practices that are high risk/low volume. Administrators appreciate the benefit of this education process and continue to support its use especially for infrequently used treatments. Simulation offers a unique opportunity for critical care nurses.

**EB75 Focused on Feeding Tube Retention:**
A Nurse-Driven Trial of a Nasal Bridle System
Joie Griffin, Sutter Roseville Medical Center, Roseville, CA

**Purpose:** Nasoenteric feeding tube dislodgment is a common occurrence in our trauma neurological intensive care unit (TNICU) and can lead to altered nutritional intake, increased risk of aspiration and infection, and exposure to repeated and unnecessary tests and procedures. The use of nasal bridles was tried to provide a more reliable method for securing nasoenteric feeding tubes, thereby not only improving nutritional status, but increasing patient safety and decreasing additional health care costs. **Description:** Routinely in our TNICU, we secured nasoenteric feeding tubes by taping them to the nose. In a 2014 meta-analysis, Bechtold et al noted there was a 40% dislodgment rate in tubes that were secured in the traditional manner with tape alone, compared with a 14% dislodgment rate in those where a nasal bridle was used. Gunn, Early, Zenati, and Ochoa demonstrated a 36% accidental tube removal rate in their tape group, compared with 10% in their bridle group. Bridling of nasoenteric feeding tubes has been around since the 1980s, although rarely used because of the complexity of placement. Today magnetic retrieval systems have allowed trained nurses to apply bridles with a minimal amount of time, effort, or cost. Using a train-the-trainer model, the TNICU nurses were taught how to place nasal bridles. A randomized control study was then initiated in our 2 units. One unit performed nasal bridling on all 8F feeding tubes, whereas the other unit had all 8F feeding tubes secured to the nose with tape. In the unit that performed bridling, nurses were instructed to have a trained employee place a nasal bridle in their patients immediately after nasoenteric feeding tube placement. All patients were tracked until time of tube removal or discharge. **Evaluation/Outcomes:** In a 13-month period, 70 patients met criteria for inclusion in our trial. The control group consisted of 35 patients in whom feeding tubes were secured in the traditional manner with tape. The experimental group consisted of 35 patients where a nasal bridle was used. There was a 22.8% pull rate in our tape group (8 tubes) compared with a 2.8% pull rate in our bridle group (1 tube). One patient was able to pull the tube due to a procedural error placing the bridle clip. There were 2 cases of mild
epistaxis, and a stage I pressure sore from the umbilical tape. The focused passion of this nurse-driven trial has shown that nasal bridles do work, and they will now be used in all our patients.

**EB76 Central Venous Access Device Care and Maintenance: Changing Nurses’ Practices to Prevent Infections**
Muriel Makamure, Brooke Baldwin-Rodriguez; UC Irvine Medical Center, Orange, CA

**Purpose:** To reduce central catheter–associated blood stream infection (CLABSI) rates in the burn intensive care unit (ICU). Rates had been at or below the expected National Health and Safety Network (NHSN) rate from 2009 through the second quarter of 2013. CLABSI rates were above the expected NHSN benchmark in the third and fourth quarter of 2013. About 85% of the CLABSIs occurred more than 5 days after catheter insertion, indicating that quality improvement should focus on the care and maintenance, rather than insertion practices. **Description:** Most of the CLABSI literature focuses on insertion practices, with little focus on compliance with nursing standards of care and maintenance. Kalish reported in 2011 that assessment and care for all catheters per policy was missed 34.5% of the time. In 2013, Rupp revealed deficiencies in 31% of the 420 central venous access device (CVAD) dressings audited. In 2014, Thom revealed deficiencies in 31% of the 420 central venous access device (CVAD) dressings audited. In 2014, Thom reported a significant decrease in CLABSI rates with the implementation of a unit-based quality nurse. For this project, a direct care nurse took on the informal role of quality nurse for assessment and evaluation of nursing care. A survey, with a 60% response rate, revealed a range of 6% to 88.2% of missed nursing care (errors of omission) for their own practice and a range of 26.7% to 94.2% of missed nursing care when evaluating their colleagues’ practices. Surveys indicated poor practice habits were the cause of most missed nursing care, and 118 ideas for improvement were suggested. Interventions based on staff input were implemented. An educational demonstration video was created, best practices were shared during change of shift, “days without CLABSI” were posted, and quality audits for dressing appearance and documentation (including photos) were completed. **Evaluation/Outcomes:** As of August 30th, 2014, our unit has been 240 days without a CLABSI and below the NHSN benchmark. The postsurvey indicated overall lower rates of missed nursing care. Rates of self-missed nursing care dropped from a high of 88.2% to 53.3% overall, and rates of colleagues’ missed nursing care dropped from a high of 94.2% to 80%. The demonstration video was noted to be the most meaningful intervention, with 78.57% of nurses indicating that their personal practice has changed since the project started. About 57% of nurses strongly agreed that the having a staff member lead the project had a significant impact on their ability to change practice. A model for sustainability is being developed.

**EB77 Chest Tube Removal by Nurses**
Kristi Claeyts, Sarah Hammel, Sherry Wolf; Mayo Clinic Rochester, Rochester, MN

**Purpose:** Timely chest tube removal improves pain control following thoracic surgery; however, competing demands among providers can delay tube removal. Earlier removal of chest tubes allows patients to ambulate sooner, improves patients’ comfort levels, and could shorten patients’ hospital stay. Our goal was to implement chest tube removal by nurses, in an effort to improve patient care and satisfaction, expedite the discharge process, and enable registered nurses to work to the full scope of their licensure. **Description:** A multidisciplinary team collaborated to implement and operationalize chest tube removal by nurses on a 33-bed thoracic surgery progressive care unit. The Institute of Medicine recommends that “nurses should practice to their full extent of their education and training” and partner with health care providers to redesign health care. The AACN Procedure Manual for Critical Care states that chest tube removal should be performed by physicians, advanced practice nurses, and other health care professionals (including critical care nurses) with additional knowledge and skills. Review of the literature revealed that implementation of chest tube removal by nurses improves pain control and mobility and increases nurse satisfaction and collaboration with physicians. Following an extensive literature review, benchmarking, and analysis of current internal practice for chest tube removal, a nursing procedural guideline (based on the AACN procedure for chest tube removal) and education were developed. Registered nurses completed a series of online modules followed by observation and return demonstration of chest tube removal by
EB78 Exceeding Survival Rates for Extracorporeal Membrane Oxygenation: Making It Happen

Martina Remaly, Martina Remaly; Lehigh Valley Health Network, Allentown, PA

Purpose: Most patients who require extracorporeal membrane oxygenation (ECMO) die of their disease without this therapy. In the past, patients who came to the presenting organization requiring venovenous ECMO were either transferred to other facilities or died. Recognizing the necessity to provide this therapy to our local community and region, a multidisciplinary team formed to develop a comprehensive ECMO program, which to date, has exceeded national percentages of survival.

Description: The multidisciplinary team consulted with an expert in ECMO to provide initial education to nurses and physicians who would be providing direct care to these patients. Education included provisions for a sound base of knowledge of the therapy, as well as instruction on using a nurse-monitored model of care delivery. Over the next year and a half, the multidisciplinary team continued to meet monthly. Patient case studies and common problems were presented and reviewed among the many disciplines. Complications of immobility, both for skin integrity and physical rehabilitation, as well as concerns regarding the necessity to chemically paralyze all ECMO patients and administer deep sedation were identified as recurring issues. Through interprofessional collaboration, the team received the required support to address these problems and make positive changes in practice. Patients who initially were not being turned for weeks were now being mobilized; skin integrity improved as did maintenance of physical function and motor movement. Patients who were initially chemically paralyzed and placed in an induced coma were now only being sedated depending on their individual physiological needs.

Evaluation/Outcomes: Ongoing collaboration among the multidisciplinary team members identified areas for improvement and practice change. Careful review of 1 venovenous ECMO patient improved the manner in which care was provided to the next patient. Cumulatively, evaluation of 40 venovenous ECMO patients resulted in a survival rate of 67.5%. This rate exceeds the current Extracorporeal Life Support Organization reported survival rate of 56%, by 11.5%.

EB79 Under Pressure: Reducing Hospital-Acquired Pressure Ulcer Prevalence in the Medical Intensive Care Unit

Margaret Nemitz; Brigham and Women’s Hospital, Boston, MA

Purpose: To reduce the prevalence of hospital-acquired pressure ulcers (HAPUs) in the medical intensive care unit (MICU) by 40% or 50%. Through small practice changes and staff education, we aim for an increased compliance with the pressure ulcer prevention bundle.

Description: Four skin champions started working together in the MICU in March 2012, when Brigham and Women’s Hospital’s HAPU prevalence rates reported to the Massachusetts Hospital Association, patient care link were 2 to 3 standard deviations above rates in comparable hospitals for the critical care population. We began by sharing a skin tip of the month with our fellow nurses as we probed into the scope and nature of the problem in our unit. In the fall of 2012, we were awarded a $10,000 grant from the AACN to participate in the Clinical Scene Investigator (CSI) Academy, which gave us the opportunity to pursue our efforts for 18 months with guidance and support from AACN and our coaches at Brigham and Women’s Hospital. We conducted weekly prevalence rounds for a total of 38 weeks, collecting data before and after our interventions and providing real-time education for the nurses and doctors on HAPU prevention, identification/staging, and treatment. We provided a 3-day education blitz for our nurses and patient care aides (PCAs) to review the bundle and institute small practice changes related to offloading and turning. We initiated “4 Eyes on Admission” to improve identification and documentation. We tried out and helped implement new products including incontinence pads, preventative sacral dressings, and...
improved endotracheal tube holders. **Evaluation/Outcomes:** We were able to achieve 100% attendance by all nurses and PCAs at our education blitz. Our prevalence data before and after showed a small decrease in HAPUs from 21.4% to 18%. Quarterly hospital PU surveys were more promising: from 33.3% (3/2012) to 10.5% (12/2013.) During an 8-week trial of the Mepilex Border sacral dressing, we appreciated our lowest HAPU incidence, more than half of that during the 8 weeks following the trial (3 vs 8 ulcers.) We obtained approval from our hospital’s products committee to continue its use on our unit for an additional 6 months of data collection. We were invited to share our results to date with the rest of the hospital at an ICU leadership meeting.

**EB80 Continuity of Care in the Pediatric Cardiac Intensive Care Setting: A Nurse-Driven Initiative**

Ashley Izadpanah; Childrens National Medical Center, Washington DC

**Purpose:** The cardiac intensive care unit (CICU) at Children’s National has experienced an increase in its chronic population, which we define as patients with stays greater than 2 weeks. A cardiac continuity of care (C3) program was created, using primary nursing to address the needs of chronically ill patients. This holistic program promotes patient-family centered care but lacked nursing participation. The purpose of this project is to create a favorable work environment that promotes primary nursing. **Description:** When a nurse chooses a primary chronically ill patient, the responsibilities include caring for the patient at least 3 shifts a month, attending monthly meetings, and various creative projects. Patients and their families expressed great appreciation for the program and primary nurses expressed feelings of increased empowerment at the bedside. To understand the barriers to participation, a 13-question survey was released to all 95 CICU nurses; 52% responded. A literature review about continuity efforts in pediatric ICUs was performed. The major barriers to participation were fear of having the same patient assignment every day (“burnout”), confusion about the C3 structure, and time constraints. In an effort to diminish burnout, new guidelines were established allowing nurses to request a “break” from being the bedside nurse for their primary patient. In collaboration with leadership, we ensure that nurses will not receive backlash for such requests. We also expanded the C3 structure: each chronically ill patient may have 1 primary nurse who accepts the responsibilities just described, as well as 3 care team members who serve as consistent bedside caregivers. To eliminate confusion, the new guidelines were made easily accessible to all nurses. **Evaluation/Outcomes:** Very quickly after the new C3 guidelines were announced to the staff, we noticed an increase in nursing participation. The most common positive feedback is the appreciation that nurses now feel protected from burnout. The new guidelines went into effect in June 2014. Our plan is to reevaluate nursing participation in the C3 program 4 months after our new guidelines (early October 2014). Official statistical outcomes for nursing participation 4 months prior and 4 months after the new guidelines will be compared to determine the degree of change caused by this nurse-driven initiative.

**EB81 Prevent Infection/Use Protection—Using a Team Approach to Decrease Neurosurgical Infections**

Sandia Royal, Sharon Wesson, Janet Tupper; Robert Wood Johnson University Hospital, New Brunswick, NJ

**Purpose:** To decrease the incidence of neurosurgical infections related to external ventricular drains (EVD). EVDs are the reference standard of care for monitoring intracranial pressure; however, they carry a higher risk of infections than other intracranial monitoring devices. In a 3-month period, an increase in infection rates from 3.2 to 7.9 infections per 100 procedures prompted an investigation into our practices in patients with EVDs. **Description:** To address this issue, an interdisciplinary team was formed that included staff nurses, a clinical nurse educator, a neurosurgical physician’s assistant, physicians, and infection prevention staff with the goal to analyze data from our infection reports and evaluate our current EVD management practices. Data analysis identified inconsistencies in the process that led to changes in management of the EVD pertaining to insertion, access care, and documentation that were based on evidence-based strategies. Recommendations from the American Association of Neuroscience Nurses include following strict aseptic technique when the EVD is accessed or irrigated, and use of hand hygiene, mask, sterile field, and sterile gloves. A neurosurgical procedure checklist was developed to promote consistent practice and documentation when inserting and accessing an EVD. Additional changes implemented included full barrier precautions for equipment setup, use of clippers.
rather than razors for hair removal, and development of a neurosurgical dressing change kit with multiple applications. Staff education was provided to ensure successful standardization of the practice changes.

**Evaluation/Outcomes:** Data was collected after implementation of our quality improvement initiative. In the 3 months following our practice changes, the pre-intervention infection rate of 7.9 per 100 procedures steadily decreased to 1.4, 1.2, and then 0 infections per 100 procedures. The rate has remained at 0 for 6 consecutive months. The team continues to monitor practices and review strategies in management of this patient population to increase compliance with practices for decreasing neurosurgical infections.

**EB82 Lessons Learned from the Clinical Scene Investigator Academy: Don’t Fumble the Handoff . . . Tackling Effective Communication**

Nicole Howley, Lisa Nolan; South Shore Hospital, Weymouth, MA

**Purpose:** Our organization struggled with strained relationships between the emergency department (ED) and the intensive care units (ICUs) and had no formal structure for handoff. As nurses, we have the power to create care delivery systems that help to ensure safe quality care. Our goal was to improve communication, build better relationships, encourage standard use of the SBAR format (situation, background, assessment and recommendation), and ultimately promote a culture of safety. **Description:** We spent 16 months as Boston clinical scene investigators (CSIs) researching studies, surveying staff, analyzing data, and reviewing incident reports related to problems with handoff. Using some of the tools and techniques we acquired during our time in the AACN CSI Boston Academy, we assessed, planned, implemented, and evaluated a series of creative and innovative strategies to address problems with communication handoff. **Evaluation/Outcomes:** Costs associated with medical errors are reported to be $8 billion to $20 billion annually ($8750 per patient). Communication issues are the leading factor in most cases. Our efforts resulted in improved patient safety with a decrease in incident reports related to handoff. In November 2012, there were 10 handoff incident reports, and in February 2014, 0 incident reports related to handoff. This represents a potential cost savings of $87,000 per month with a projected annual savings of $1,044,000. We also realized improvements in the culture at South Shore Hospital between the ED and ICU. We found that 76% of ICU nurses and 100% of ED nurses are using the SBAR format during handoff.

**EB83 Research Study Participation Promotes Leadership and Empowers Nurses to Change Practice Standards**

Florence Wilson, Nancy Ames, Danelle Gori, Thiruppavai Sundaramurthi, Glenda Navaleza, Susan Johnson, Meredith Frey; National Institutes of Health, Bethesda, MD

**Purpose:** To demonstrate how involvement of the clinical research nurse (CRN) in the design and implementation of a clinical trial not only enhances their understanding of the research process, but also develops leadership skills and empowers the CRN to change practice standards and optimize the care of the research participant. **Description:** The research study developed by the CRNs in the surgical intensive care unit (SICU) was titled “Effect of Music Listening on the Amount of Opioids Used in SICU Patients.” Evidence supports the idea of introducing music listening to critically ill patients. The literature review highlighted the research-practice gap that exists regarding this alternative therapy. Participating in the step-by-step process of writing the research study, defending the scientific review process and obtaining approval from the institutional review board resulted in an enhanced understanding of the research process. Each step of the research process brought new opportunity to develop skills in communication, writing, data analysis, literature review, and scientific debate. Leadership skills were strengthened and/or learned as the CRN organized and led the implementation and data collection steps. Then, after their analysis of the overall process and the study results, the CRNs identified areas for practice change and were empowered to implement these improvements in care for their research participants. **Evaluation/Outcomes:** The CRNs who participated in the development and implementation of the research study were acknowledged as leaders by their multidisciplinary ICU team. The CRNs identified “best practice” for the ICU and modeled professional commitment to improving the safety and quality of care of research participants. Two specific examples of changes, besides music listening, resulting from the study were (1) improvements in documentation
of patient-controlled analgesia and (2) the addition of a preoperative education program for ICU patients.

**EB84 Focusing the Flame: Redesigning Orientation in a Surgical Intensive Care Unit to Increase Nurse Retention**

Elizabeth Kozub, Maribel Hibanada-Laserna; Sharp Memorial Hospital, San Diego, CA

**Purpose:** The orientation program in a surgical intensive care unit was revised to organize and streamline the process. Traditionally, preceptors would randomly target competency completion without consideration for the orientee’s skill acquisition. Both the preceptors and orientees expressed concern over the disorganization of the orientation process. The unit’s clinical nurse specialist (CNS) assessed that the orientation program needed structure and organization to increase nurse retention and knowledge gained by the orientees. **Description:** The performance improvement project for orientation redesign blended Benner’s novice to expert model with incorporating the theoretical basis of Maslow’s hierarchy of needs. In Maslow’s hierarchy of needs, basic needs and safety must first be met before an individual can progress to self-actualization. Translating the same principles, orientees must first master basic competencies and safety practices before advancing to more complex competencies. The competencies and learning modules were organized into 3 phases of orientation: phase 1, basic competencies and safety; phase 2, intermediate skills and time management; phase 3, complex patient situations. Competencies and learning modules were matched to 1 of the 3 phases. A timeline was created to actualize the phases and create objective criteria for progress evaluation of the orientee as well as a guide for the preceptor in selecting patient assignments and targeting competency completion. The redesign was presented to the preceptors at the annual preceptor line the process. Traditionally, preceptors would randomly select patient assignments and orientees expressed concern over the disorganization of the orientation process. The unit’s clinical nurse specialist (CNS) assessed that the orientation program needed structure and organization to increase nurse retention and knowledge gained by the orientees. Description: The performance improvement project for orientation redesign blended Benner’s novice to expert model with incorporating the theoretical basis of Maslow’s hierarchy of needs. In Maslow’s hierarchy of needs, basic needs and safety must first be met before an individual can progress to self-actualization. Translating the same principles, orientees must first master basic competencies and safety practices before advancing to more complex competencies. The competencies and learning modules were organized into 3 phases of orientation: phase 1, basic competencies and safety; phase 2, intermediate skills and time management; phase 3, complex patient situations. Competencies and learning modules were matched to 1 of the 3 phases. A timeline was created to actualize the phases and create objective criteria for progress evaluation of the orientee as well as a guide for the preceptor in selecting patient assignments and targeting competency completion. The redesign was presented to the preceptors at the annual preceptor appreciation breakfast, the leadership meeting, and at the advanced clinician meeting. The CNS presented the information 1-on-1 with the new preceptors and those who missed the information. **Evaluation/Outcomes:** There was a modest increase of number of nurses completing orientation from 95.3% before implementation (2009-2011) to 97.6% afterward (2011-2013). Nurse retention in 2 years increased from 58.5% to 75%. There was a decrease in turnover rate from 8% (2009-2010) and 11% (2011) before implementation to 8% (2012) to 5% (2013) after implementation. The orientees had an increase in critical care knowledge acquisition after orientation, measured by the Basic Knowledge Assessment Test (6th edition) scores from 77.5% to 83% (P < .01). There was no change in the length of orientation. Finally, cost avoidance is estimated to be $432 000 to $594 000 due to increased nurse retention.

**EB85 Reducing Patient Falls in a Surgical Intensive Care Unit**

Elizabeth Kozub, Aileen Ravelo, Maria Gamboa, Karen Worthy; Sharp Memorial Hospital, San Diego, CA

**Purpose:** Patient falls are a preventable event and preventing such falls is a National Patient Safety Goal through the Joint Commission. Despite numerous education attempts on fall prevention, the surgical intensive care unit (SICU) had not reached the goal of 0 patient falls. When investigating why falls were continuing, it was determined that fall-prevention strategies were not being consistently implemented. The goal of this project is to reduce and eliminate patient falls in a SICU. **Description:** When the leadership team investigated why the fall-prevention strategies were not being consistently implemented, it was revealed that many nurses did not accurately assess their patient as being a fall risk. Previously, a hospital-wide fall education campaign was implemented throughout all levels of care. However, this fall education did not focus on the ICU patient-specific variables for assessing patient fall risk factors. A case study approach using simulated scenarios was developed by the advanced clinical nurses in the SICU for all nurses and implemented during the annual competency program. Here, nurses assessed 4 patient scenarios and determined what, if any, fall-prevention strategies were needed. Prevention strategies include the use of bed and chair alarms, use of a gait belt when transferring a patient to a chair or commode, and the use of a fall wristband to communicate the patient’s fall risk to other team members. In order to ensure sustainability of the knowledge and application of the fall-reduction strategies, the leadership team (lead clinical nurses, nurse manager, and clinical nurse specialist) rounded on patients to ensure that the fall-prevention measures were being implemented into clinical practice. **Evaluation/Outcomes:** A comprehensive approach using both simulated case studies and real-time feedback was needed to change the culture and practices related to fall assessment and
EB86 A Collaborative Approach Between Nurses and Providers to Decrease Urinary Catheter Use

Leah Brown, Judy Willon, Eleanor Matthews, Kaelin Schickedanz, Maria Gamboa, Elizabeth Kozub, Michelle Sterling; Sharp Memorial Hospital, San Diego, CA

**Purpose:** Prevention of catheter-associated urinary tract infection (CAUTI) is an organizational priority because of its effect on quality patient outcomes and its link to financial reimbursement. One certain way to avoid infections is to limit the duration of catheterization. An algorithm for removal of indwelling urinary catheters that required collaboration between nursing and physicians as well as daily rounding was implemented to decrease indwelling urinary catheter (IUC) use in 2 intensive care units (ICUs). **Description:** Although many hospitals successfully have implemented nurse-driven IUC removal protocols, the procedure created in this hospital calls for collaboration between nursing and physicians to determine IUC removal and requires a provider’s order to initiate the removal algorithm. Criteria define the conditions in which an IUC is indicated and include the procedure for managing urinary retention after removal. After approval from the hospital-wide CAUTI prevention task force, the algorithm was implemented in the surgical and medical ICUs (SICU and MICU). Education was provided on appropriate indications for maintaining an IUC, alternatives to manage incontinence, use of the bladder scanner, intermittent catheterization, and the stepwise procedure of the algorithm. Although the bedside nurse and physician both evaluate the need for an indwelling catheter on a daily basis, a rounding tool is used by the charge nurse and in huddles each shift, stimulating further discussion regarding the possibility of removal. One benefit of the removal algorithm is that the nurse can manage urinary retention after the IUC has been removed without obtaining a second provider order. **Evaluation/Outcomes:** A collaborative approach was needed to address the complex issue of CAUTI prevention in the ICUs. Catheter utilization has steadily declined each month showing enculturation of the new procedure and the benefits of teamwork between clinicians for improved patient care. Currently device use is 44% in both units, dramatically decreased from the initial point of 71% in the MICU and 77% in the SICU 8 months ago, below the National Healthcare Safety Network’s benchmark through the Centers for Disease Control and Prevention of 50% for MICU and 64% for SICU. It is hoped that with continued decrease in the number of days IUCs are maintained in patients, the rates of CAUTI also will decline.

EB87 Effectively Using Consultation With the Pediatric Advance Care Team in the Neonatal Intensive Care Unit

Mary Ann Olbash; Boston Children’s Hospital, Boston, MA

**Purpose:** The pediatric advance care team (PACT) provides palliative care support to children with life-threatening illnesses. The PACT team delivers care aimed at optimizing quality of life, promoting healing, and providing comfort to children. PACT consultation within our neonatal intensive care unit (NICU) varied greatly. The goal of this quality improvement (QI) project was to assist NICU staff with identifying and generating consultations for patients and patients’ families that could benefit from PACT services. **Description:** Using the plan-do-study-act (PDSA) quality improvement framework, we standardized our process for PACT consultation. The QI group met with members of PACT to discuss the goals of the project and establish criteria for those patients who would benefit most from consultation. A series of quality improvement team meetings resulted in development of a newly designed PACT decision tree. Following development of this new PACT decision tree, NICU staff were educated on the role of PACT and the new decision tree via staff meetings and by e-mail. Additionally, PACT decision trees were placed in each patient’s bedside binder. To assess the outcomes from our education, a pre/post survey was developed and sent to NICU staff to assess knowledge regarding PACT consultation before and 5 months after the education initiative. Three months of patients’ charts from before and after the educational initiative were retrospectively reviewed to determine candidacy for PACT and if a consultation had been generated. Pre/post data measurement was performed by 2 reviewers. Reviewers used the same patient eligibility criteria, and cross-checks were made.
EB88 Financial Health of Families With Hospitalized Infants: A Quality Improvement Initiative

Noel Dwyer, Judith Carter, Karen Cot, Kathryn Gustafson, Phoebe Chase, Julie Roselund, Jessica Anderson, Michele DeGrazia, Kathleen Martorana; Boston Children’s Hospital, Boston, MA

**Purpose:** Parent members of our neonatal intensive care unit (NICU) Family Advisory Council revealed that they were unaware of the financial support personnel available to assist them at Boston Children’s Hospital (BCH). This quality improvement initiative was undertaken with the purpose of expediting referrals to the health benefits coordinator (HBC), to reduce the financial burden on NICU families who have infants with medically complex needs. **Description:** Changes to health care plans have led to large, sometimes excessive, bills following prolonged hospitalizations. Insured families pay for health care in a variety of ways, including health care premiums, deductibles, co-payments and co-insurance. In 2013, Kaiser reported that 61% of covered workers have co-insurance payments for a hospital admission; those payments average 18% of the cost of the hospital stay. HBC services can enable parents to better manage financial responsibilities associated with their infant’s hospitalization. Using the plan-do-study-act (PDSA) quality improvement framework, we revised our current system for HBC referrals. The new system consists of (1) creation of a patient care referral letter that describes the available financial resources, (2) inclusion of the referral letter in the parent admission packet, (3) development and implementation of a needs assessment tool for HBC referral completed by the admitting nurse, and (4) development of a multidisciplinary team to review the completed needs assessment, expediting HBC referrals.

**Evaluation/Outcomes:** Referrals to the HBC before and after implementation were compared to evaluate the success of our initiative. We estimated the number of families eligible for referral and measured the number of actual referrals in 4-month cycles. The implementation of a clear and systematic process to identify families who qualify for coordination of benefits has led to a significant increase in the number of referrals to the HBC. A collaborative, multidisciplinary approach was instrumental to the success of our initiative. Moving forward, we plan to review financial data to determine the estimated savings to BCH and our NICU families.

EB89 FOLEY: Focus On Linking Evidence to Your Practice

Megan Smakulski, Marta Brodowski, Kimberly Prouse, Sonya Stover, Devon Manley, Maureen Seckel, Kimberly Mattison; Christiana Care Health System, Newark, DE

**Purpose:** Foley catheter use in the medical/pulmonary step-down unit at Christiana Care Health System had been higher than the National Healthcare Safety Network’s (NHSH’s) benchmark for step-down units. The step-down unit’s catheter-associated urinary tract infection (CAUTI) value improvement team (VIT) began to develop and implement strategies to reduce the use of Foley catheters in an attempt to reduce the number of CAUTIs. **Description:** The CAUTI VIT met bimonthly to investigate all unit CAUTIs, research criteria for long- and short-term use of Foley catheters, identify barriers and successes, debrief on each unit-acquired infection, and plan and implement a path forward. In addition, a survey was created to assess the staff’s knowledge of Foley catheter care and CAUTI prevention both before and after implementation of the new strategies. Foley catheter rounds were conducted 2 or 3 times per week with a comprehensive checklist and “in the moment” education provided by VIT rounders. The team collaborated with the Surgical Critical Care Complex to implement their successful urinary catheter care project. The project provided a standardized procedure for Foley care which included castile soap each shift and as needed. Castile liquid soap packets were made available in every patient’s room for all incontinence and Foley catheter care. For each transfer or admission to the unit, the need for a Foley catheter was reviewed with the sending units. The team educated staff with posters, e-mails, and 1-on-1 education. The team also initiated a new Foley catheter station at the unit’s...
annual critical skills fair. The unit was rewarded for CAUTI-free months, and individual staff members were recognized for removing Foley catheters. **Evaluation/Outcomes:** The VIT met their goal of reducing device days by 15% and surpassed that goal to a 30.3% reduction. During fiscal year 2014, use of Foley catheters decreased to 0.19 to 0.14. Next steps include continuing to work with other departments to collaborate on best practices related to CAUTI prevention. VIT team members are part of a system-wide CAUTI reduction collaborative that started in June 2014. With patient safety in mind, the VIT has learned that reducing use of Foley catheters and emphasizing accountability has given us the opportunity to focus on excellence and provide safe, high-quality patient care.

**EB90 Reducing the Risk Factors for Ventilator-Associated Pneumonia in Intensive Care Units: A 2-Pronged Approach**

Jill Sarbenoff; Methodist Hospitals, Merrillville, IN

**Purpose:** To examine the effectiveness of combining a comprehensive oral hygiene protocol with intensive staff education on reducing the incidence of ventilator-associated pneumonia (VAP) in the 3 intensive care units at Methodist Hospitals. After a ventilator bundle had been initiated in 2011, the incidence of VAP continued to decrease until the fourth quarter of 2012, when it began increasing again. This study was undertaken to try to reverse that trend. **Description:** Research is plentiful regarding the importance of oral hygiene on reducing various risk factors associated with VAP. In 2013, Cutler and Shuman reported that including chlorhexidine as part of oral hygiene results in a 0.53 reduction in relative risk for VAP. Education also has an important role in decreasing the incidence of VAP. It was hoped that the risk reduction would be even more significant when a combination of approaches was used. The initiative began with a comprehensive educational program for the staff of the 3 intensive care units. The nurses had to attend in person or view an online presentation about VAP and take a short quiz. The next part of the implementation involved educating the staff nurses about the new 2-hour oral care kits with chlorhexidine. Education was done in a 2-week period, on all 3 shifts, in each of the intensive care units. More than 90% of the nurses received training on the kits before the start of this project. The remainder received training during the first week of the rollout. **Evaluation/Outcomes:** The initial goal was to see an 80% decrease in the number of VAP or ventilator-associated events (VAEs) in the third and fourth quarters of 2013. The ultimate goal was to eliminate all VAEs by the end of the first quarter of 2014. However, since implementing the program 14 months ago, 0 VAEs have been reported by the 3 intensive care units.

**EB91 Medication Side Effects Education Tool Improves Patient Satisfaction Scores in a Telemetry Unit**

Aileen Ingles, Kim Rossillo; St Joseph Hospital Orange, Orange, CA

**Purpose:** In our telemetry unit, patient education on medication indications and side effects is inconsistent. This inconsistency is reflected in patients’ responses to the postdischarge satisfaction question: “Before giving you any new medicine, how often did the staff tell you what the medicine was for and did they describe possible side effects in a way you could understand?” Unit scores were below the 50th percentile. Our goal is to attain score above the 75th percentile and to improve medication education for our patients. **Description:** A multidisciplinary team facilitated by 2 experienced clinical nurses was formed that included pharmacists, managers, and other staff nurses from 3 departments. The team created a staff teaching protocol based on evidence gathered from published sources and gleaned from conference attendance. The team also sought input from the Patient/Family Advisory Council. This patient education initiative focused on ensuring that patients who were administered new medications understood these and their potential side effects. A handout template was developed with the following elements: (1) drug classification and action, (2) common medications (generic/brand name), and (3) top 5 side effects for the drug classification. Individual patient handouts are kept in patient education trays at the bedside. When a new medication is ordered, nurses retrieve the handout and highlight the drug class, medication name, and side effects for the new medication; then, they discuss the information with the patient. Teach back is done to determine the patient’s level of understanding. Reminders for this new practice are posted in various locations in the unit. Patients’ rooms have signs to prompt patients to ask nurses why they are taking medications and what are potential side effects. **Evaluation/Outcomes:** After this new process was rolled out, the Hospital Consumer Assessment of Healthcare
Providers and Systems (HCAHPS) score for the satisfaction question increased to above the 50% percentile. Patient feedback has been positive: “easy to read, understand, and remember.” Managers conduct random audits; HCAHPS scores are monitored and posted to keep the staff apprised. Evaluation is ongoing and as improvements are seen, new goals are set. One of the goals is to sustain this initiative through consistent use by every nurse each time medication is administered. Next steps include a survey for patient feedback on the quality of how the teaching is delivered and if the material is easy to understand.

**EB92 Infection Control Liaison: Controlling Infections While Spreading Education**

Brady Bielewicz, Elisabeth George, Darlene Lovasik; UPMC Presbyterian Hospital, Pittsburgh, PA

**Purpose:** The National Healthcare Safety Network (NHSN) of the Centers for Disease Control and Prevention (CDC), in collaboration with other organizations, has developed guidelines for the prevention of catheter-associated urinary tract infections (CAUTIs) and other types of health care–associated infections. The goal of this project was to incorporate these guidelines to reduce the number of CAUTIs and to decrease the number of device days. This problem was addressed by an evidence-based solution.

**Description:** The evidence-based solution was the use of a nurse-driven catheter removal protocol in combination with a care bundle, continuing education, and auditing to aid in the reduction of infections. Linked to the hospital’s ICU nursing practice guidelines, this protocol was developed to help support the nursing staff for appropriate use of an indwelling urinary catheter, using the most up-to-date evidence-based practice combined with recommendations from the CDC. The first step was to determine if the bundle was a priority among the staff. The unit’s infection rates were not the highest hospital-wide, but they were above the national average. Staff were then re-educated on the bundle and educated on the aim for 0 infections and a reduction in the amount of device days during the coming year. In addition, performance measures were incorporated into daily auditing during morning rounds to determine necessity and proper maintenance of catheters. Although the only way to prevent a CAUTI is to not use indwelling catheters, it has been this bedside approach with staff feedback that has helped to increase the discussion and reduce the infection rates on the unit.

**Evaluation/Outcomes:**

The outcomes of this project reflect a change in culture with regards to reducing the number of CAUTIs. In 2012, there was a mean of 1.08 infections per month and a mean of 179 device days. In 2013, there was a mean of 0.92 infections and a mean of 143 device days per month. These rates show a 15% reduction in the number of infections and a 21% reduction in the number of device days per month. The change in culture is attributed to continued education of bedside nurses to feel more empowered with the use of the nurse-driven protocol for urinary catheter removal.

**EB93 A Comprehensive Approach to Sustainable Reductions in Catheter-Associated Urinary Tract Infections**

Daniel Greene; Allina Health–Abbott Northwestern Hospital, Minneapolis, MN

**Purpose:** To decrease catheter associated urinary tract infections (CAUTI) by 30% in 2014 and to sustain CAUTI rates below the National Healthcare Safety Network (NHSN) benchmark for 2015.

**Description:** Our 30-bed medical/surgical/neurological intensive care unit (ICU) began this process in January 2014. A comprehensive approach was taken when looking at the life cycle of an indwelling urinary catheter (IUC). The life cycle phases looked at were preventing unnecessary placement, aseptic insertion, proper maintenance, prompt removal, and preventing replacement. The following steps were taken to achieve this: 29 CAUTI cases from April 2013 to March 2014 were reviewed in depth to define trends; nurses and physicians were surveyed on attitudes toward IUCs; aseptic Foley catheter insertion was assessed to define gaps; 10 nurses attended aseptic insertion training to become resources for their peers; regular prevalence, appropriateness, and maintenance rounding was done on all shifts; a bedside nurse-driven group is reviewing the research to define standards of care for Foley catheter/perineal care, we participated in a pilot study of a nurse-driven protocol for Foley catheter removal; a new condom catheter will be tried; “naughty CAUTI” e-mails containing “factoids” were sent on a regular basis to all nurses, physicians, and nurses aides. These are usually no more than 3 or 4 sentences and sometimes off-the-wall fun to maintain interest. It is an attempt to keep CAUTI a focus so that we can create a culture change over time.

**Evaluation/Outcomes:**

The CAUTI cases reviewed indicated that 66% were from
IUCs placed on our unit, 39% occurred in the first 5 days, 72% in the first 10 days, and 52% were yeast infections. The aseptic insertion assessment showed that steps were omitted or contaminated 49% of the time. A brief survey showed that nurses did not know what best practice was for Foley catheter/perineal care. The number of CAUTIs per month has decreased since January 2014, with no CAUTIs in May and July. Even more important is the rate trend (No. of CAUTIs/No. of catheter days) has steadily declined from 7 in January 2014 to below the NHSN benchmark at 1.75 in August 2014. The comprehensive approach has set a course that will make our goals obtainable and achieve sustainability.

**EB94 A Unit-Based Quality Investigation Team: Analysis and Accountability at the Bedside**

Kathrine Winnie, Hau Yau, Noelle Telebrico; Keck Hospital of USC, Los Angeles, CA

**Purpose:** In an effort to improve patient outcomes and patient care, this hospital uses councils, committees, and auditing processes to address quality issues. Even so, there is a perceived lack of front-line staff engagement in the process of improving nursing-sensitive quality indicators. The Quality Investigation Team (QuIT) was developed so that clinical nurses could directly engage their own colleagues in quality improvement, focusing on hospital-acquired infections, pressure ulcers, and falls.  

**Description:** The QuIT’s process includes analyzing each quality breakdown, holding staff accountable, and offering education. Upon identification of an issue, the team collects objective data from the medical record, and subjective data from the staff members who cared for the patient in the 3 days preceding the quality breakdown. The gathering of information from staff is 2-fold. Staff members are not only alerted that they cared for the patient around the time the quality matter developed, they are also given time to provide their thoughts on possible causes or contributing factors. Evidence states that although health care workers see the benefit of performing analyses of adverse events, there is concern that the process can be overly bureaucratic. By keeping this process at the unit level, the staff benefit, and they are held accountable for their practice. Additionally, current literature has shown that overly complex information has failed to engage some individuals in understanding the context. The utilization of case studies for workplace education facilitates learning, improves critical thinking, and enhances decision making. With this in mind, the QuIT primarily uses the case study format to disseminate information.

**Evaluation/Outcomes:** The QuIT has been active since January. When comparing data from the first 8 months of 2014 with data from the 8 months prior, the number of CAUTIs has decreased by 20% and reportable pressure ulcers have decreased by 50%. The number of central catheter–associated bloodstream infections remained steady with 1 such infection during each 8-month period. Prior to QuIT implementation, staff members were never purposely individually notified when a patient they cared for was diagnosed with a hospital-acquired infection. As a result of this project, nurses are now made aware of the possible association between the quality breakdown and their care of the patient.

**EB95 HEART: Helping Employees Achieve Recovery Together**

Michelle Franklin Ashley Dodson, Kara Bean; Salem Hospital, Salem, OR

**Purpose:** To develop peer support for employees suffering from second victim phenomenon. According to evidence-based studies, a peer support program can lead to several positive effects. Some of these benefits are increasing awareness of the second victim phenomenon, providing additional resources for the staff, and increasing job satisfaction and patient satisfaction.

**Description:** Two registered nurses created a peer support program that offered formal resources to assist with coping, following events such as code blue or family interference. The nurses gathered scientific literature and resources, investigated similar programs, and presented a proposal to management. After gaining permission, the program leaders organized 2 all-day sessions where fellow volunteers were trained by professional experts on how to offer assistance to others. These 9 volunteers included both registered nurses and certified nurses’ aides. The resources available vary from self-help reading material and in-person conversations to formal counseling and employee assistance programs.

**Evaluation/Outcomes:** A survey was conducted before the start of HEART and 8 months after the program was activated. In the survey before the program, 10 of 16 employees stated that they did not receive support from anyone in the health care field or on their unit. Eight months after the program was initiated, 28 surveys...
were received and all 28 employees stated that increased peer support was both accessible and available. The HEART Program affected our employees in a positive manner. Some examples of success are “I have used HEART to help process stressful events and I really appreciate it” and “It is nice to know there’s an avenue for venting/talking should there be the need.”

**EB96 Improving Nurse-to-Nurse Handover of Care in the Neonatal Intensive Care Unit by Using a Modified I-PA SS Sheet**

Deborah Tucker, Celeste Chandonnet, Tracie Howland, Laura Desilets, Marie Bennett, Julie Briere, Kate McEachern; Boston Children’s Hospital, Boston, MA

**Purpose:** The illness severity, patient summary, action list, situational awareness, and synthesis tool (I-PA SS) was selected as the preferred method for patient care handover. Lack of familiarity and extra time needed to fill out the I-PA SS were identified as reasons for not using the tool. This improvement science project assessed whether the revised I-PA SS tool and standardized education improved communication as measured by nurse evaluation and time spent handing over patient care.

**Description:** Sand-Jecklin and Sherman in 2012 reported that up to two-thirds of all sentinel events in hospitals were related to communication problems, with the largest risk for miscommunication occurring during nurse-to-nurse handover of patient care. In our neonatal intensive care unit, the most consistent professional communication is during the shift-to-shift report between nurses, thus we recognized that the safety of our patients was threatened from the lack of a standardized handover method. With support from nurse leadership, all nurses in the unit participated in this mandatory improvement science activity using a modified I-PA SS tool for shift-to-shift handover. Using the plan-do-study-act (PDSA) framework, we completed 3 cycles of I-PA SS tool modifications, staff education, and measurement. Our measurements during each cycle included nurse evaluation using a questionnaire and time spent (in minutes) during patient care handover. To assess staff satisfaction by using the modified I-PA SS tool, we compared questionnaires from before and after the implementation of the tool. To assess if the newly revised I-PA SS had an impact on time spent handing over patient care, we compared covert measurements of shift-to-shift handover times from before and after the intervention.

**Evaluation/Outcomes:** The initial questionnaire indicated that 22% of nurses were using the I-PASS and 46% reported the I-PASS was not helpful for shift-to-shift handover. Following our interventions (modifications to the I-PASS and staff education) 89% of nurses were using the IPASS, and 64.3% of nurses indicated that the revised I-PASS improved shift report. The I-PASS shift-to-shift handover times before the intervention were a mean of 14 minutes (range, 9-20 minutes) whereas after implementation, handover took a mean of 8.5 minutes (range, 6-15 minutes). The modified I-PASS is now positively viewed by most nurses in our unit and has reduced shift-to-shift patient handover times. Quarterly measurements will determine if patient care handover by using the modified IPASS can be sustained.

**EB97 A Focused Attack on Hospital-Acquired Infections in Critical Care**

Rebecca Wile, Victoria Randazzo, Connie Lin, Brooke Baitch; Saint Joseph Hospital Orange, Orange, CA

**Purpose:** The Centers for Disease Control and Prevention estimates that 1 in 20 hospitalized patients will have a hospital-acquired infection (HAI), contributing to longer hospital stays and increased morbidity and mortality. Our goal is to eliminate catheter-associated urinary tract infections (CAUTIs) and central catheter-associated bloodstream infections (CLABSIs). Three interventions are detailed: chlorhexidine gluconate (CHG) bathing/hand washing, central venous catheter (CVC) bundle, and standardized daily perineal care using soap and water. **Description:** The Device-Associated Infection Prevention Team (DAIP) challenged staff to eliminate CLABSIs and CAUTIs. With a literature search and seeking best practices from colleagues, the DAIP ramped up the comprehensive training and surveillance program with a multimodal approach: online education, review policy/procedure, in-service training sessions, presentations, competency validation, and intensive review of each occurrence. DAIP reinforced compliance with CVC bundle: alcohol caps on all intravenous tubing, saline flushes every 8 hours for central catheters, weekly sterile dressing changes, cap/tubing changes Sunday and Wednesday, and 1:1 in-service trainings by the DAIP for all staff on protocols. DAIP oversees CAUTI-prevention strategies enforcing strict criteria for use of a Foley catheter, nurse-driven protocol for Foley catheter removal, use of bladder scanners, and output by weight.

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Progress was made, but some HAIs still occurred. In 2013 to 2014, DAIP held “back to basics” competency validation for CVC dressing changes and Foley catheter insertion/care. Patient CHG hand washing every 4 hours was initiated. Daily perineal care by a dedicated team was tried. Discussion at daily multidisciplinary rounds and at handoffs includes ensuring the daily CHG baths, necessity of CVC and/or Foley catheter, and adherence to bundles. Evaluation/Outcomes: The evidence: 0 CLABSIs for fiscal year 2014, CAUTIs declined but data showed unsustained improvement. After educational reinforcement, we have had 0 CAUTI for the past 2 months. Tracking and investigating each infection, we continue to assess location, frequency, and prevalence of multidrug-resistant organisms or other epidemiologically significant organisms associated with CAUTI and CLABSI. Educational surveys before and after the intervention documented learning and our surveillance documents compliance with protocols. The goal remains to decrease HAIs by 40% annually to 0. Three simple interventions brought people together: providing compassionate care, promoting health improvement, and creating a healthier community.

**EB98 Implementing Evidence-Based Practice: Initiating Bedside Rounding**

Elizabeth Kearns; St Joseph Hospital, Nashua, NH

**Purpose:** Multiple sources of evidence suggest that handoff report with the patient at the bedside improves patient satisfaction, patient involvement, patient safety, nurse satisfaction, and decreases overtime. Despite this, the nurses on a 32-bed cardiac care unit (CCU) reported off at the nurses station and then moved to the patient’s room for a “meet and greet” before moving on to the next room. Adopting handoff report at the patient’s bedside was identified as a top priority to improve patient care. **Description:** The evidence and importance of bedside handoff was presented to the unit advisory committee (UAC). The UAC voted to try bedside report with hopes to make it a standard of care on the unit. Education was provided in poster form on the unit. Change-of-shift report sheets were created to help aid the nurse in giving report at the bedside. After a 4-week education and trial period, the UAC voted to “go live” with bedside report at every shift change. Bedside report champions “power walkers” volunteered to help empower coworkers and to model bedside handoff report as well as to update and encourage others to update the change-of-shift report sheet. Upon admission, nurses would educate patients on bedside report including change-of-shift times and benefits. Nurses would inform patients that bedside report would happen at 11 PM unless the patient refused. If so, report would be conducted in a private area. Nurses would inform patients that there would be time for the patient to ask questions and voice concerns at the end of report. Education and accountability was continually provided to nurses resistant to giving report at the bedside. Per diem and float nurses were taught and encouraged to take part in the bedside report. **Evaluation/Outcomes:** The journey to bedside reporting has been both challenging and exciting. Patients have voiced increased satisfaction and understanding of their medical course. John, a 45-year-old man, newly treated with sotalol, cheered when the nurses stated that his QTc was 470 ms since increasing his dose because he knew what it meant and that he could be discharged. Mary stated that she felt like “part of the team” and that “nurses were working with me, not on me.” Nurses who were once resistant have expressed enjoyment with bedside report. Kate stated, “report at the bedside shows the patient we are all on the same page.” Since bedside report has been established, education is in the works to make the process hospital wide.

**EB99 The Alarm Pulse Check Drill: Identifying Real-Life Practices to Improve Patient Safety**

Lisa Pettrey, Lori Allmon, Gloria Skinner, Gary Johnston, Samuel Hammerman; SSH-Columbus South, Select Medical Corporation, Columbus, OH

**Purpose:** Clinical alarm safety is a regulatory and patient safety focus for all hospitals. The Joint Commission Sentinel Event Alert (2013) drew focus to the topic, complemented by the 2014 National Patient Safety Goal on Alarm Management. To address this complex clinical issue and establish alarm system safety as a hospital priority, Select Medical Corporation implemented a standardized alarm pulse check process across 115 long-term acute care hospitals. **Description:** The periodic alarm pulse check activity tests the response to various alarms in actual patient scenarios, analyzes the current systems including culture, practices and technology, and identifies failures and their causes. The process begins with communication to hospital leaders that an alarm pulse check drill will be completed at a specified
date and time. Times chosen such as change of shift, early morning, or around lunch are considered high risk based on published safety events. The chief executive officer (CEO) conducts the drill following the alarm pulse check scenario. The scenario may involve telemetry, pulse oximetry, or ventilator alarms. The alarm mock drill guidelines ensure that a clinical provider is at the patient’s bedside for the entire duration, a portable and/or secondary alarm device is used, specific patient conditions are met to ensure the patient is hemodynamically stable, and the patient’s consent is obtained. The alarm is removed and the CEO notes (1) response time, (2) whether the alarm can be heard through the nurse call bell system, and (3) who is the first responder. Afterwards, a regional conference call is held where leaders for each hospital share their response information and identify issues, actions, and best practices. **Evaluation/Outcomes:** Starting in November 2013, 7 alarm pulse check drills were conducted across the system with significant improvement in overall alarm response time. In one region of 21 hospitals, there was a 70% improvement in response under 20 seconds during the drill period. Improved processes include (1) telemetry packs with pulse oximeter cables to facilitate centralization, (2) enhancing the quality process around probe dislodgement and subsequent education, and (3) implementation of the “lead check” alert. The alarm pulse check has validated actual practice, enhanced an existing robust alarm response process, and identified issues allowing for corrective action and further improvement in patient safety.

**EB100 Lifelong Learning: Ignite the Flame Through Our Online Journal Club**

Pamela Garlinghouse, Christine Frank-Scott; Wexner Medical Center at The Ohio State University, Columbus, OH

**Purpose:** This nurse-driven online journal club (ONJC) was developed to improve patient care and outcomes. It fosters excellence in nursing practice by promoting continuing education and evidence-based practice. Before it was developed, no opportunity existed for a journal club. With the support of the surgical intensive care unit (SICU) management team, the quality improvement (QI) committee established an opportunity for unit staff to participate in a remote-learning journal club. **Description:** Professional expectations support evidence-based care that increases nursing skills and interest and appreciation of evidence-based practice (EBP), which plays a key role in improving patient safety and outcomes while increasing satisfaction among patients and nurses. The Institute of Medicine’s (IOM) 2010 report on the future of nursing and the American Academy of Nursing’s 39th annual meeting and conference recommends and mandates nurse-driven education. Additionally, current publications indicate that when lifelong learning is used, patients’ outcomes improve significantly. In July 2013, the SICU ONJC was created to offer critical care bedside nurses a learning opportunity related to clinical and evidence-based practice issues and professional development by eliminating geographical barriers. This created a flexible, self-tailored learning environment. The program addresses varied learning needs from a strictly remote to hard copy participation. Monthly articles are chosen by the chair and co-chair of the QI committee, and the articles and tests were made available to unit staff online and via hard copies in designated holders throughout the unit. Two articles were made available monthly, and participants were given multiple options to participate. **Evaluation/Outcomes:** Our initial goal was to obtain a 5% participation rate of the SICU nursing staff by July 2014 and then to increase participation each year by 2%. Total participation rate in the OLJC was 32% from July 2013 to July 2014. Additionally, a questionnaire was sent out at the end of the first year to rate relevance, interest, and impact of the OLJC on the participant’s practice. From the 27% of participants who answered our survey, 80% said participation improved the quality of their practice and 40% stated that it assisted them in finding research evidence that applied to their practice. Future plans include expanding throughout critical care and add a discussion board where participants can blog.

**EB101 Collaboration For a Fall-Free Environment in the SCCC**

Steven Larrimore, Kimberly Meloro, Teresa Panchisins, Kristin Scott; Christiana Care Health Services, Christiana Hospital, Newark, DE

**Purpose:** Critically ill patients in the SCCC are at high risk for falls related to their overall deconditioning, medications, delirium, neurological injuries, early mobilization, and medical devices. Preventing falls in our specific patient population became extremely challenging, and our fall rates were above the National Database of Nursing Quality Indicators (NDNQI) benchmark.
A group of nurses and patient care technicians created a “falls bundle” to work towards a unit goal of 0 falls.

**Description:** Consequences of falls can result in patient injury and financial burden, with an estimated cost per major fall of $5900 as well as an increased length-of-stay. With fall rates above the NDNQI benchmark, and realizing that patient falls was a major problem in the Surgical Critical Care Complex (SCCC), a falls prevention committee was created, consisting of nurses, patient care technicians (PCTs), management, and a mobility technician. Group collaboration started to determine barriers, reasons for falls, and to develop a path forward. Patients at risk were identified, and the “falls bundle” became the standard of care. This bundle included having a PCT designated as a mobility aide to help with patient mobilization, placing high-risk patients in low beds and in rooms near nursing stations, securing every patient with a lap-belt and chair exit alarm when out of bed, and ensuring that every patient’s room was stocked with this equipment. “Huddles” were also implemented on every shift to alert staff to high-risk patients, thus ensuring that fall prevention is a shared responsibility.

**Evaluation/Outcomes:** This change was implemented and a drastic reduction in falls became a unit goal for fiscal year 2014. Evaluation of our interventions proved the “falls bundle” to be extremely effective. Our unit had 12 patient falls in fiscal year 2013 compared with 3 total falls in fiscal year 2014. Additionally, our unit currently has not had a patient fall since September 2013. Key components of reducing falls were early recognition of high-risk patients, early interventions, shared responsibility, and incorporating the “falls bundle” as the unit standard of care.

**EB102 Teach-Back Technique Improves Satisfaction of Patients With Heart Failure**

Leeann Putney, Agnes Kelly; Sarasota Memorial Hospital, Sarasota, FL

**Purpose:** Increasing acuity of patients, brief hospital stays, and health literacy issues present a challenge to nurses who must convey a large amount of complex information to patients in a very short period of time. The purpose of this project was to improve heart failure patients’ comprehension and retention of information about disease self-management through use of the teach-back technique and improve patient satisfaction in the areas of communication about medication and discharge information.

**Description:** The heart failure coordinator and cardiac educator of an 806-bed community hospital proposed that implementing the technique known as teach back would improve patients’ understanding and retention of medication and discharge information, particularly among patients with the complex chronic disease of heart failure. The teach-back technique allows nurses to identify and address gaps in patients’ knowledge and increases patients’ satisfaction with medication education. The hospital’s cardiac educator and heart failure coordinator taught educational sessions on the teach-back technique to all direct care nurses on a 40-bed cardiac acute/progressive care unit in early September 2013. The patient population of this unit includes most of the hospital’s patients who have heart failure. All classes were approximately 30 minutes long and included lecture, video vignettes, discussion, and role playing using specific teach-back questions pertaining to heart failure and its treatment. The nurses on the unit began implementing this technique with their patients for medication and discharge teaching immediately after completion of the class with the goal of improving patients’ comprehension and retention of information.

**Evaluation/Outcomes:** The percentage of patients who answered “always” to the HCAHPS survey question regarding communication about medications increased from a mean of 56% during the 4 months before the intervention to 67% in the 4 months after the intervention, which was statistically significant ($P = .01$). Results for the HCAHPS survey question regarding discharge information increased from a mean of 79% during the 4 months before the intervention to 96% in the 4 months after the intervention, a difference that was clinically but not statistically significant. The teach-back technique appears to improve communication between nurses and patients, increasing patients’ satisfaction.

**EB103 Don’t Get Delirious, Take Sleep Serious: Real-Life Lessons from Clinical Scene Investigators**

Linda Pellegrino, Debra Baker, Catherine Manning, Kimberly Connly; Baystate Medical Center, Springfield, MA

**Purpose:** Our goal was to reduce delirium by improving collaboration and promoting sleep. Delirium rates had not decreased in our intensive care unit (ICU), and there was not a coordinated comprehensive focus on delirium prevention. Four bedside nurses, graduates from AACN’s Clinical Scene Investigator (CSI) Academy, are transforming care by influencing change and ensuring
quality patient care surrounding delirium in the ICU. The value of nursing leadership translates to improved patient and fiscal outcomes. **Description:** Delirium, a form of acute brain dysfunction, is associated with longer ICU and hospital stays, more ventilator days, and higher rates of mortality and long-term neuropsychological deficits in post-ICU patients. Delirium is common in the ICU, occurring in 60% to 80% of patients receiving mechanical ventilation, but goes unrecognized by many health care workers. The Society of Critical Care Medicine (SCCM) recommends the use of a standardized assessment tool such as the Confusion Assessment Method (CAM-ICU) for identifying delirium. Promotion of sleep and an interdisciplinary team approach is specifically recommended to reduce delirium. Four bedside nurses developed a lecture and produced a music video used to educate ICU nursing staff, physicians, hospital leaders, and ancillary staff. The lecture included key points on delirium, sleep facts, and nursing strategies to promote sleep: reducing noise, adjusting light, and reducing patient care disruptions. The movie depicts the horror of delirium and promotes the use of the THINK mnemonic to identify causes of delirium. The SCCM suggests identification of causes of delirium as the first step in delirium management. **Evaluation/Outcomes:** Outcomes were measured by nursing surveys, audits, decibel measurements, and CAM-ICU data. Nursing surveys reveal that 50% more nurses now believe that physicians value the CAM-ICU. Sleep and CAM-ICU are now listed on the multidisciplinary rounds sheet and discussed during nursing shift reports and during rounds. The THINK mnemonic is referred to when a patient is reported to be delirious. Nighttime decibel levels were above recommended levels according to the World Health Organization. Implementation of nursing strategies to promote sleep and improved collaboration resulted in a 5% decrease in the incidence of delirium in the ICU, which translated to an overall potential annual cost savings of $860 000.

**EB104 Report at the Bedside: Investing in Patient and Family Centered Care**

Rebekah Shin, Kathryn Woods, Samantha Young; Johns Hopkins Hospital, Baltimore, MD

**Purpose:** The Weinberg intensive care unit (WICU) is a surgical intensive care unit at a large urban academic teaching facility. The WICU’s culture focuses on promoting a patient/family-centered care (PFCC) approach to patient care. In November 2013, the WICU implemented bedside reporting to enhance patient and family satisfaction, increase patient safety, facilitate communication, and improve nursing satisfaction and accountability. **Description:** The implementation of bedside reporting was a concept that staff members were enticed by and brought back to the WICU from the AACN’s 2013 National Teaching Institute. The WICU’s clinical nurse specialist (CNS) collaborated with staff to develop a bedside reporting initiative translating evidence found in literature reviews into practice. The literature suggested that implementing bedside reporting improves patient safety outcomes, strengthens nurse and patient/family satisfaction, and increases accuracy and efficacy of report. Together evidence was summarized, potential barriers were identified, performance measurements were developed, visual guides were created, and education was presented to staff. Before bedside reporting, staff members’ perceptions were collected through a survey and their change-of-shift report was timed (without them knowing). After implementation, staff members were resurveyed and retimed. At unit meetings, staff was reeducated on the process, presented with collected data on bedside reporting, and given the opportunity to voice barriers to improve the process. The WICU’s CNS closely monitored reported patient safety issues and medication errors to evaluate the impact of bedside reporting. Patient perspectives on the WICU’s care were captured with the (Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey. **Evaluation/Outcomes:** Bedside reporting data were collected from staff surveys, report timing, reported medication errors, and HCAHPS data. The mean report time before and after the implementation of bedside reporting was unchanged at 13 minutes. When the surveys from before and after implementation were compared, staff remained neutral to the bedside reporting process. HCAHPS scores demonstrated that communication between patients and nurses had improved by 39% and pain management improved by almost 20%. Medication errors have also decreased by 63% since the implementation of bedside reporting. Marked improvement in patient care correlates with the initiation of bedside reporting. Bedside reporting in the WICU has been a developing process that has required flexibility and open-mindedness from staff and sustainability dependent on unit champions’ involvement.
EB105  Sparking the Flame From Within: Individual Nurse Scorecards and Professional Accountability
Sydney Frank, Jill Lembeke, Danielle Keigley, Jodi Hellickson; Mayo Clinic, Rochester, MN

Purpose: Professionalism and accountability are crucial to registered nurses at the front line of patient care. In a healthy work environment, a culture of accountability exists where nurses are able to articulate their concerns to one another. The purpose of this study was to determine if the implementation of individual staff scorecards would increase professionalism, accountability, and documentation of compliance with key nursing measures in the neuroscience intensive care unit of a large academic medical center. Description: The individual scorecard was created as a tool to evaluate nursing care objectively and as a tool to identify gaps in education, clinical practice, and individual performance. Initial metrics were determined after evaluating nurse-sensitive outcomes, core measures, and patient satisfaction and included areas such as prevention of pressure ulcers, catheter-associated urinary tract infections, central catheter–associated bloodstream infections, falls, and ventilator-associated events and immunization compliance. Data for each measure were compiled and analyzed for each individual nurse and the overall percentage of compliance for the unit was calculated. Measure definitions, performance expectations, and status reports on individual compliance were sent to each nurse quarterly to review performance and establish trends. Forums for education and discussion were provided for all staff with leadership present for information sharing, identifying practice/education gaps, and addressing any concerns. Evaluation/Outcomes: Since the implementation of individual scorecards, all 5 measures that have been audited for the entirety have shown an upward trend. Additionally, measures added since then have shown either an upward trend or a relatively flat trend above the 90% compliance threshold. The creation of these scorecards has improved dialogue and awareness not only with staff nurses, but also with nursing leadership. They serve as a nonpunitive, quantitative means of measuring performance as well as provide an opportunity for nurses to learn from their current performance. This process has increased the staff’s perception of consistency from leaders in holding individual staff members accountable for performance.

EB106  Developing the Nursing Workforce of the Future: Summer Undergraduate Research Fellowship in Nursing
Bridget Mudge; Dartmouth Hitchcock Medical Center, Lebanon, NH

Purpose: To develop a program in an academic medical center that would expand the capacity for nursing research in the state and region by providing undergraduate nurse students the opportunity to experience aspects of the role of nurse in the clinical and translational research. One goal of the initiative is to increase nursing students’ following career pathways or graduate education that would involve research, evidence-based practice, or quality improvement. Description: Projected nursing shortages combined with the limitation of nursing programs to expand to meet the rising demand due to a lack of qualified faculty will have an impact on patient care. One recommendation from the Institute of Medicine (Future of Nursing: Leading Change, Advancing Health 2011) is to double the number of nurses with a doctorate by 2020 to add to the cadre of nurse faculty and researchers. A 10-week summer program for undergraduate nursing students was developed to immerse students in clinical and translational research projects and at the same time expose them to advanced nursing roles. Faculty mentors were nurses in the academic medical center practicing in roles as either nurse researchers, clinical trials research nurses, or advanced practice nurses involved in evidence-based practice (EBP) or quality improvement (QI). Each student was matched with 3 primary faculty mentors for the summer. Experiential components of the program included immersion in 3 different experiences, 1 for each of the roles above. Examples of projects included studies on central catheter–associated bloodstream infections, pressure ulcer prevention, screening for patient falls, reducing readmission, and voiding dysfunction in pediatric patients. Evaluation/Outcomes: Benefits to the students included observing unique and multiple roles in nursing, taking an active role in research, EBP, and QI projects, participating in interdisciplinary learning experiences, and a hiring advantage when applying to the organization after graduation. Benefits to the faculty mentors included the ability to accomplish projects within constraints of a busy clinical practice and an opportunity to mentor students. Benefits to the organization included
hiring qualified new graduates with additional skills and experience. This innovative summer program helps build capacity and skills for clinical and translational research that are necessary for the workforce of the future.

EB107 “Rise and Shine”: Implementing Early Mobility in the Intensive Care Unit

Colleen Ryan, Maureen Sullivan, Ann Mulligan, Michele Wescott; Newton Wellesley Hospital, Newton, MA

Purpose: To implement and maintain the ABCDE bundle. Implementing the ABCDE bundle will decrease length of stay in the intensive care unit (ICU) for patients undergoing mechanical ventilation and decrease the long-term complications of delirium. Our team is committed to proactively preventing these long-term outcome complications. Development of a protocol to get our intubated patients out of bed was challenging, but our nurses are motivated to implement best practice for our patients.

Description: We instituted the early mobility protocol in a 12-bed mixed ICU. We received a grant from AACN’s Clinical Scene Investigator (CSI) Academy to implement and maintain this project. Common barriers and successful solutions for prevention and management of consequences of immobility are described. The team’s experience in implementing the protocol and in measuring its impact are measured. Critically ill patients have long been sedated and immobilized while being treated with mechanical ventilation. There is evidence that sedation and immobility increases a patient’s risk for delirium, depression, and long-term cognitive impairment. There is an increased length of hospital stay and increase in mortality as well. More than 40% of patients discharged from ICUs do not go home; they are discharged to long-term care facilities. The ABCDE bundle incorporates best evidence related to delirium, immobility, sedation, and ventilator management. The team identified several challenges to the project. These challenges involved multidisciplinary buy in, knowledge deficits, turnover of house staff, and resource allocation. The CSI Academy gave us the ability to examine the challenges from diverse perspectives and implement evidence-based solutions.

Evaluation/Outcomes: Our CSI project outcomes are quite impressive. (Awake) We reduced continuous intravenous sedation for less than 3 days to 20%. (Breathing) Total ventilator days were decreased. (Delirium assessment) We increased compliance with CAM assessment from 40% to 90%. (Early Mobility) We provided early mobility for 50% to 80% of our eligible patients, resulting in a significant reduction in length of stay for our ventilator patients. The mean number of ventilator days per patient decreased 4 days from 2011 to 2013.

EB108 Reigniting the Flame: Using the Spirit of Caring to Improve Patient Safety and Outcomes in the Intensive Care Unit

Rachel Steele, Marcia Perkins; The James CCC, The Ohio State University Wexner Medical Center, Columbus, OH

Purpose: With the establishment of a new intensive care unit (ICU), the opportunity to implement best practices and instill a culture of safety arose. The purpose of our initiatives was to support our unit’s professional practice model by using published best practices while improving patient safety and communication. By providing structured tools to nursing staff, the unit has reduced the potential for human error and developed a sustainable culture of safety that is ingrained in the unit.

Description: Current nursing publications show that a formal huddle improves patient safety; adequate communication with families improves coping skills; and a formal handoff report sheet avoids missed information and reduces patient harm. The unit huddle form is used to direct a brief meeting with oncoming staff about all patients on the unit. It covers pertinent information focused on patient safety such as code status, fall risk, acuity, critical intravenous infusions, oxygen requirements, and more. The daily family update (DFU) is a form of communication, via phone or bedside, that allows the family to ask questions during physician rounds regardless of their physical presence on the unit and to receive scheduled updates to minimize anxiety and improve communication. The unit safety systems checklist (SSC) is a hangtag on all unit computers that reminds nurses to address important patient safety elements during their shift, such as medication administration record handoff and use of restraints. Last, the nurse-to-nurse handoff report form is a structured guide for giving and receiving a detailed report specific to a critically ill oncology patient. We continue to collaborate and share best practices to explore implementation potential on other units.

Evaluation/Outcomes: After 21 months in existence, the unit has reported 0 falls and
0 sentinel events. Based on an anonymous staff survey, 96% of staff believes the huddle has better informed them about patients on the unit, 96% of staff use the handoff report sheet, and 86% find pertinent information is rarely or never missed when the handoff report sheet is used. Unanimously, staff agreed that the DFU improved communication with the patient’s family, and monthly DFU audits indicate that 100% of families interviewed said they appreciated updates and think that communication has improved. Our staff survey indicated that the SSC was not well used and was unknown to new employees; therefore, updates and reeducation have been completed.

EB109 Let’s Move Together: A Collaborative Approach to Implementing Early Mobility
Kathleen Uzdanovich, Moriah Regan, Janet Monroe; Hallmark Health–Melrose-Wakefield Hospital, Melrose, MA
Purpose: At a community hospital with a strong culture of shared governance, the registered nurses within the medical intensive care unit (MICU) developed an interprofessional protocol to implement early mobilization safely. The goals of implementing this evidence-based practice were to decrease ventilator days, decrease scores on the Richmond Agitation Sedation Scale (RASS), and ultimately decrease patients’ length of stay (LOS) in the ICU. Description: Early mobilization in patients receiving mechanical ventilation is established as best practice to reduce ICU LOS and muscle deconditioning complications; also early mobilization is safe for patients with life-sustaining equipment. In 2013, Clark et al reported that complications from immobility in the ICU have a major effect on patients’ outcomes. In 2007, Timmerman reported that nursing care and involvement in a mobility protocol are important to provide nurses with structure to prevent ICU complications. In addition, multiple studies have shown the feasibility and safety of a protocol used to increase early mobilization of ICU patients. Published reports support use of early mobilization in ventilator patients as the current best practice. In order to execute early mobilization, an interprofessional task force (of nurses, physician assistants, respiratory therapists, and physical therapists) formed and developed a protocol driven by bedside practitioners, allowing the team to make decisions on inclusion or exclusion of patients from the early mobilization program. The criteria used to assess patients included positive end-expiratory pressure, fraction of inspired oxygen, hemodynamics, RASS scores, and pH levels. Interprofessional education was completed before implementation. Education consisted of literature review, video demonstration, interactive demonstration with return demonstration, and documentation review. Along with education, positive reinforcement by the nurse champion and management supported the change in practice. Evaluation/Outcomes: Baseline data showed a mean of 5.49 ventilator days; RASS score -2.14; and ICU LOS 3.89 days. After 9 months of early mobilization data showed a decline in ventilator days to 3.23; RASS score to -1.33; and ICU LOS to 3.18 days. A further benefit of early mobilization was positive interprofessional teamwork. Comments by staff: “All disciplines have equal responsibility of assessing [early mobilization] which promotes teamwork”; “The ability of nurses, respiratory therapists, and physical therapists to work together to assist ventilated patients has carried over to better teamwork with any patient needing physical therapy in the ICU.” Along with improved collaboration, families expressed satisfaction: “Seeing my brother on the edge of the bed gave us all hope! We could see he was improving!”

EB110 Combating Central Catheter–Associated Bloodstream Infections in the Pediatric Intensive Care Unit
Pam Brouder; Cardinal Glennon Children’s Medical Center, St Louis, MO
Purpose: To change the culture of the pediatric intensive care unit (PICU) and improve engagement of staff, physicians, and patients’ families related to central catheter–associated bloodstream infections (CLABSIs). We did this by involving all of these key stakeholders from the beginning of the project. Many felt that getting to 0 line infections in such a high-risk group of patients would be impossible, but through the dedication, diligence, and continued focus, we were able to achieve our goal of 0 catheter infections in 1 year. Description: Our efforts to decrease our CLABSIs had been a work in progress since July 2008 with labile success. In July 2013, a committee of staff members, physicians, and an infection prevention nurse was formed to examine where we saw opportunities in our care for central venous catheters that was hindering us from achieving desired results. This committee developed a “vision (plan)” that we would execute to help minimize our CLABSIs in the
In this plan, we included process changes, nurse and physician education, family involvement, and root-cause analysis. We introduced ChloraPrep (chlorhexidine gluconate and isopropyl alcohol skin preparation) back into our institution, we required 2 nurses for all dressing changes, proper attire, antibiotics infused into central venous catheters, chlorhexidine gluconate baths daily, implemented a catheter insertion and maintenance bundle, safety “sweeps” by the charge nurse every shift, 1-on-1 education, reward for success, and more. In order to keep the momentum going and keep this at the forefront, we require mandatory quarterly education of all employees. Involvement of patients’ families was also crucial to success, we involved them through daily rounding and a central venous catheter sheet at the bedside. Root-cause analysis of previous infections was also vital to success. 

**Evaluation/Outcomes:** CLABSI s are a preventable cause of harm in critically ill children. Our results show that consistent care and education can produce continued decrease in CLABSIs. Although performing multiple evidence-based tasks consistently and meticulously is challenging, we found that doing so improved patients’ outcomes and quality of care. The pediatric ICU has had 14 months with 0 catheter infections. We are now implementing our best practice throughout our pediatric facility and network-wide in our adult ICUs. We would like to share our story so that others may benefit from our successes and improve the lives of the patients we serve.

**EB111 Progressing the Neurological Progressive Care Unit: An Evidence-Based Journey**

Mindy Switzer; University of Texas MD Anderson Cancer Center, Houston, TX

**Purpose:** In 2008 the neurological progressive care unit (NPCU) was established to provide care to high-acuity postoperative craniotomy patients. A survey by the AACN conducted in 2009 revealed that the skill sets of progressive care nurses included new and expanded competencies. Outdated guidelines led to increased missed care and variation of nursing practice and demonstrated a need to implement evidence-based guidelines in order to improve patient safety and outcomes. 

**Description:** A multipart, interprofessional strategy was employed to update NPCU care guidelines and increase nurse competencies, beginning with clarification of key definitions to ensure more consistent admission criteria. Competencies were expanded to include basic dysrhythmia interpretation and management, as well as titration of select vasoactive medications. Clinical leaders ensured that standards of care were consistent with current evidence and institutional policies. The American Association of Neurological Nurses’ published guidelines for the care of craniotomy patients and lumbar drains were also considered in the updates. Absent a standard practice, clinical leaders reviewed evidence, developed a lumbar drain management protocol, and created order sets to maximize safety and resource utilization. Using Roger’s diffusion of innovation theory, implementation began with identification and engagement of unit informal leaders as well as nursing and physician leadership. The unit educator developed a comprehensive orientation program, and clinical leaders prepared an instructional video for faculty and staff detailing the updated criteria and standards. Both employed principles of adult learning to maximize retention and compliance. 

**Evaluation/Outcomes:** The updated evidence-based guidelines reflected current progressive care competencies in which all nursing staff were educated and competencies validated. Success was also determined through increased compliance with use of designated order sets, reduced need for order clarification, improved triage from charge nurses to evaluate appropriate admissions, proper utilization of NPCU beds by the admissions department, and reduced admissions to the transitional overflow postanesthesia care unit. Nurses concurrently developed clinical expertise while reducing length of stay and improving patients’ satisfaction. Professional partnerships, transparency, and flexibility were key to the projects success.

**EB112 Focus on Reducing Medication Errors With a Hospital-Wide Red Zone Medication Safety Initiative**

Jean Connor, Jeanne Ahern, Roger Dionne, Patricia Hickey, Barbara Cuccovia, Kara Western, Alana Arnold; Boston Children’s Hospital, Boston, MA

**Purpose:** Implement methods for establishing distraction-free cognitive workspace to reduce adverse events using teamwork and communication to empower nurses and staff. 

**Description:** Implementation of a distraction-free cognitive workspace through directed communication and collaboration across disciplines can lead to a reduction in adverse events related to distraction. The Red Zone Medication Safety Initiative was formed to improve patient safety, reduce medication errors, and
decrease staff vulnerability by limiting distractions. These goals are achieved through teamwork, communication, staff empowerment, and creating distraction-free spaces. Two process improvement tools, Six Sigma and Change Acceleration Process (CAP), were engaged to develop and implement a hospital-wide quality improvement process for the practice of medication safety. Four key strategies were used to facilitate the success of the initiative: (1) development of a core presentation reclaiming safety as a top priority for the health care team, (2) identification of unit members for each patient care area who serve as ambassadors for medication safety, (3) specific unit-based strategies, and (4) development of an evaluation plan. The red zone was initiated in the cardiovascular intensive care unit in 2010 with aims of reducing medication errors and implementing a measurable and sustainable practice of medication safety. Evaluation/Outcomes: Since implementation, there has been a reduction (~60%) in medication errors, including several months with 0 reportable medication events. This initiative has proven transferrable across the cardiovascular and critical care programs with similar decreases in events. As of January 2014, this program is now hospital-wide. The distraction-free method is now being applied to other high-risk practices such as endotracheal tube repositioning and blood product administration.

EB113 Focus the Flame on Increasing Certified Registered Nurses at the Bedside
Kevin Shimp, Amy Sims, Wendy Lugo; Virginia Commonwealth University Health System, Richmond, VA

Purpose: Evidence shows that certification benefits registered nurses through increased professionalism, patients and their families with improved quality, and hospitals with better outcomes. In our Magnet facility, certification is valued, but the acute care surgery team had only a 14% eligible nurse certification rate. Pride in certification at the medical/surgical and progressive care level was needed. After collaboration with the unit, increasing certification became our first step on the Beacon journey. Description: New leadership was introduced to acute care surgery in August 2011. A needs assessment identified opportunities for increased teamwork, improved quality at the bedside, and better patient outcomes. A long-term goal of Beacon certification was designed to help us achieve these goals. As A. Leak said in 2008, “Certification for nursing practice is designed to protect the public, recognize and encourage professional achievement, and enhance professionalism.” At the time, 14% of the eligible staff were certified so it became our first opportunity. We first addressed the potential fear of the staff around becoming certified through staff meetings and 1-on-1 sessions. “Fear of test taking or failure and lack of resources or organization recognition are reasons many nurses cite for not becoming certified” (Altman M, 2008). We established education in the form of review materials, review courses, webinars, and peer study groups. We then showed our commitment with financial assistance in the form of test costs, while establishing a fail-safe for nurses who failed the test the first time to retest without cost. Finally we designed long-term recognition in the form of our “Wall of Excellence” while celebrating each individual as they became certified. Evaluation/Outcomes: We have had 30 registered nurses become certified in the past 3 years. This represents an increase of 70% in the eligible staff that are certified compared with the 14% we had 3 years ago. We are currently 84% certified at the bedside as a medical/surgical unit with 10 more registered nurses scheduled to test. When these 10 registered nurses are successful, we will be 98% certified at the bedside. We demonstrated the largest leap in certification rates at Virginia Commonwealth University this past year. Finally, we are proud to announce that we became the first gold Beacon unit in the health system this past year and the ninth overall, which leads the nation for Beacon recognition.

EB114 Daily Spontaneous Awakening Trial in Sedated Adults Receiving Mechanical Ventilation
Lynelle Pierce; The University of Kansas Hospital, Leawood, KS

Purpose: As part of a quality improvement initiative, an interprofessional team implemented an evidence-based clinical practice guideline for sedation that outlined the team approach for performing a spontaneous awakening trial (SAT) at least daily for sedated adults receiving mechanical ventilation. It was anticipated that a SAT would result in reduced sedation use and days, intensive care unit (ICU) and ventilator days, and mortality and cost savings without an increase in unplanned extubation. Description: Implementation of an SAT in 7 adult ICUs was accompanied by sweeping interdisciplinary education. Additional targeted education, and collaboration among the health care team members to determine the
best time of day to perform the SAT, occurred after review of postimplementation compliance auditing data. Sedative use and sedation days, ventilator utilization, ICU LOS, and mortality benchmarked to top-performing University Hospital Consortium (UHC) hospitals were captured for patients receiving mechanical ventilation and sedated patients more than 17 years of age. Baseline data (year 1) were compared with data from after SAT implementation (year 2) and after targeted education year 3 data for a total of 3917 patients. Impact on sedative use/patient, mean sedation days/patient, ventilator utilization, and ICU LOS and mortality benchmarked to top-performing UHC hospitals was evaluated. Potential savings related to reduction in sedation use, ICU days, and ventilator use was also calculated. Evaluation/Outcomes: Five units experienced a decrease in sedation use per patient (-47% to -71%) and sedation days (-1.9 to -2.3) resulting in cost savings of $93,600.92 per year. Length of stay reduced in 4 ICUs (-0.51 to -3.26 days), resulting in an all-ICUs combined year 3 savings of $817,412.32. UHC top-performer benchmark ICU LOS was outperformed in 6 units. Ventilator use decreased in 6 ICUs (-7% to -58%) translating to $758,928.00 savings in year 3 alone. All units experienced a decrease in mortality index from baseline. Unplanned extubation events decreased in 3 units but increased in 4 units. A culture change occurred in the adult ICUs to promote patients’ being awake and participating in their care.

EB115 Pain Management with Urban Zen Integrative Therapy in a Cardiothoracic Intensive Care Unit

Julie Hoang, Gilbert Barco, Kartrine Murray, Brenda Hardin-Wike; UCLA, Los Angeles, CA

Purpose: To introduce complementary alternative therapy in the form of Urban Zen to address patients’ pain. Urban Zen integrative therapy will serve as an alternative and adjunct to pharmacological measures to improve patients’ pain and increase patients’ satisfaction. The problem presented was of postoperative cardiac surgery patients in the cardiothoracic intensive care unit (CTICU) with uncontrolled pain unrelieved by pharmacological interventions. Description: Urban Zen integrative therapists offered complementary alternative therapy to all CTICU patients on a regular basis. Methods used included Reiki, breath awareness, essential oils, in-bed movements, and body scans. The project was developed by using a rounding tool to gather patient information and an audit tool to evaluate its effectiveness. The bedside nurses were included in the assessment and evaluation of the effectiveness of the therapy. The survey was done before and after the therapy to establish the ability to accurately measure the patients’ stated outcomes. Success was measured by decrease in patient’s stated pain score in comparison to before Urban Zen therapy. If a patient becomes too relaxed and/or falls asleep during the Urban Zen therapy, success will be measured by the physiological changes in heart rate, respiratory rate, and blood pressure, as well as achieving a target pain score of 0 to 1 on the CPOT scale. Evaluation/Outcomes: The data indicates 93% of patient’s reported improved pain scores, with an average improvement of 2.5 on a scale of 0 to 10. The efficiency of the project was measured using the audit tool and patient surveys. Data from Hospital Consumer Assessment of Health Care Providers and Systems (HCAHPS) scores demonstrated an overall improvement in satisfaction for pain-related questions. The results of this project are a representation of patient’s experiences in regard to pain care using an alternative and adjunct to pharmacological therapy. This project provides substantiation to make pain care a priority in achieving patient satisfaction during their hospitalization. Furthermore, continued research should be developed to optimize patient satisfaction with pain care.

EB116 Clinical Nursing Education: A Road Map to Success

Laura Watson; St Louis Children’s Hospital, St Louis, MO

Purpose: Integrating a pediatric cardiac progressive care unit with an intensive care unit to form an acuity-adaptable, universal unit highlighted multiple areas of opportunity, including offering a more comprehensive approach to orientation for new nurses while supporting existing cardiac nurses clinically and professionally for retention. The purpose of this poster presentation is to explain and describe an innovative approach to clinical nursing education aimed at meeting the needs of both groups. Description: The Heart Center Clinical and Professional Development Program is laid out into tracks that build upon each other. This new program is intended to adequately prepare new employees to care for a complex patient population and also to support existing nurses as they grow both clinically and professionally. All tracks contain core content including critical thinking, communication, professional development,
critical care skills, patient and family-centered care, disease processes, and more. The complexity of the content advances with each level coupled with the nurse’s years of experience. Track I is an integrated orientation for all newly hired nurses or new graduate nurses. Track II advances critical thinking to care for higher acuity patients. Track III promotes nurses into essential specialty roles to create a succession pipeline to support the needs of the unit. A combination of didactic experiences, preceptor-led shifts, simulation activities, and individualized development plans provides a career road map for nurses.

The tracks are designed using Benner’s novice to expert theory paired with the AACN’s Synergy Model for Patient Care. Evaluation/Outcomes: Individual nurse evaluations, nurse focus groups participating in the tracks, retention assessments, engagement surveys, and empowerment of core nursing specialty team(s) that focus on cardiac postoperative recovery and discharge planning are used to assess and advance the Heart Center’s clinical and professional development tracks for nurses. In addition to nurse feedback, members of the multidisciplinary team are asked to provide feedback on a regular basis. Since implementation of the program, the Heart Center has hired 21 nurses, 19 of whom are still on the team and in various stages of advancement. Existing nurses now have a structured program for entering specialty roles.

**EB117 Noninvasive Respiratory Volume Monitoring at the End of Life: Mitigating the Double Effect**

Diane Ladd, Joseph Schlesinger; West Virginia University, Morgantown, WV

**Purpose:** The principle of double effect allows for an act (use of opioids to relieve pain) that can lead to an unintended, but known consequence: opioid-induced respiratory depression. A noninvasive respiratory volume monitor (RVM) that delivers real-time, quantitative measurements of minute ventilation and provides an early sign of impending respiratory decompensation (and was approved by the Food and Drug Administration) was used to evaluate the utility of RVM for directing safe use of opioids during withdrawal of care at the end of life.

**Description:** A 70-year-old Kenyan woman with no history of preventative care and *Plasmodium falciparum* malaria had progressed to end-stage renal disease (ESRD). Initially the patient’s family did not want dialysis as services were not available at the facility and it necessary transfer. Several days later, the family wished to pursue dialysis, but the ESRD had progressed to the point where dialysis would have been ineffective. Ventilator-associated pneumonia also had developed. It was suggested that care be withdrawn and the patient made comfortable. Fentanyl monotherapy was chosen for use during withdrawal of care. The RVM electrode PadSet was placed on the patient’s thorax and the ventilator baseline minute ventilation (MVPRED) was entered into the RVM while the patient was still ventilated. The patient was monitored with the RVM and the low-minute-ventilation alarm was set at 40% MVPRED (2.16 L/min), below which minute ventilation values would be considered “unsafe.” After extubation, fentanyl was given in 25-µg aliquots until the minute ventilation reached the 40% MVPRED. The minute ventilation reached the 40% threshold after about 5 minutes and the fentanyl was stopped. The patient died 15 minutes later. Patient comfort without committing euthanasia was achieved, and the family was at peace with the process.

**Evaluation/Outcomes:** Use of the RVM during the withdrawal of care allowed health care providers to maximize the patient’s comfort without committing euthanasia. The family was at peace with the process. RVM provides real-time measurements of minute ventilation that quantify respiratory depression and the effects of opioids during the withdrawal of care. This continuous data, previously unavailable in nonintubated patients, allows nurses to avoid undertreatment of pain at the end of life and maximize patients’ comfort. The data provided by the RVM allows control of the unforeseen, but undesired consequence of opioid-induced respiratory depression, providing reassurance to the nurse, the patient, and the patient’s family.

**EB118 Combat Alarm Fatigue by Getting Back to Basics**

Bridget Garland, Leah Brown, Remedios Villapa; Sharp Memorial Hospital, San Diego, CA

**Purpose:** Audible alarms are essential in a medical intensive care unit (MICU) to alert nurses of critical changes in patients’ condition and to trigger intervention. However, when alarms are frequent and false, they can desensitize nurses, lead to alarm fatigue, and harm of patients. In keeping with the National Patient Safety Goal on clinical alarm management, this project sought to improve the accuracy of electrocardiographic (EKG) alarms in a MICU and decrease the frequency of false alarms.

**Description:** A random assessment of central
monitor alarms in the MICU revealed that ventricular tachycardia (VT) alarms were often artifacts. Literature review of evidence-based guidelines including the AACN’s practice alert for alarm management support electrode change daily with specific skin site preparation to optimize electrical signal. Current MICU guidelines of care do not include these measures. Accurate electrode placement, important for monitor rhythm analysis and differentiation of VT from artifact, was also absent from unit guidelines of care. A short electronic survey ascertained MICU staff knowledge and their current electrode care practices. An educational intervention, using PowerPoint, was developed based on staff knowledge deficits and using evidence-based guidelines for electrode management, skin site preparation, and electrode placement. This PowerPoint presentation was e-mailed to MICU staff for their review with instructions to begin the practice changes. The same survey was resubmitted for staff to evaluate knowledge gained from the education. Monitor alarms at the central station were assessed after the intervention to reveal the impact of practice change and the frequency of false alarms. **Evaluation/Outcomes:** Before the intervention, 71 VT alarms occurred in a 24-hour period, 43 of which were artifacts. Survey results from before the intervention revealed that 64% of nurses change electrodes “when they begin to lose adhesive” and 30% were “not sure what skin preparation includes.” More than 50% of MICU nurses completed the PowerPoint education, subsequently; VT alarms decreased to 29 in a 24-hour period, 20 of which were artifacts. Staff commented, “The unit seems quieter.” Knowledge improved on the survey given after the intervention, with twice as many nurses confirming that they change electrodes every 24 hours, and complete skin site preparation at the time of electrode change. Thus, going back to basics with electrode management combats false alarms and improves safety.

**EB119 A Novel Approach to Intrahospital Transport of Patients With Multiple Modular Infusion Pumps**

Flerida Imperial-Perez, Sabine Mellinger, Nancy Blake, Barbara Gross; Children’s Hospital Los Angeles, Los Angeles, CA

**Purpose:** To identify best-practice strategies of intrahospital transport of critically ill pediatric cardiac patients; describe the use of a standardized transport setup to mitigate the risk and potential adverse events in patients transported with multiple continuous vasoactive infusions, and the implementation of a clinician-designed transport pole to support the change in practice.

**Description:** Several studies reported equipment-related failure during up to 45% of patient transports with adverse clinical consequences that were deemed avoidable. The complexity and acuity of transporting patients with multiple vasoactive infusions increased exponentially with the use of modular infusion pumps, exposing patients and clinicians at higher risk for adverse safety events (pump failure, interruption of vasoactive infusions, and work-related injury). Intravenous poles are commonly used for transport of patients with multiple vasoactive infusions. However, the advent of infusion pumps designed with drug library and guardrails resulted in bigger and bulky modular pumps, making the pumps too heavy and unsafe for standard intravenous poles. Identification of unsafe practices related to modular infusion pumps led to the development and clinician-designed intravenous pole and standardized equipment setup during transport of critically ill patients. In collaboration with a nationally recognized intravenous pole manufacturer, the “FIP pole” was created and successfully implemented in a pediatric cardiothoracic intensive care unit and soon will be implemented house-wide.

**Evaluation/Outcomes:** Staff adherence to the standard of safe intrahospital transport is challenged with the advent of the newer model modular infusion pumps. The innovation in infusion pump technology left a gap in the safe transport of patients requiring continuous and uninterrupted delivery of vasoactive medications. Using a process review tool, staff adherence to safe transport resulted in 0 transport-related adverse events. The use of the FIP pole confirms the pivotal role of an advanced-practice nurse in identifying clinical practice issues, analyzing implications to patient care and clinicians’ practice, and designing and collaborating innovative interventions to support best practice.

**EB120: The Brown Battle: Reduction of Hospital-Acquired Clostridium difficile Infection Rates**

Sandra Wakai; Christiana Care Health System, Wilmington, DE

**Purpose:** The incidence of hospital-acquired infection with *Clostridium difficile* in the Wilmington intensive care unit (WICU), a 9-bed medical and surgical ICU at Wilmington Hospital, was high and increasing while all
other hospital-acquired infections in our unit were minimal. To align with our goal of preventing patient harm, we began our battle against *C. difficile*. The goal of our project was to decrease hospital-acquired *C. difficile* infections in the WICU by 25% in 6 months and sustain the reduction through fiscal year 2015. **Description:** The team focused on increasing staff awareness and minimizing contributing factors that cause *C. difficile* infection in ICU patients through implementation of a *C. difficile* bundle. The bundle included a 5-point approach: (1) environmental monitoring with swabbing as specified by the Centers for Disease Control and Prevention (CDC), (2) Improving staff awareness of *C. difficile* infection rates and CDC swabbing results, (3) Hand hygiene compliance greater than 90%, (4) antibiotic stewardship and stop dates, and (5) proton pump inhibitor (PPI) stewardship. In February 2014, we began environmental “secret swabbing” in patients’ rooms by using a CDC checklist. In March, the team convened for an interdisciplinary education and brainstorming session with staff from the infectious disease and pharmacy departments to review the problem and determine opportunities for improvement. In addition, monthly staff and value improvement team meetings included information about *C. difficile* infection rates in the WICU and our results from the CDC swab testing of the environment to improve staff awareness. Hand hygiene monitors continued, with a goal of greater than 92% compliance. During daily patient-family centered rounds, the unit began addressing and entering antibiotic stop dates. We also evaluated patients’ need for PPIs, with discontinuation of the PPI or a change to an H2 blocker as able. **Evaluation/Outcomes:** The 5-point *C. difficile* bundle has been successful in reducing unit-acquired *C. difficile* infections. After implementation of the *C. difficile* bundle in March, the WICU has had 0 hospital-acquired *C. difficile* infections to date. Our environmental monitoring results have improved to below 47 relative light units (RLU) for all items swabbed since July. Hand hygiene compliance has been maintained above 95%. Additional outcomes include a 29.1% reduction in commonly dispensed antibiotics and a 22.4% reduction in dispensed PPIs per 100 patient days. The results of this collaborative project have exceeded our expectations and have directly resulted in the reduction of harm to patients.

**EB121 Improving Glycemic Control in the Critical Care Environment**

Elaine Ngitit, Ann Granquist; Houston Methodist Willowbrook Hospital, Houston, TX

**Purpose:** To revise an existing glycemic control protocol by treating abnormal glucose levels and thus promote healing in critical care patients. Our aim was to maintain target glucose levels of 70 to 180 mg/dL. Factors such as nursing clinical practice, physicians’ preference, and patients’ perceptions were elements we considered when amending the protocol. Another goal was to empower the bedside nurse to use all available resources to attain normoglycemia and optimize outcomes for patients. **Description:** Hyperglycemia is a common problem that every clinician faces in critical care. As a result, several factors such as inflammatory response, chemical and nutritional imbalance, stress- and steroid-induced hyperglycemia, and other comorbid conditions affect a patient’s blood glucose levels. However, hypoglycemia can occur as a result of tight glycemic control and may be detrimental, particularly to neurological patients. These patients require higher glycemic goals to supply energy to the injured brain. Clinicians found it challenging to manage blood glucose levels within normal range. These abnormal levels potentially affect patient length of stay. The interdisciplinary critical care team evaluated current practices and policies. Revisions were made to target a therapy goal of 70 to 180 mg/dL glucose readings in critical care. Basal bolus insulin with correctional sliding scale was added, and insulin infusion therapies were reformulated. Exclusion and inclusion criteria were identified. The ICU-dedicated pharmacist conducted in-service education for all nursing staff. Endocrinology consultations were emphasized. Diabetic education and nutrition consultations were crucial to the success of the endeavor and were added to patients at risk for complications. **Evaluation/Outcomes:** Data from 100 patients at the point of care was obtained as baseline to identify the percentage of abnormal readings. The revised order set was implemented in August 2013. Patients with an ICU stay greater than 10 days or less than 2 day were excluded as this could have skewed results. The implementation of the order set with basal bolus and correctional insulin resulted in a significant increase of 50% achievement of target glucose goals. Incidence of hypoglycemic and hyperglycemic events were reduced by 50%. Nurses were the main drivers for this project and, as first-line providers, are in the best position to advocate for optimal care, as was achieved through the implementation of this project.
**EB122 Mobile Simulation: High-Stakes Emergency Training at a Budget-Friendly Price**

Ashley Kellish; UNC Healthcare, Chapel Hill, NC

**Purpose:** Based on decreases in “out-of-ICU” codes in our Children’s Hospital, emergencies have become high-risk/low-volume events. Dedicated emergency training (Pediatric Advanced Life Support) is required only every 2 years. Evidence shows that retention of emergency skills is difficult with infrequent training; evidence supports simulation training. To promote emergency skills and improve patients’ outcomes, an interdisciplinary simulation committee began a mobile simulation program by using grant funding and a little red wagon. **Description:** To create a sustainable program of simulation, the Pediatric Simulation Committee was created, consisting of nurses, physicians, respiratory therapists, house supervisors, and pharmacists. Simulation training and “in situ” (on unit) mock codes are performed weekly throughout the institution by committee members. Training is held on the units and in the patients’ rooms to develop teams, improve communication, and practice emergency skills within the work setting. Sessions are 20 minutes and are debriefed by members of the simulation committee. Debriefings are tracked and process improvements are made when system failures are encountered. The committee extends training beyond the Children’s Hospital to those who care for children in predominantly adult environments, such as the dialysis unit, the cardiac catheterization suite, and the burn center. The simulation equipment takes up little space; it is stored and transported in a child’s little red wagon. Institutional barriers to space, money, time, and support have been successfully overcome through using current space, sharing equipment, and gaining key leadership support. Staff members are extremely enthusiastic about the program. **Evaluation/Outcomes:** Interdisciplinary surveys sent 6 months apart revealed staff members have gone from being trained every 1 to 2 years in emergency skills to every 3 to 6 months with this mobile simulation program. By creating a larger, multidisciplinary committee that shares the work of planning and conducting simulations, we are able to greatly increase the number of training sessions and decrease the burden on individual educators. Brief in situ sessions allow nurses to practice their skills without leaving their areas or incurring additional cost to the organization. This program is a high-functioning, low-cost way to improve patients’ outcomes during emergency situations.

**EB123 When Time Matters: Sepsis Is an Equal Opportunity Killer**

Wendy Butcher, Terri Gordon; Wake Forest Baptist Health, Winston-Salem, NC

**Purpose:** In the United States, sepsis kills every 2.5 minutes. Sepsis is a multisystem, potentially life-threatening complication that can occur with any infection. Only 25% of patients who do not get antibiotics in the first 12 hours survive sepsis. Therefore early identification and timely antibiotic treatment are key to patients’ survival. The purpose of the critical care sepsis initiative was to improve patients’ outcomes and reduce mortality. **Description:** Timely antibiotic administration plays a key role in preventing mortality. In 2012, the mean time to administration of antibiotics in the intensive care unit (ICU) before the project rollout was 7 hours 7 minutes, with the rate of patient survival diminishing over time. A multidisciplinary team was expanded with critical care to establish a very specific standardized process for screening and treating all critical care and intermediate care patients for sepsis. This included developing a “snooze criteria” to help minimize false-positives as critically ill patients often have a response similar to systemic inflammatory response syndrome with no infection. Screening tools, both paper and electronic, were developed. Education on screening criteria was a 1-on-1 thorough process that included education on screening, snooze criteria, and activation of a code sepsis and all bundle components. **Evaluation/Outcomes:** The institution’s delay in treatment in the adult ICUs was a baseline mean time to antibiotic administration of 7 hours 7 minutes. After the education and rollout of the sepsis critical care project, the mean time to antibiotic administration was 51 minutes. The institution’s all-sepsis mortality index went from 1.44 in January 2012 to 0.82 in January 2014, compared with the University Hospital Consortium top-10 mortality index of 1.10 in January 2012 and 0.87 in January 2014. A marked improvement process developed and rollout for screening, identifying, and treating sepsis in a timely manner has led to overall better outcomes for patients and decreased mortality.

**EB124 Continuous Renal Replacement Therapy Hour Tracking: Managing Competence in a High-Risk, Low-Volume Procedure**

Molly Gratti; Geisinger Medical Center, Danville, PA

**Purpose:** Continuous renal replacement therapy
(CRRT) is a high-risk, low-volume procedure. Nurses should be allotted enough time actually performing the procedure to maintain competence. The question thus arose, how many hours on the machine are necessary to maintain competence? It was theorized that the more hours one performs a task, the more competent one will be in performing it. The purpose of this project was to leverage technology to manage competence among a large number of trained staff. **Description:** To begin this evidence-based project, a thorough review of the literature was performed. We were looking for guidelines about the number of hours a person would have to perform CRRT to remain competent for the year. Unfortunately, this search yielded no results. In fact, we found no published information about maintaining CRRT competency. We theorized that the only way to maintain competence in a large group of nurses was to ensure that each nurse managed the machine for approximately the same number of hours each year. We had a data miner extract data for the number of hours that a nurse documented on a corresponding CRRT flow-sheet row. The data miner collects this information each month. The “machine hours” are added together on a rolling 6-month basis and posted for all charge nurses to see. The charge nurse is then tasked to assign CRRT to the nurse with the lowest number of total hours. In this way, nurses are continually being rotated through and the same nurses are not consistently taking care of patients on CRRT. **Evaluation/Outcomes:** When the tracking project first began, it became apparent that the same users were frequently being assigned to care for patients on CRRT. There were nurses who had run CRRT for 190 hours in 6 months and others who ran the machine for only 8 hours in 6 months. Twelve months into the tracking process, CRRT assignments are being rotated consistently. Each nurse who is trained to run CRRT now gets equal time managing the machine. Charge nurses and CRRT nurses have expressed that this method of managing CRRT assignments is more fair and consistent than the previous arrangement.

**EB125 Fall Prevention in the Intensive Care Unit**

Diana Hughes; Mercy Health Fairfield, Fairfield, OH

**Purpose:** To reduce preventable patient harms, the 18-bed intensive care unit (ICU) of Mercy Health Fairfield set a goal of reducing falls by 25% in 2013. In addition to the prevention tactics that were in place, the ICU added a focus of keeping the patient safe during toileting. It was determined that the bathrooms were small and put patients at risk if they were to fall or have a syncopal episode. The ICU nurses were directed to stay with the patients during toileting. **Description:** The ICU had 16 falls in 2012 and was above the national benchmark in 3 of the 4 quarters in 2012. Our goal was to reduce falls by 25% or to have only 12 falls in 2013. Each ICU room was supplied with bedside commodes and walkers. Patients were directed by nurses to use the bedside commodes, and the new tactic of staying with the patient during toileting to keep them safe was initiated. This initiative was given the title of the “stay with me” program. Education on the “stay with me” program was given at staff meetings, e-mails, and the electronic message board in the staff lounge. A bulletin board in a secure area was used to post the statistics, education, and information regarding each fall for transparent communication. A stick figure cutout was placed with the name, diagnosis, date, and probable cause of each fall. This strategy humanized each fall; they were no longer a statistic but a real person who fell on our watch. The barriers were around privacy and the nurses’ time and work flow. The nurses collaborated, creating their own scripting. The team of nurses used their assigned partners more often, and the charge nurse stepped in when needed. Nurses were held accountable for making this part of their reliable care. **Evaluation/Outcomes:** By decreasing the preventable patient harm of falls from 16 to 6 falls, our unit realized a 62.5% reduction. The ICU was below the national benchmark in 3 of 4 quarters in 2013 according to NDNQI. The close investigation of each fall made it apparent that the treatment of patients undergoing alcohol withdrawal was not always current and evidence based. Education of staff and physicians was completed to better serve these patients. Alarm fatigue developed as a consequence of the increase use of bed and chair alarms, which resulted in a new initiative of the staff using the outfielder cry of “I got it.”

**EB126 Implementing a Bedside Resource Team to Provide Expert Inpatient Care to Patients With a Ventricular Assist Device**

Brenda Hardin-Wike, Julie Hoang; Ronald Reagan UCLA, Los Angeles, CA

**Purpose:** Patients with ventricular assist device (VAD) implants require specialized nursing care related to the device. This expertise is not consistently available.
in most hospitals due to limited full-time VAD coordinators and competence concerns among staff nurses. The implementation of a VAD resource team using a multidisciplinary approach provides expert in-house care for VAD implant patients to optimize their outcomes and satisfaction, to improve nursing staff expertise in caring for VAD patients. **Description:** A multidisciplinary team of VAD coordinators, staff nurses, nurse educators, nurse leaders, and cardiologists reviewed needs, identified opportunities for improvement, and launched a VAD resource team program through detailed planning, ongoing team communication, and regular assessment. An enhanced educational program for VAD resource team members, staff nurses, and physicians was done; standardized algorithms for assessing, escalating, and responding to VAD-related issues like dialysis were developed. Before implementation of the VAD resource team, a staff survey indicated that staff experience in caring for patients with a VAD device ranged from no experience to 10 patients during their career. Staff wanted an enhanced VAD education program integrated with hands-on training, a VAD resource consultation for concerns in caring for patients with a VAD, and to increase staff confidence in taking care of VAD settings, problem shooting, and patient education. The VAD resource team did VAD rounds to assess the patients and educate bedside staff. Members of the VAD resource team also logged common questions and concerns reported by bedside nurse. After implementation of the VAD resource team, a staff survey was conducted to identify effectiveness of this initiative. **Evaluation/Outcomes:** The survey after implementation showed that 75% of nurses felt more knowledgeable in caring for a VAD patient after the VAD class and 90% felt that they had adequate resources within the unit to answer VAD questions/concerns. A standardized algorithm for assessing, escalating, and responding to VAD-related issues was developed with the multidisciplinary team and initiated. The VAD resource team established an annual staff education and evaluation program, ongoing VAD rounds for evaluation, and a log sheet of common concerns. The effectiveness of this program is evaluated by constant monitoring of VAD resource team utilization, patient outcomes, analysis of bed utilization in the intensive care unit, and by bedside nursing before and after surveys.

**EB127 Implementation of Nurse-Led Multidisciplinary Rounds**

**Megan Bussey, Kathy Johnston; Rocky Mountain Hospital for Children, Denver, CO**

**Purpose:** The pediatric intensive care unit (PICU) charge group identified the lack of nursing participation and decreased communication among the multidisciplinary team in daily rounds. As the primary caregiver of the patient, the nurse should be the person to lead this communication. The team believed that an active, defined role in rounds would set the stage to contribute essential patient information to the plan of care. The successful implementation of this nursing role would improve communication and collaboration and enhance patient care. **Description:** Nurse-led multidisciplinary rounds were determined to be the solution to this lack of collaboration. The principles of AACN’s healthy work environment initiatives were consulted as well as an article regarding including parents in bedside rounding. The importance of collaboration and communication among the team were felt to be essential to maintaining excellent patient care, improving parent satisfaction, and achieving the highest level of quality and safety. The new and improved rounds were implemented in January 2014. A rounding tool was developed for the nurses to organize the pertinent information to present. This 1-page document was filled out by the night shift with current results of laboratory tests and patient data. Education regarding rounds and the rounding tool was done through huddles and e-mail. Rounds are held at 9 AM daily with the entire team, including parents. The nurses then present the patient in rounds and then the team discusses and collaborates on the plan of care for that day. Some revision and streamlining of the process was done during the first few months. It is now a hard-wired effective process. **Evaluation/Outcomes:** A survey was conducted in July asking the staff and physicians about the effectiveness of rounds and the use of the tool. The survey showed that all of the physicians and more than 90% of the staff felt that collaboration and communication had improved, and 86% of staff felt that critical thinking had improved. Staff are now engaged providers and are becoming better advocates for their patients. The physicians now have critical information early in the day in order to prioritize their care. Parents are now commenting in patient satisfaction surveys and leader
EB128: Move to Improve! Taking It Step by Step
Michelle Root, Mary Frances Keating, Dena Rocchio, Margaret Kramaric; Penn Medicine Chester County Hospital, West Chester, PA

Purpose: Early mobility improves multiple outcomes in critical care patients. This evidence-based solution study evaluated 3 interconnected protocols with the goal of improving patients’ outcomes. The Move to Improve program that was developed included 3 nurse-driven protocols: early progressive mobility, sedation, and sleep. These 3 protocols were successfully implemented by front-line nursing staff without the addition of full-time equivalents within our community hospital.

Description: An intensive care unit (ICU) nurse served as the early mobility champion, chairing the multidisciplinary early progressive mobility committee. Following a literature review and frequent correspondence with a national ICU rehabilitation expert, the committee collaborated to create the Move to Improve early progressive mobility program. Move to Improve consists of our new ICU sedation protocol, which incorporates evidence-based guidelines for pain, agitation, and delirium by using scores on the Richmond Agitation and Sedation Scale and an algorithm directing the nurse through the 5 phases beginning with continuous lateral rotation therapy and passive range-of-motion exercises (phase 1) and culminating with ambulation 3 times daily (phase 5). In January 2014, the committee introduced Move to Improve at a full-day conference that also included demonstrations of beds and lift equipment. Attendees, who included ICU nurses, respiratory therapists, physical therapists, and occupational therapists, received continuing education units. Other education included adding the Move to Improve Protocols to the bedside reference binders, serving breakfast to educate night-shift nurses, and posting photos of staff demonstrating the 5 mobility phases. Additionally, committee members who were physical and occupational therapists provided mandatory hands-on training on range-of-motion exercises for all critical care nurses and patient care technicians.

Evaluation/Outcomes: Move to Improve required a multidisciplinary approach to change the culture of the ICU. This enormous task was supported by unit-based nursing leadership through reorganization of patient care technician roles and responsibilities to support the Move to Improve program. In March 2014, after education and clinical support, the ICU launched Move to Improve. A retrospective chart review was completed that compared data from before to after implementation. Results demonstrated trends in delirium-free days, ICU length of stay, and day of first mobility intervention.

EB129 Cardiac Enzymes: When Is a Positive Important?
Lesa Smith, Karen Norman; Novant Health Forsyth Medical Center, Winston Salem, NC

Purpose: Cardiac troponin (cTn) testing is an essential component of the diagnostic workup and management of acute coronary syndromes (ACS) according to the American Heart Association. With the ever-increasing sensitivity of cTn use to test and diagnose ACS, the nurses’ responsibility to notify physicians of positive results increases workload and is not always necessary. Our team’s goal was to develop a protocol in which the nurses would only call cTn in if physician intervention was needed.

Description: A team of nurses and physicians was formed to examine situations where troponins were obtained and come up with a protocol that nurses could use to decide if the cardiac troponin required notification of the physician. The team conducted a literature review and considered the American Heart Association and the American College of Cardiology guidelines to decide whether situations in which the troponins were positive needed physicians’ consideration or whether the troponins were positive with no consideration needed. A flow diagram was developed that was simple for the nurses to use and ensured that patient safety and outcomes were optimized. Circumstances such as placement of a cardiac stent and cardiopulmonary resuscitation, when quality measures were already in place were not indications for a physician to be notified. Situations that required a physician notification included first-time positive troponins, second or third set troponins that increased by 20% or more, and positive troponins in which the patient did not have quality measures for ACS in place. The flow diagram was implemented in cardiac patients and included an education tool for nurses.

Evaluation/Outcomes: To evaluate the success of the troponin flow diagram, audits were done to collect data on use of the tool and determine if the flow diagram was
EB130 Catheter-Associated Urinary tract Infection . . . Or Is It?
Jisebelle Tizon; Saint Joseph Hospital, SCL Health, Denver, CO

**Purpose:** Despite our organization’s initiatives in prevention of catheter-associated urinary tract infections (CAUTIs), our CAUTI rates in our 26-bed medical/surgical intensive care unit (ICU) remained high in 2012. The purpose of this initiative was to prevent future CAUTIs and prevent false-positive results that could subsequently expose patients to unnecessary antibiotics because of improper collection of urine specimens. **Description:** In 2012, our CAUTI rate was 1.924. Root-cause analyses of these CAUTIs showed opportunities in (1) insertion, (2) maintenance, (3) timely removal, and (4) correct process of obtaining urine culture. The kits were changed, and education to address points 2, 3, and 4 were provided to the nurses through quality outcomes presentations. The process of obtaining urine specimens for culture was the biggest opportunity, as many of the urine culture specimens were obtained from old Foley catheters (3 days old). The CAUTI team (infectious disease physician, ICU clinical nurse specialist, ICU clinical manager, and infectious disease pharmacist) believed that this process could potentially have been giving us false-positive culture results. With our venture toward 0 CAUTIs and antibiotic stewardship, it was imperative that this process be changed. Through collaboration with the CAUTI team, specific and clear instructions were developed and given to the nurses through series of in-service trainings and via tip cards. It states, “if the Foley [catheter] has been in for more than 72 hours, remove the old Foley, allow patient to void once and obtain specimen per protocol on the second void; if the patient still needs the Foley, obtain urine culture specimen on the new Foley after allowing a few hours of urine flow to wash out biofilm.” **Evaluation/Outcomes:** Our CAUTI incidence in 2013 decreased significantly by more than 50% from 2012, even having 5 to 7 months of 0 CAUTIs in between. Resistance was met, as the old way had been a practice for years, and the new practice was considered impractical and of no value. Periodic presentations of our improved outcomes during our staff meetings with nurses and physicians gained their buy-in. This process change required the support of several stakeholders such as the attending physicians, intensivists, the unit’s nursing leaders, and the nursing staff to have been successful and achieved our outcomes. This process has now been implemented outside the ICU and at another hospital in the system.

EB131 Beyond Reactivity: Evolution of a Rapid Response System
Patricia Shoun, Pamela Brown, Leontine Eskola, Joanne Mikol, Anne Bateman, Melanie Sanders, Janet McWayne; Oregon Health & Sciences University, Portland, OR

**Purpose:** Rapid response (RR) systems were started to rescue patients in deteriorating condition on acute care units. RRs are reactive, and reports of their success are mixed. A committee of staff nurses from intensive care units (ICUs) and acute care units (ACUs) was formed to evaluate the current RR system. Specific goals were to recognize changes in patients’ status more quickly, improve collegiality between ICU and ACU nurses, and reduce the stigma associated with using the RR system. **Description:** The committee reviewed literature, evaluated adult and pediatric RR programs at other facilities, and studied charts of patients who had an RR. ACU and ICU staff participated in a survey looking at experiences with RR. The committee concluded that a proactive approach would better serve patients and acute care staff. The redesigned system added a nurse consultation service (NCS), a component of RR in which callers request the RR nurse assess the patient earlier than a traditional RR call. Other changes included RR nurse rounds with the ACU charge nurse to discuss at-risk patients, follow up with patients recently transferred out of the ICU, and follow up on previous RR and NCS patients. The ICU staffing model was changed to accommodate the expanded RR role and support rounds within the first 3 hours of a shift. Responders were educated in a 4-hour session. Dot phrases were developed to support comprehensive documentation. Unit-based nurse practice committees were used to educate and market the NCS to the ACU staff. The acute care units generated a watch list that evolved from the rounding process as the acute care nurses began to identify at-risk patients for whom they
had concerns but did not yet require intervention. **Evaluation/Outcomes:** In the first 18 months, 241 NCS and 120 RR calls were initiated. A majority of calls occurred during evening and night shift (139 and 130, respectively). About 24% of calls occurred within the first 12 hours of admission; 15.7% of NCS patients were transferred to the ICU before significant decompensation. A survey of responders and callers 6 months after NCS started showed that 95% found NCS useful. There was a significant decrease, from 41% to 13%, in callers who did not call an RR but wished that they had. Callers and responders reported improved communication between units (50%-85%). The RR system encompassing NCS, RR and code blue, provides proactive opportunity to manage changes in patients’ conditions.

**EB132 Restructuring Daily Awakening Trial: A New Face on Sedation Vacation**

Jisebelle Tizon; Saint Joseph Hospital, SCL Health, Denver, CO

**Purpose:** To improve consistency in practice in performing daily awakening trials (DATs) in patients receiving mechanical ventilation in the intensive care unit. Inconsistency in how DAT or sedation vacation was performed has led to patients being kept longer on sedation, “wild” on light sedation, or oversedated from keeping the same sedative on high doses instead of assessing choice of sedation. A change was needed to provide the best care for these patients by providing adequate sedation as needed and minimizing when appropriate. **Description:** After we learned of the inconsistency in practice in sedation vacation of patients receiving mechanical ventilation, this process improvement project was started in July 2012. An informal gap analysis was done and showed that nurses had varied perceptions on how and when to perform sedation vacation appropriately. The set criteria were considered unclear: by the time that the sedation was to be stopped (as set by parameters), patients were almost ready to be extubated, yet continued to be sedated and in some instances required computed tomography of the head because of altered mental status. A team of 2 intensivists, 1 clinical nurse educator, 1 day nurse, 1 night nurse, 1 respiratory therapist, and the unit-based nurse practice council was formed. The team focused on the structure as this was reflected in the gap analysis. Education was developed that was focused on the structure and process provided by the team to their corresponding disciplines. The structure included the following: who (patients meeting safety criteria); when (5 AM daily); how (ongoing assessment of sedation per Richmond Agitation and Sedation Scale, titration of sedation throughout shift and stopping sedation at 5 AM if criteria met, and use of a DAT sign to alert staff); why; the definition of failure and success of a DAT; and meaningful and efficient documentation. **Evaluation/Outcomes:** Although the numbers were small (6 before and 9 after the intervention), the initial data on compliance with performing DAT on appropriate patients increased from 60% to 100% in the following month (computed tomography of the head was eliminated). It was decided then that this should be hard wired into the system to sustain compliance. After receiving approval from the 9-hospital system, a more structured and meaningful tool for nurses to use to document screening, failure, and success of DATs was built into our electronic medical record and went live in June 2013, which was subsequently followed by the inclusion of the DAT in the “management of ventilated patients” order set in late September 2013.

**EB133 Jean Watson’s Caritas Processes: A Model for Transforming the Nursing Practice Environment**

Paul Summerell; Cone Health, Greensboro, NC

**Purpose:** To create a departm ental environment of nurturing and caring practices leading to improved role satisfaction for nurses, improved quality of patient care, and enhancement of the department’s overall nursing practice environment and to improve assimilation of new registered nurses into the department as active, integral team members. **Description:** In 2008, new nursing leaders assumed management of a unit with a history of dissatisfied and disengaged nurses and poor clinical practice indicators. We selected Jean Watson’s Caritas Processes to serve as the basis of the unit’s transformation. Emphasis on cultural fit (empathy, compassion, communication, teamwork, respect) over clinical experience was the first change to be introduced. The unit on-boarding process was designed to welcome and acknowledge the immediate value of each new nurse and to begin building positive new staff relationships. Redesign of unit precepting intently incorporated caritas processes. We celebrate precepting as professional growth and as a professional responsibility for nurses, and we encourage new nurses to serve as preceptors by 10 to 12 months.
after orientation to reinforce and recognize their own contributions. We introduce professional growth goals and activities during orientation by inviting new nurses to participate in department shared governance council meetings and by early involvement of new nurses in unit and hospital activities. We promote and celebrate achievement of national specialty certifications and membership and participation in professional organizations. Evaluation/Outcomes: From 2009 to 2013, the unit has improved its National Database for Nursing Quality Improvement Practice Environment scores (10th to 95th percentile) and its health system employee engagement scores (38th to 85th percentile). National specialty certification has increased (6% to 64% of staff), as has the number of nurses progressing in the system’s clinical career ladder for registered nurses (3% to 14% of staff). Key hospital-acquired infection rates have decreased. These outcomes validate previously published results. Application of Jean Watson’s caritas processes to nursing unit staffs can yield significant improvements in the nursing practice environment at minimal implementation cost.

**EB134 Arriba! Arriba! Let’s Get Moving**
Blas Villa, Esther Vandermeulen, Gemma Kennedy, Katherine Ghent, Catherine Robichaux; University Hospital, San Antonio, TX

**Purpose:** Despite current evidence, implementation of early mobility (EM) in our 26-bed medical intensive care unit (MICU) remained slow. A pilot, interdisciplinary intervention was designed to assess and contribute to team members’ understanding of the concept, benefits, and use of an evidence-based, EM protocol. This project includes interdisciplinary didactic presentations, 1-on-1 assistance with patient mobility assessment by nurse champions, and an on-demand video demonstration of the 5-stage mobility protocol. **Description:** Research evidence indicates that prolonged immobility contributes to adverse outcomes for patients including unanticipated complications and increased mortality. An EM project was initiated by using this evidence, a 3-phase educational intervention, and nurse champions. Critical care registered nurses, physical therapists (PTs), and respiratory therapists (RTs) completed a survey to identify existing knowledge of EM and contextual factors facilitating or hindering implementation. Many providers stated that EM would be performed if they received relevant instruction while others believed it was not a priority, unsafe, or was the job of physical therapists. An EM protocol was modified to include exclusion/inclusion criteria for MICU patients. Each discipline presented education on the importance of EM and their specific role in the 5-stage protocol; for example, PTs may not be consulted until stage 3. Nurse champions provide assistance with assessment of patients’ mobility level, appropriate exercises for each stage, and use of a mobility platform. This same assessment and demonstration information is available to all providers in an on-demand video, and EM is discussed in shift huddles. **Evaluation/Outcomes:** EM is now included in daily rapid rounds, and providers have voiced more understanding of and comfort in mobilizing patients. Reluctance to implement EM was further reduced after successfully walking our first ventilator-dependent patient. To date, approximately 10 similarly complex patients have been ambulated. In the future, accurate determination of the impact of EM on patients’ outcomes will be assessed via detailed, daily patient flow sheets for bedside documentation and a note in the EMR. The integral role of nurse champions to the continued success and sustainability of this pilot intervention was reinforced after a recent unit expansion and relocation to a new facility.

**EB135 Implementation of a Nurse-Run Extracorporeal Membrane Oxygenation Program**
Dena Allen, Barbara Leeper; Baylor University Medical Center, Dallas, TX

**Purpose:** To review the factors contributing to our decision to implement a nurse-run extracorporeal membrane oxygenation (ECMO) program, the process we used, learning opportunities along the way, and outcomes of our 2-year journey. We were challenged to have perfusion services support up to 6 ECMO patients in the cardiovascular intensive care unit when they were also expected to support cardiac surgery cases in the operating room daily. After 6 months, we realized we had to determine which discipline would lead our ECMO program in order to meet the increasing ECMO demands. **Description:** We evaluated pros and cons for 3 different disciplines to determine who would run our ECMO program. Perfusionist—pros: formal training/licensure, formal knowledge, quick upstart; cons: cost $30,000 per patient, limited availability. Respiratory therapist—pros: knowledge base on ventilation and oxygenation, cost savings of approximately $20,000 per patient; cons:
education requirements, limited availability. Nurse—
pros: knowledge base on ventilation and oxygenation, available 24/7, save $20,000 per patient; cons: education requirements, slow upstart. After the nursing decision was made, we implemented the following. After 12 months and extensive education of a core group of nurses, we were able to successfully implement a nurse-led program by the following: education content included a basic ECMO class, 1-on-1 coaching of the nurse by the perfusionist, wet laboratory tests led by perfusion services, skills validation. After 18 months, nurses were able to provide ECMO coverage 24/7, no negative outcomes have occurred with 131 cases, perfusionists continue to prime the catheters upon insertion, add continuous renal replacement therapy to the circuit, and discontinue the catheters. Evaluation/Outcomes: There is a savings of approximately $30,000 per patient when a nurse-led program is in place when compared with a perfusionist-led program and a respiratory therapist–led program.
The cost savings for cardiac (venoarterial ECMO) and pulmonary (venovenous ECMO) patients would be approximately $16,000 and $23,000, respectively. In 1 year of our nurse-led ECMO program, we realized an estimated cost savings of $2.3 million. These savings continue. Lessons Learned: continue with nurse-led program, engage more nurses initially, provide for ongoing continuing education and costs, have a long-term plan on how you will continue to grow and develop your ECMO nurse specialists.

EB136 Alarm Fatigue Reduction in a Medical Intensive Care Unit: A Patient Safety Initiative
Laura DeVaux, Dawn Cooper; Yale-New Haven Hospital, New Haven, CT

**Purpose:** Nursing staff in the medical intensive care unit (MICU) and step-down unit (SDU) recognized a safety concern. High noise levels due to telemetry alarms were reported. The noise levels made it difficult for staff to hear and respond to clinically significant alarms. An interdisciplinary committee was formed to address the problem. The group began meeting in November 2013 to review and define the scope of the work. Goals included reducing the number of false and nonactionable alarms to improve safety. **Description:** A phased strategy was developed to reduce sensory overload and reduce the number of nonactionable alarms. The group began with walking rounds in the MICU and SDU to assess the number and volume of telemetry alarms. It was noted that speakers for the hallway central monitoring stations competed with each other, and echoes prevented staff from pinpointing the area of an alarm. Clinical engineers worked to “zone” the speakers so that audible alarms sounded in the direct vicinity of origin in December 2013. The second phase of intervention was created in response to direct observation alarm data collected on telemetry alarms. Telemetry alarms for 23 patients were observed in 17.25 hours. Of the 251 alarms recorded, 201 were false or nonactionable; most were PVC alarms. Nursing staff completed education that covered lead placement, high and medium priority arrhythmia alarms, QTc monitoring, and changes planned. On July 30th, a group of premature ventricular contraction (PVC) alarms were defaulted to “off” and QTc monitoring enabled to default “on” with customization encouraged. Postintervention data included decibel monitoring, direct observation of alarms, and daily audits of lead changes. **Evaluation/Outcomes:** Outcomes were measured in 2 ways: decibel level measurements and numbers of false and nonactionable alarms collected by direct observation. Before the first intervention of speaker zoning, decibel levels regularly peaked in the 80 to 90 range. Following the zoning, decibel levels are regularly in the 70 range. Decibel levels were again measured following the arrhythmia default setting changes with sustained improvement. Numbers of telemetry alarms were also measured following the changes in the PVC default settings in July. Twenty-five patients were observed in late August 2014 with a reduction in total number of alarms from 251 to 97, a 61.4% decrease.

EB137 Intrathecal Antibiotic Administration by Bedside Nurses: An Innovative Practice
Diane Trower, Mary Zimmermann, Brigette Adair, Karen Zwerneman; Baylor University Medical Center, Dallas, TX

**Purpose:** To identify whether a longstanding neurological intensive care unit practice of administration of intrathecal antibiotics was within the scope of practice for nurses. Our nurses had been providing this procedure to patients for more than 20 years. During the process of updating an institution policy for the practice, it was questioned by nursing leaders. An initial evaluation indicated that there have been no related past events with either patient safety or poor outcomes.
Description: Neurological patients require intrathecal antibiotics for a wide variety of reasons, primarily for treatment of infection and/or to sterilize the cerebral spinal fluid. Nurses are educated and determined competent to administer intrathecal antibiotics before they can provide this care. An informal survey revealed that this practice was unique in the local and national communities. A formal literature search revealed limited sources describing who can administer antibiotics intrathecally. Most sources implied this is an advanced practice skill to be provided by physicians, advanced practice registered nurses (APRN), or physician assistants (PA). No sources identified intrathecal administration of antibiotics as within the realm of practice for bedside nurses. To determine whether the practice should be continued, we consulted our state board of nurses (BON). The scope of practice for nursing is broad and does state that professional nurses administer medications to patients under the order of physicians and their delegates as defined by law (includes APRNs and PAs). If questions arise about nursing practice scope, the BON recommends use of a 6-step decision-making model to assist in making a determination. Evaluation/Outcomes: The 6-step model was completed by a team that included nursing leaders, and no barriers to continuing this practice were identified, including accepting accountability for patient safety and outcomes. The board was then directly contacted for any additional recommendations or actions we should take. They were satisfied with the outcome of our process and eventual decided to continue the practice as it has occurred for the past 20 years. Neurological intensive care patients requiring intrathecal antibiotics continue to receive safe, timely, and effective care from our competent bedside nurses.

EB138 Intraosseous Needles Reduce Time to First Medication for Coding Inpatients Without Intravenous Access

Daniel Lantos, Dana Goforth; Carolinas HealthCare System, Charlotte, NC

Purpose: For patients who experience cardiac arrest, rapid treatment is essential to prevent death and preserve neurological function. Patients who do not have intravenous access, or patients whose access is lost during a code response, are at risk for delay in treatment while vascular access is reestablished. The rapid response team at Carolinas Medical Center was trained to place intrathecal needles in emergency situations to shorten the delay before medications could be given. Description: Carolinas Medical Center uses a freestanding rapid response team whose primary function is to respond to emergency situations throughout the adult inpatient departments. The facility had a preexisting policy that allowed intraosseous (IO) needles to be placed by physicians during code blue situations, but nurses were not validated for this procedure. Members of the rapid response team reported that failed attempts to secure central venous access could delay treatment during codes. As a result, a policy change was proposed and approved that allowed the rapid response team nurses to place IO needles during codes or rapid responses where vascular access had been lost or not yet established. A total of 10 nurses were validated to perform the procedure through a combination of didactic instruction and experiential learning on human cadavers. This change in policy and practice was communicated to the rest of the institution through engagement of key physician stakeholders, e-mail notification, announcement at management team meetings, and verbal communication from the rapid response team nurses to the floors. Outcomes measured were “time to first medication” after the code was called, as well as “survival to ICU transfer.” Evaluation/Outcomes: In 2013, there were 82 out-of-ICU codes where the patient did not have intravenous access. Of these, 64 occurred before October, when the IO policy was changed, and 18 occurred after. Before IO validation, the mean time to first medication was 4.3 minutes and 53.1% of patients survived until they could be transferred to the ICU. After IO implementation, there were 11 codes where an IO needle still was not placed; time to first medication was 3.1 minutes and survival to transfer was 72.7%. Seven patients did have IO needles placed during codes; the mean time to first medication was 1.7 minutes and 85.7% survived to ICU transfer. Data from 2014 are being compiled and support a marked improvement in outcomes.

EB139 Putting Patients First: The Johns Hopkins Hospital Weinberg Intensive Care Unit Decreases Its Rates of Catheter-Associated Urinary Tract Infection

Kristen Siperko; Johns Hopkins Hospital, Baltimore, MD

Purpose: According to the Centers for Disease Control and Prevention (CDC), urinary tract infections
(UTIs) are the most common health care–associated infections (HAIs) reported to the National Healthcare Safety Network (NHSN). In a study from 2002, an estimated 13,000 deaths in the United States were related to catheter-associated UTIs (CAUTIs). The Weinberg intensive care unit (WICU) is committed to reducing the incidence of CAUTIs and decreasing catheter utilization, reducing patient discomfort, medical costs, and mortality.

**Description:** As of 2013, the WICU was reported as having the highest CAUTI rates at Johns Hopkins Hospital (JHH). The WICU created a nursing focus group to educate the staff on new standards of care. Results from staff surveys in late 2013 revealed a need for practice changes, most notably the disconnection of catheters from drainage bags and prolonged use of indwelling catheters. Catheter use in the WICU has evolved in the past year. First, we discontinued the use of washbasins for Foley catheter care and substituted daily care with chlorhexidine cloths. We obtained securement devices for every catheter and stopped irrigation of catheters for low urine output. Measures were taken to reeducate WICU staff on best practice for catheter insertion, maintenance, indications for continued use, and obtaining urine cultures; this training was based on recommendations from the CDC, NHSN, and the On the CUSP: Stop CAUTI program. In May 2014, the WICU began weekly catheter utilization/maintenance audits, providing real-time feedback to bedside nurses. The employment of a unit-based bladder scanner and bundled Foley catheter insertion kit have also helped the WICU in our commitment to continuing best practice with catheter insertion/maintenance.

**Evaluation/Outcomes:** Although this project is ongoing, the WICU has seen measured positive outcomes from the aforementioned interventions. CAUTI rates are provided by the Hospital Epidemiology and Infection Control Department at JHH. They are measured by CAUTI rate per 1000 catheter days. Implementation of CAUTI prevention practices began in November 2013. Our preintervention mean CAUTI rate was 4.99 over 9 quarters. This has decreased to a postintervention rate of 2.79 in the past 3 quarters, a 44% reduction. Although not yet consistently under the NHSN CAUTI rate benchmark of 2.6, the WICU has vastly improved in the past year with a rate of 1.82 for the second quarter of 2014.

**EB140**

**Catheter-Associated Urinary Tract Infections: A Culture of Unit-Based Safety for Patients**

Tammy Richardson, Daniel Lantos, Steven Keller, Jennifer Schweder, Heather Combs; Carolinas Healthcare System, Charlotte, NC

**Purpose:** Despite our following published best-practice guidelines, catheter-associated urinary tract infection (CAUTI) rates in our neurosurgical intensive care unit (NSICU) and medical intensive care unit (MICU) remained high. While reviewing unit-based safety culture and based on the Agency for Healthcare Research and Quality’s Comprehensive Unit-Based Safety Program, gaps identified from a nursing perspective included utilization, necessity, and urine culture practices. With the sole focus of addressing these issues, a multiprofessional team was formed.

**Description:** As part of the CMS Health Engagement Network (HEN) sponsored by the Center for Medicare and Medicaid Services, a bedside nurse began to function in a part-time capacity as the ICU-CAUTI HEN nurse. The sole focus of the nurse was the NSICU and MICU. A multiprofessional team included bedside teams, infection prevention, providers, laboratory, and high level leadership began meeting regularly to discuss unit and system defects. To begin changing the safety culture, emphasis on best-practice guidelines regarding utilization and necessity to all nursing staff began via morning huddle, 1-on-1 education, and strong championship by nursing leaders. Slowly and with 1-on-1 discussions between staff, the ICU HEN nurses and leaders, the culture began to change from “How can I keep a urinary catheter?” to “How can I manage my intensive care patient without a urinary catheter?” Teaching also included emphasis on necessity and sharing of the evidence base regarding CAUTI prevention. Additional gaps addressed involving nursing were time elapsed getting urine samples to the laboratory, use of a preservative tube for all urine cultures, and additional equipment/supplies. Success has led to system-wide adoption of most of the initiatives.

**Evaluation/Outcomes:** By addressing CAUTI as a unit-based safety issue, since April 2014, the NSICU has decreased their utilization rate of 0.59% per 1000 patient days to 0.25% per 1000 patient days. The NSICU reached their stretch goal of a 15% decrease in CAUTI infections in May and has maintained that decrease with only 1 CAUTI identified in the unit since then, with the longest stretch without a CAUTI 75 days. The MICU has a utilization rate of 0.57, well below previous utilization rates of 0.62 for 2013 and 0.76 for 2012. With mostly steady declines,
the CAUTI rate per 1000 days has decreased from 12.0 in January 2014 to 5.0 in August 2014. Our standardized infection ratio for all the ICUs in our division has decreased from 2.07 to 1.49 since the program’s inception.

EB141 Reducing Intensive Care Unit–Associated Delirium via Environmental and Medication Interventions
Marlane Magee, Jeanne St. Pierre, Ann Gibbs Always; Salem Hospital, Salem, OR

Purpose: To reduce intensive care unit (ICU)–associated delirium by 10% via the use of environmental and medication modifications between June and November 2013. Hospitalized patients with delirium are at risk for morbidity and mortality, longer stays, and long-term brain dysfunction. Experts claim that the prevalence of ICU-associated delirium ranges from 20% to 80%. The baseline prevalence of ICU-associated delirium in this study was 63% (n = 129). Description: Baseline values were calculated by a convenience sample of ICU census reports and chart reviews. Using a quality improvement model, nurses assessed medical-surgical ICU patients for delirium where only cases with recorded scores on the Confusion Assessment Method for the ICU (CAM-ICU) were included. Cases from June to November 2013 were reviewed to see if CAM-ICU scores were positive for delirium at admission, during the ICU stay, and at the time of transfer. Interventions aimed at delirium reduction were introduced sequentially in a 3-phase approach and were recorded by clinical nurses on a data collection tool. Phase 1: Dimming lights; laboratory and radiology technicians collaborated with staff to allow a 4-hour block of uninterrupted sleep time. Phase 2: Sleep masks, earplugs, and either music or “white noise” (phase 1 interventions continued). Phase 3: Team collaboration to provide patients with sedative, anxiolytic, and pain medications in classes and doses that were less likely to cause delirium (phase 1 and 2 interventions continued). Engagement: Various levels of mobility and hand-held activity items such as textured squeeze balls or small animals promoted engagement throughout all phases. Evaluation/Outcomes: Prevalence of ICU-associated delirium during phase 1 was 40% (n=161), during phase 2 was 48% (n = 134), and during phase 3 was 35% (n=116). Interventions during phases 1 and 2 demonstrated the most influence upon patients admitted to the ICU with delirium but who cleared by discharge from the ICU: 17% and 19%, respectively. By phase 3, nurses reported 1 additional hour of sleep for each case. The prevalence of ICU-associated delirium was reduced by 28% from baseline by using environmental and medication modification. Delirium in ICU patients may be prevented or reduced by creating an environment with clearer day/night distinction and by reducing use of medications that contribute to delirium.

EB142 Strive For 5: Using Patients’ Perceptions of Quality Service to Increase Patient Satisfaction
Tracee Kennon, Couzue Karbbar; Houston Methodist Hospital, Houston, TX

Purpose: As the health care industry is being revolutionized in America through the Health Care Reform Act of 2012, improving patient satisfaction has become a challenging priority for health care entities as a sign of quality care, especially in intensive care units (ICUs). In ICUs, patients’ outcomes can be catastrophic, leaving patients dissatisfied. Add low staff morale with resistance to the implementation of change and our scores plummeted. Our goal was to increase patient satisfaction on the basis of patients’ perceptions. Description: In his thesis, The Role of Interior Environment in the Perception of Service Quality: A Business Perspective, in 2008, C. R. Bell showed that satisfaction can be affected by establishing a strong perception of quality service. In our patient-centered study, we used visitations and phone calls to identify 4 service quality factors that were most important to our patients: assurance, responsiveness, communication, and discipline. This led to the development of our Strive for 5 Initiatives: Face, Intent, Validate, and Energize. Face involved redecorating the unit and create a more professional look. Intent increased initial response time by allowing family visits within 20 minutes of patients’ admission. To validate meant speaking positively about each caregiver at the patient’s bedside no matter what his or her task was. Finally, energize instituted quiet times or periods of low stimulation for unit staff in an effort to decrease stress level and fatigue. It simultaneously decreased noise level for patients to allow them to rest. Success was measured by the percentage increase in Press Ganey patient satisfaction scores from September 2013 to June 2014. Our overall goal was an increase of 2.5% or greater. Evaluation/Outcomes: Of the 1846 patients who were treated in our unit, 534 patients were called or visited before they left the hospital and 265
Press Ganey surveys were returned. Results were as follows: overall patient satisfaction score increased by 4.78%; the skill of the nurse increased by 3%; how well the nurse understands treatments increased by 5.7%; friendliness of the nurse increased by 5.05%; and attention to special needs increased by 3.5%. These data indicate that by engaging patients and their families to reveal conceived perceptions about what constitutes good quality service, we were able to increase our patient satisfaction scores by more than 3% in all areas, exceeding our goal.

**EB143 Effects of Mobilization on Patients Awaiting Heart Transplant With an Intra-aortic Balloon Pump**

Lisa Green, Emma McClellan, Frederick Macapagal, Carrie Bridges; Houston Methodist Hospital, Houston, TX

**Purpose:** To demonstrate that percutaneously placed axillary-subclavian intra-aortic balloon pump (PAIABP) therapy safely allows patients a greater level of mobilization, resulting in improved preoperative strengthening, while awaiting heart transplant. This improved strengthening then allows improved postoperative recovery, a decrease in activity assistance after transplant surgery, and a decrease in length of stay.

**Description:** Acutely decompenated patients with end-stage heart failure have limited treatment options available while awaiting heart transplant. If they remain in a state of hypoperfusion, despite optimal pharmacological management, mechanical support is often required to bridge these patients to transplant. Transfemoral intra-aortic balloon pumps (IABP) are a commonly used mechanical support therapy for these patients. Although transfemoral IABP therapy is common, there are risks of multiple complications with this approach. These include severely impaired mobility, risk of infection, vascular complications including limb ischemia and bleeding, and pressure ulcer formation. The technique developed at our institution for PAIABP allows the patient to have a greater level of mobilization, as well as the ability to ambulate while receiving PAIABP therapy. This, in turn, allows an improved preoperative patient condition and strengthening, which can then lead to an improved postoperative recovery and a decrease in length of stay. **Evaluation/Outcomes:** Our retrospective review was of 45 adult patients on PAIABP therapy before heart transplant. On average, they were ambulated every other day, starting the first day after PAIABP insertion, a maximum of 3 times daily, and a maximum distance of 9980 ft (2994 m). These patients remained on PAIABP therapy a mean of 24.98 days before transplant (range, 2-147; SD, 25.034). Postoperatively, these patients were extubated by a mean of 61.74 hours, and in as little as 2 hours. Only 58.7% of these patients required a rolling walker on their first physical therapy session. Their postoperative ICU stay was a mean of 7 days (range, 2-21; SD, 17.867), and posttransplant hospital LOS was a mean of 22.38 days (range, 21-259; SD, 44.222).

**EB144 Reducing Nuisance Alarms From Cardiac Monitors to Improve Alarm Safety in a Transplant/Cardiac Intensive Care Unit**

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**Purpose:** The Philips physiological monitors new to our intensive care units (ICUs) alarmed frequently, leading to potential alarm fatigue for nurses and alarm safety concerns. The purpose of this study was to decrease the total number of alarms by reducing nuisance (audible nonactionable) alarms from the cardiac monitors. Using an evidence-based practice approach, we incorporated alarm data logged by the monitors, modifications to clinically significant and actionable alarm settings, and analysis of the results. **Description:** Alarm safety is a Joint Commission 2014 National Patient Safety Goal and consistently ranks as one of the “Top 10 Health Technology Hazards” by the ECRI Institute. A nursing-led task force including biomedical engineers, physicians, and clinical specialists of Philips monitors was created to evaluate and enhance alarm safety with the current cardiac monitor alarm settings. The team evaluated alarm settings that nurses reported as contributing to excessive alarm fatigue. Focusing on the transplant/cardiac ICU as the pilot unit, the team gathered interprofessional input regarding recommended default alarm changes. Using this input in conjunction with (1) best practices, (2) the AACN alarm management practice alert, (3) benchmarked alarm changes from other institutions using Philips monitors, (4) a 2-month analysis of logged alarm data, and (5) a staff survey on their perception and practices of alarm safety within the unit, the team decided upon new default alarm parameters. A total of
24 default settings were changed in the cardiac monitors by a Philips representative. Another 2 months of logged data from the monitors were collected and analyzed to determine if the changes resulted in a reduction of total number of alarms. **Evaluation/Outcomes:** The number of alarms was calculated per patient day. A total of 178 alarms occurred before the intervention compared with 159 alarms afterwards. Reducing nuisance alarms provided a 10.7% decrease in the overall number of alarms. Unlogged data on alarms, such as “NBP done tone” that was changed to “off”, could not be analyzed. However, we estimate that this would have shown a total decrease of 21.27% in overall number of alarms. Analysis of alarm changes allowed us to understand which default changes were effective as well as identify additional nuisance alarms that need to be revisited. The team also realized a need to develop policies for alarm management to systematically guide nurses in reducing alarms.

**EB145 Decreasing Preceptor Burnout and Improving New Graduate Retention Rate for Critical Care Nurses**

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**Purpose:** New nurse graduates (NNGs) must be knowledgeable to contend with the high pace and chaos of work in the intensive care unit (ICU). Transitioning to expert takes years, but NNGs are expected to safely care for high-acuity patients in a shorter period. Evidence suggested that mentors play a key role in NNG retention rates and mentor burnout and NNG retention rates can affect ICU care. This evidence-based practice (EBP) project aims to improve nurse retention rate and preceptor burnout in ICU. **Description:** Preceptors are patient advocates and trainers who guide NNGs to process and prioritize critical information conducive to patient care plans and safe outcomes. Using a retrospective and prospective descriptive study, we set out to identify rates of NNG retention and preceptor burnout before and after a structured 6-month EBP education intervention. The ICU management team (ICU-MT) invited nurses to be liaisons to monitor NNG progress and to build an ICU lead team of nurses with at least 3 years preceptor experience and 2 champions each on day and night shifts. Preceptors met bimonthly with assigned champions. Goals, outcomes, and duties aligned with the professional practice model to guide champions, preceptors, and NNG expectations. First the champions observed the preceptors and NNG for 2 hours to help guide the preceptors. Then champions met with NNG to see if the preceptors were optimal for their needs. The champions assessed the NNG progress according to the unit’s orientation guideline. Mentorship continued for 6 months after the orientation. To support preceptors, ongoing education was shared with the multidisciplinary team. **Evaluation/Outcomes:** Preliminary findings suggest that preceptor burnout was prevalent in 1 in 5. Most NNGs passed their critical care examinations, but resigned from ICU within 6 months due to safety/competence issues. We found a 58% preproject NNG retention rate for those who completed the critical care orientation. Findings from 6 months after the intervention show that the NNG retention rate increased to 100%. Observed improvement after the EBP intervention are noted in the outcomes of post 6-month NNG orientation retention rate and in the last 2 years’ retention rate of preceptor as only 1 declined. Data collection is ongoing for both NNG and preceptor retention rates.

**EB146 Sleep Deprivation in the Intensive Care Unit: Promoting Sleep in the Patients Who Need It Most**

Therese Podgorski, Caitlin Wise; Virginia Commonwealth University Health System, Richmond, VA

**Purpose:** Sleep deprivation is a common problem among patients in intensive care units (ICUs), potentially contributing to delirium and decreased healing. Would an ICU-wide informed quiet time (QT) increase the amount and quality of patients’ sleep, thereby decreasing the incidence of delirium and improving the overall healing process in this population? **Description:** Various interventions have been implemented to increase patients’ quantity and quality of sleep by decreasing aspects of the ICU environment such as light, noise, and interruptions. Many ICUs have successfully increased their patients’ sleep after the initiation of a quiet time. The solution for the ICU included twice-daily QT from 1 PM to 3 PM and midnight to 4 AM. Changes were made and these interventions were used during QT to protect patients sleep: education for staff about the importance of patients’ sleep, morning chest radiographs moved until after 4 AM, morning laboratory specimens collected at 4 AM, lights in hallways and at nursing stations decreased, nurses encouraged to close their patients’ doors and turn off

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their lights and televisions if appropriate, noise levels decreased, nonemergent tasks and procedures done outside of QT hours, visitors educated about the importance of sleep and the implementation of QT, and nursing care clustered before and after QT. Evaluation/Outcomes: Informal staff surveys were completed 6 weeks after implementation. The results were as follows: increased realization that inadequate sleep is harmful to patients, increased feeling that patients get an adequate amount of rest and sleep in the ICU, increased acceptance of working in a unit with a designated rest time each day, and 96% of respondents implemented quiet time daily when appropriate for their patients.

EB147 Families in Crisis: Family Support Team to the Rescue
Jennifer Suurvarik, Stephanie Smith; Lutheran Hospital, Wheat Ridge, CO

Purpose: A family support team (FST) was developed to address the needs of families of critically ill patients by providing necessary resources to families in crisis. The FST works collaboratively with other members of the intensive care unit (ICU) team to assess family's needs and intervene. The FST also welcomes and comforts families during their loved one's stay in the ICU. Our goal is to promote the health and well-being of the families, and to ensure that their needs are met. Description: Families in our critical care units (ICU, cardiac care unit, neonatal care unit) are in crisis. They are frightened and overwhelmed in the ICU. The nurses intervene and support the families when possible, but owing to the care needs of the critically ill, they were often unable to identify and meet the needs of the family. In May 2014, a team of 8 critical care nurses was selected to be in a 6-month pilot program. The FST began by reading publications on family-centered care, palliative care, active listening, and ethics. The many needs of the family emerged as a common theme. Baseline data were obtained by using a reliable and validated tool (ICU-FST). This tool ensured that the unique needs of our patients' families would be addressed in addition to those needs identified in the literature. FST developed a mission and vision that includes collaboration with the patient's nurses, physicians, and other team members, who partner with and coach the patient's family. Family involvement in their loved one's health care promotes healthy outcomes and greater satisfaction among patients and their families. The FST visits families in the ICU daily to ensure that the needs of patients and their families are being met. Each visit is personalized. Evaluation/Outcomes: The FST collects qualitative and quantitative outcome data. Gathering contact information and detailed advanced directive information is a priority. Families are coached to actively participate in multidisciplinary rounds, which they repeatedly report is very stress reducing and beneficial. Surveys are collected from families. The overall result has been a positive response to the FST. Nurses have expressed their appreciation with this innovative program. The FST is able to bridge the gap in care by bringing the patient's family into the care team and supporting them in the process of caring for a critically ill loved one in the ICU. Scores on the Hospital Consumer Assessment of Healthcare Providers and Systems have increased 18% since inception.

EB148 Reduction of Central Catheter–Associated Bloodstream Infection (CLABSI) Rate Due to Culture Change
Karin Cooney-Newton, Kortney Lagasse, Amy Llewellyn, Kristen Hover, Jill Kane; Christiana Care Hospital, Newark, DE

Purpose: Health care–associated infections are an expensive, highly preventable occurrence. The Agency for Healthcare Research and Quality has challenged state hospital associations nationally to reduce CLABSI (central catheter-associated bloodstream infection) rates to 1 per 1000 central catheter days. The medical intensive care unit’s (MICU) CLABSI team formed in November 2011 when we had 6 infections. The goal of our CLABSI team was to change our culture to provide best central catheter management and eradicate CLABSI in our 22-bed MICU. Description: The CLABSI team, consisting of 9 nurses, a leadership representative, intravenous team representative, and 3 physician assistants, completed many educational efforts within our unit to help maintain a CLABSI-free environment. We started first with the basics. We visualize return demonstration of central catheter dressing changes with the entire MICU staff. We observe proper hand-washing technique and donning of masks, proper cleansing with ChloraPrep (chlorhexidine gluconate and isopropyl alcohol skin preparation), correct dressing (Biopatch) placement, and application of occlusive dressing (IV3000) for all central venous accesses and dialysis catheters. We reinforced the
policies for frequency of dressing and intravenous tubing changes, proper handling of multidose and single-dose medications, as well as correct scrub-the-hub technique. As per evidence-based practice literature, we started to implement changing the clave caps of central catheters weekly and consolidating our collection of laboratory specimens. Implementation of a weekly monitoring tool that includes completing the central catheter checklist, weekly clave cap changes, proper Biopatch placement, and occlusiveness of dressing helps us detect trends in data that are displayed on our MICU’s surveillance board. This tool helps to guide us on further educational efforts. High importance is emphasized for prompt removal of central catheters if not indicated. Evaluation/Outcomes: Owing to our CLABSI team’s educational efforts, the MICU’s CLABSI rate has been 0 since July 2013. Our educational efforts have been receptive and sustainable, but the real change is in our MICU culture. As a result of the changes implemented in the MICU, the entire “mind-set” with which the health care team approaches central catheters has changed. The MICU was also able to decrease central catheter device days by 50% in just over 2 years. This could be accomplished thanks to collaboration and encouraging best practices from our interdisciplinary team. Not only have our infection rates decreased to below the national average, but our whole approach to central catheters has changed as well.

EB149 Evaluating Implementation of Health Information Technology and Mediation of Unintended Adverse Consequences
Erika Setliff; Johns Hopkins University, Baltimore, MD

Purpose: New technologies are often introduced into clinical settings, often with safety and quality goals. Even well-planned health information technology (IT) projects often lack adequate evaluation of both the original positive effects and potentially negative unintended effects of these technologies. This project seeks to identify best evidence to (1) evaluate intended outcomes at the system and individual level, and (2) identify and mediate unintended consequences resulting from new technology in the clinical setting. Description: A comprehensive search was performed in CINAHL/EBSCO, EMBASE, Web of Science, and PubMed to assess for disruptive innovation, disruptive technology, or unintended consequences resulting from implementing new equipment or technology in the clinical health care setting. A secondary search was performed to assess for tools related to health IT evaluation. After reviewing the resulting 1023 articles, refinements and title/abstract review, plus a hand search yielded 68 articles for full review, which were then evaluated on the basis of the Johns Hopkins nursing evidence based practice guidelines for level and quality of evidence. The strongest evidence was compiled into recommendations and evaluation strategies. Technology transforms the work system, which changes the process of care, ultimately affecting outcomes. Although many authors evaluated for and identified unintended consequences, they were also less prescriptive regarding how to resolve or improve those effects. Many focused more on systems level evaluation than unit or individual level evaluation. Organizations investing in new technology or health IT should plan a structured evaluation and plan to use the results of this evaluative process to guide improvements that may affect outcomes. Evaluation/Outcomes: Evaluation is difficult, complex, and often either not performed or poorly done. Mixed-methods approaches are most common, including some combination of surveys, observations, and interviews or focus groups. Studies are more descriptive of the process and unintended adverse consequences rather than strongly prescriptive for how to mediate those consequences. There are consistent categories to guide assessment strategies, such as communication, generation of new errors, work-flow issues, generation of new errors, and strong emotions. Organizations and individual clinical areas should evaluate for unintended consequences after implementing a change in technology, as well as work to resolve identified negative effects.

EB150 Reducing Hospital-Associated Pressure Ulcers in Patients With Acute Respiratory Distress Syndrome During Proning Therapy
Mark Richardson, Marisa Novello, Heather Kotowicz, David Berumen, Janet Kimsey, Jeneen Shipman; Swedish Covenant Hospital, Chicago, IL

Purpose: Nursing care of acute respiratory distress syndrome (ARDS) offers few options. When mechanical ventilation is insufficient to meet the oxygen needs of these patients at our institution, proning therapy is used. Use of a proning bed created confusion regarding appropriate therapy measures and often resulted in unusual patterns of skin breakdown, both of which affected outcomes. Nurses initiated interventions to correct these
issues. **Description:** A task force of 5 intensive care unit (ICU) nurses formed to develop guidelines for the care of patients on the RotoProne (kinetic therapy) bed. Each member of the group volunteered to research the evidence supporting best practices in various components identified in the gap analysis and develop guidelines to address each gap. The final product comprised these guidelines:

- Nursing management (skin/eye protection, range of motion exercises, nutrition, guidelines for collecting blood samples for arterial blood gas analysis; indications and contraindications; therapy guidelines (frequency/duration prone time, degree of turn and Trendelenburg position); weaning and discontinuation. The initial guidelines failed to fully meet expectations, reducing breakdown rates from 66% to 38%. To make the protocol more robust, an informatics component was embedded into the electronic medical record, creating a visual cue to promote guideline adherence. **Evaluation/Outcomes:** In the following year, of the 6 patients with ARDS who were placed on the RotoProne bed, there were 0 skin breakdowns resulting from use of the bed. The length of time on the bed for surviving patients was cut in half, which could be attributed to early initiation of therapy as prescribed in the guidelines.

**EB151 Keeping Patients Safe: Development of Certification Tests**

Joanne Konick-McMahan, Cindi Noe; AACN Certification Corporation, Aliso Viejo, CA

**Purpose:** Certification is a process that measures achievement of a standard of practice as the practice exists at a given point in time. The standard of practice is documented through a formal study of practice or job analysis. Certification testing validates professional nurses’ knowledge of the current standard of practice. Volunteer experts develop the test. The process is overseen by the AACN Certification Corporation Board. Consumer safety is the goal of the certification process. **Description:** Development of the AACN certification examination begins with creation of a test plan based on a current survey of practice. The Practice Analysis Task Force is a group of AACN volunteers who develop the survey of practice and define the target practitioner. When surveys are returned, the task force analyzes the data and makes decision rules about items to be included or excluded from the test plan based on the evidence. The work of the item writing committee is the next step. Volunteers develop questions that are based on the updated test plan. The examination development committee, the third step in the examination development process, reviews, edits, and approves items for pretesting and the examinations. The examination development committee calculates difficulty ratings by using the Angoff method. This process helps to ensure that the certification examination questions reflect the correct level of knowledge needed. New items, written by AACN volunteers and based on the test plan, are pretested. This pretesting provides statistical evidence that a certification question is the necessary level of difficulty. Pretesting also discriminates test takers who have the required competency to pass the certification examination. All work by AACN volunteers is guided by psychometrists and the AACN Certification Corporation. **Evaluation/Outcomes:** AACN certification examination items are regularly evaluated for level of difficulty and discrimination statistics. Passing scores or cut scores are developed on the basis of statistical analysis of the items. The examinations are accredited by the National Commission for Certifying Agencies. AACN Certification Corporation is required to meet the strict standards set by the commission. A peer-review process is used to establish these accreditation standards and evaluate compliance with these standards. The goal of the accreditation and certification process is patient safety.

**CH155 Ignite the Fire: Inclusive Celebrations Inspire Nurses to Obtain Certification**

Stephanie Ray-Nichols; High Point Regional Hospital, High Point, NC

**Purpose:** To inspire nurses to get certified. We felt that by inviting all chapter members to the chapter’s certification dinner, we could support and inspire nurses to get certified. **Description:** At our most recent certification celebration dinner, we decided to extend an invitation to all chapter members. At first, some members were reluctant to open the dinner up to all members. After much discussion, we all agreed it was an excellent opportunity to promote certification. By including everyone we knew, we could ignite the fire within our members. It turned out that this was one of our most attended events, with almost 40% of our members in attendance. Certified nurses were honored with a corsage and given the opportunity to speak on why they became certified and what it has meant to their nursing career.
Our noncertified members stated they were incredibly inspired and felt honored to share in the celebration. **Evaluation/Outcomes:** We have had 5 nurses sit for their certification examination. Our chapter now has a certification study group. This group meets monthly. Our certified nurses have supported the study groups by mentoring nurses interested in certification. They state that by mentoring future certified nurses, they are fanning their own flame, which keeps them rejuvenated.

**CH156 Nurses Bring New Meaning to a Full Urinal: A Chapter’s Community Support Journey**

Stephen McKeeman, Rhonda Krawiec; Greater Tampa Bay Chapter, Tampa, FL

**Purpose:** The 2012 AACN theme was “Together, Stronger, Bolder.” Focusing on how we could act “together,” present ourselves “stronger” in our community, and be “bolder” in our thinking process, the Greater Tampa Bay Chapter (GTBC) sought ideas and solutions to better define our commitment to our community. This poster demonstrates our chapter’s journey to a successful, easy, and innovative solution to providing community support, and that has been ongoing for the past 2 years.

**Description:** The GTBC board’s intent was to develop a process that was fun and encouraged chapter participation. However, the primary goal was to provide meaningful and useful support to our community partners. Many ideas were discussed; however, the idea of donating cash seemed to be the most convenient alternative to previously tried ideas, such as food and toy donations. The board also felt that a fun, whimsical, nursing element needed to be added; the concept of “passing the urinal” was born. A clean, unused urinal was obtained, and at our next chapter meeting the board introduced the concept to all attending members. Cash donations to stuff the urinal were sought, and donations of $1 and upwards were suggested. During the dinner meeting, the urinal was passed from table to table as members added dollar bills to it. The conversation was lively, puns were expressed, and laughter in support of this idea followed the urinal around the room.

**Evaluation/Outcomes:** That first urinal returned with a total of $87.25, which, at the members’ request, was donated to our local homeless shelter. At all chapter meetings since, we have “passed the urinal.” At the conclusion of each meeting, the amount collected is announced, and the members vote on which local charity will receive the cash funds. Donations at each meeting now range from $90 to $120. Selected charities include Wounded Warriors, Humane Society, local domestic violence shelter, Red Cross, and Salvation Army. Since inception, the GTBC has collected and donated more than $1300 from the loose pocket change and spare dollar bills that our members have willingly donated, focusing our flame toward the future.

**CH157 Lighting the AACN Flame in Student Nurses**

Elizabeth Pearson, Lorna Baker; Greater Tampa Bay Chapter, Tampa, FL

**Purpose:** To build relationships with students and facilitate their ability to obtain leadership hours by attending association meetings. As each school year neared completion, the Greater Tampa Bay Chapter of AACN received numerous requests to attend meetings. With bimonthly meetings in restaurants with limited seating, only 1 or 2 students could be accommodated. The chapter president proposed that we Step Forward with a new initiative to meet their needs.

**Description:** Board meetings are held bimonthly opposite the months when the chapter meets. The new initiative, launched in January 2014, involved extending board meetings by adding an educational offering, aimed primarily at students, but open to all. The education chair networked with local universities and obtained classroom space with audiovisual equipment and the event information was posted on the chapter website. The inaugural class presented the film, “Nursing: If Florence Could See Us Now” to a large audience. Subsequent topics have featured stroke, hematological malignant growths, and burns. Meetings begin with a welcome from the president, a brief overview of the value of AACN and belonging to a local chapter, and an offer of free local membership if they join the national organization. They are also invited to stay afterwards for the board meeting, for further discussion related to the topic or to critical care nursing, or to network with student peers. Attendance at the second meeting dropped markedly, but by reaching out to the instructors, the numbers increased for the third and fourth meetings.

**Evaluation/Outcomes:** This project allowed students to meet leadership requirements, increased networking between schools, created a better understanding of AACN as an organization, highlighted the availability of student membership, and lit a spark for critical care nursing in a few. Seventy students have attended 4 meetings, provided positive feedback, and
brought friends. Recently, 4 students expressed interest in joining AACN. For the chapter, it increased visibility and networking in the university communities and allowed the professional nurse leaders to serve as role models actively involved at local and national levels. Greater Tampa Bay Chapter is focusing the flame on student growth and mentoring.

**CH158 Improving Skilled Communication in Chapter Operations Through Online Technology**

Eliza Granflor, Sherwin Alop, MaJudy Ilano, Rose Hata, Julie Gamboa, Judy Hanhila; Hawaiian Islands Chapter of AACN, Honolulu, HI

**Purpose:** The Hawaiian Islands Chapter is the only chapter serving the state of Hawaii. Communication is a challenge among board members who are spread over a wide geographic area and who are frequently overseas for medical missions. Communication was outdated, limited to the use of a shared e-mail account. Our goal was to improve our skilled communication by increasing access and proficiency with communication technologies, including video chat, online document sharing, and online ticketing services. **Description:** There are 6 standards of a healthy workplace environment. Keeping in alignment with the president’s theme of focusing the flame, we particularly focused on improving our skilled communication. Some of the criteria of skilled communication include having access and proficiency in the use of appropriate communication technologies and the advancement of collaborative relationships. We practiced fearlessness in our commitment to go paperless this year, using Eventbrite for online ticketing and registration; Facebook, Twitter, and our website to distribute our symposium brochure; and Survey Monkey to e-mail learner needs assessments and evaluations. We inquired into how the Microsoft Store could collaborate with us to reach their community outreach goals, while fulfilling our goals of improving our technology proficiency. We engaged in a collaborative relationship with Microsoft by holding a general board meeting in their store where their employees demonstrated the basic functions of their tablets, the process for online video chat with Skype, and the functions of OneNote document sharing. Five additional 30-minute tutorial sessions were scheduled for ongoing training with Microsoft CloudShare programs. **Evaluation/Outcomes:** By the end of the 2013-2014 fiscal year, most of our board members were actively using OneDrive to share documents, and OneNote for real-time record keeping during meetings. The use of Facebook and our website to advertise membership and our symposium resulted in an increase in our chapter membership from 70 to 98 members, and a large turnout of 137 registrants and 29 vendors to our annual symposium. All of our meetings allowed call-in video chat with Skype using Microsoft tablets, one of which was a key strategic meeting before a symposium in which several of the board members were on a medical mission overseas.

**CH159 Focusing the Flame: How the Oklahoma City Area Chapters Focus Challenged Nurses to Go That Extra Mile**

Elizabeth Morris, Jacquetta Pope, Deron Dunnington, Melissa Gullotto, Georgiana Pineda, Marquita Jones, Virginia Mennis; OKC Area Chapter, Oklahoma City, OK

**Purpose:** With the increasing complexities of patients today, health care demands a high level of knowledge and commitment. To meet this challenge, our local chapter set a goal to increase the number of nationally certified nurses in Oklahoma by hosting a CCRN/PCCN review. This year we challenged each participant to take the certification examination within 6 months. Our purpose was to provide an opportunity to truly prepare nurses for the next phase of professional practice: national certification. **Description:** For the past 6 years, the OKC Area Chapter has held a 2-day CCRN/PCCN review course. This review is part of our board’s mission to provide local and cost-effective educational events. One way we achieved this mission was to provide an event focused on preparation for national certification. Although our goal was to assist nurses in preparation for the examination, we did not go that extra mile to track our success. Although we have always encouraged our participants to sit for the test within 6 months, we had never measured our success. This year, at the beginning of day 1, we voiced the challenge to not only learn but to take that next step and test. Going forward, we will be increasing our focus on national certification through not only our yearly review course but also at chapter meetings and sponsored educational events. This year, we not only challenged the nurses attending our events, but all chapters in Region 15 and nationally. With our focus on increasing our numbers, both nationally and locally, AACN will be an even stronger organization uniquely prepared to serve our nurses. **Evaluation/Outcomes:**
In April 2014, 85 nurses attended the 2-day event. A manual search of the AACN database of the attendees showed that 14 were nationally certified at the time of the review. Since then, 14 nurses have been newly certified. Those becoming newly certified were recognized by the chapter via social media and our quarterly newsletter. A drawing was held, and 2 lucky winners were given free registration and recognized at the Region 15 meeting held in September. Success was measured by the gain of newly certified critical and progressive care nurses. Every nurse that goes that extra mile to become certified is a gain for our profession and for our patients.

**CH160 Best Practices Sharing Session Brings out the Best in All**

Diane Martin, Christy Hoover, Deborah Hurley, Edna Venturo, Douglas Stell, Susan Stell; Rochester General Hospital, Rochester, NY

**Purpose:** Each January, our chapter hosts a meeting where nurses and nursing students share best practices. We come together and share clinical findings, teaching strategies, and unique ways to improve outcomes in our area. These sessions celebrate innovation, patient- and family-centered care and collaboration within our community. We keep each other on our toes, and we do it at a nursing school to remind us to help others grow, right from the beginnings of our careers.

**Description:** The Greater Rochester Finger Lakes Chapter has had great success in the past 4 years sharing best practices among the hospitals and nursing schools in our region. Unlike all of our other chapter meetings, our January meeting is now a best practices sharing session and is always held at one of our area nursing schools. Members and non-members alike are invited to attend. Contributors create posters or an 8-minute podium presentation. The meeting allows time for poster viewing, author comments, and podium presentations. Our chapter provides refreshments, and each presenter is given a certificate. Some area facilities encourage this type of knowledge sharing when looking at the nurse advancement systems. It is a benefit to the nurse professionally in several aspects—both in the community and in the “home base” of practice. The art of nursing is ever-changing. To achieve and maintain excellence requires persistence. We must intentionally seek to stay current and think creatively to provide the best care for our patients. This venue has promoted the collegiality necessary to enable individuals to make their optimal contribution through lifelong learning, critical thinking, inquiry, and creativity.

**Evaluation/Outcomes:** Typically, we have 12 to 18 posters and 4 to 6 podium presenters. Our attendance ranges from 45 to 75 people. Topics such as “Letting Children Be Children in the PICU,” “Create a Timeline for Preparing for Your Certification Exam,” “Radial Artery Approach for Coronary Angiograms,” “Using Tele-ICU to Round in our Rural Hospital,” “Using Nurse Navigators,” “Reducing HAI,” “Create a Lead Technician,” and many more have been presented over the years. We find this format to be inviting to nurses and students alike. Some of the nursing schools have offered credit to their students who attend. FOCUS the FLAME. We look forward to our 5th annual session in January 2015.

**CH161 Chapter Strategic Planning Based on a Member Needs Assessment**

Nicole Stafford, Anne Soliman; Denver Health Medical Center, Denver, CO

**Purpose:** The Denver AACN Chapter has participated in strategic planning every year for the past 5 years. The intent of strategic planning is to plan meetings, community-based projects, continuing educational sessions, and certification events based on the needs of the nurses in the Denver, Colorado region. To meet the goal of leading the strategic planning sessions in the right direction, the leadership creates a needs assessment that is distributed to critical care nurses in Denver.

**Description:** The best practice of a needs assessment was created with the knowledge of the mission, vision, and values of AACN. The reliance of nurses on expert knowledge and their ability to influence the delivery of quality care to patients and patients’ families is driven by the needs of patients and their families. Critical care nurses understand these needs and have an appreciation of the resources that enhance care delivery. The needs survey is a series of questions based on the focus of the well-rounded needs of nurses in the community such as encouragement and resources for professional certification, the need for direction in how to get involved in community outreach, and the need for continual education regarding topics such as leadership, clinical advancement, and healthy work environments. This survey, developed by leaders and newcomers to the Denver Chapter, contains questions in the format of a Likert scale to measure the need indicated by the nurse responding. The survey
is sent via email to the members of the Denver AACN Chapter and is forwarded by chapter members to other critical care nurses who have not yet joined the chapter. It is important to meet the needs of those not participating in the chapter for the purpose of chapter growth. **Evaluation/Outcomes:** The evaluation of the needs survey is based on completion rate. The needs survey has had more than 33 responses each year that it has been conducted. These responses are taken into account during each strategic planning session. The outcomes of its effectiveness can be measured by the attendance at events planned based on the survey. Over the years that this survey has been conducted, each Denver Chapter event has hit capacity. The chapter has also grown exponentially in numbers each time the needs survey has been conducted. These outcomes of growth and participation are indicators of the success of delivering needed resources to Denver-area nurses.

**CH162 Nurse Engagement, Education, and Empowerment: Denver Chapter Leading Collaboration in the Mile-High City**

Theresa Nino, Shannon Bortolotto, Lee Ludwigson, Mary Potter, Janna Petrie, Sarah Moscatel, Jan Smith; Denver Chapter “Nurses With Altitude,” Denver, CO

**Purpose:** The Denver AACN Chapter strives for quality, excellence and innovation in programs for our community of exceptional nurses. Recognizing the importance of collaboration, we enlisted nurse associations to join us and demonstrate partnerships. We identified common challenges, celebrations and trends in health care for an educational event. Through education, teamwork, and true partnership, the collaborative hosted an all-day event to educate, engage, and empower nurses on common health care themes. **Description:** True collaboration is an AACN standard, and we work to relentlessly pursue specialty and multidisciplinary connections. The Denver AACN chapter initiated a “collaborative” and joined together with the Center of Nursing Excellence (CNE) and invited other professional associations to form a partnership. All participants agreed that collaboration is valuable and adds strength to our individual mission and values. The Denver AACN Chapter president served as lead in discussions and planning. Group goals were established, and the culture of partnership began as the group shared in decisions for the collaborative. The collaborative event promoted professional growth and identified important values in practice. Defining common challenges, clinical needs, and accomplishments formed the theme and objectives for the event. The topics focused on quality, safety, and leadership development in nursing. Keynote speakers presented 2 important topics: “Civility in Practice” and “Nursing: an Outcome Value.” The collaboration continues for a second year with 4 additional organizations joining for the 2015 event. Fearlessly stepping forward and engaging others ignites collaboration, nursing resilience, and strengthens our profession and care. **Evaluation/Outcomes:** Goals to form and lead a collaborative were successfully demonstrated by a partnership with 6 professional organizations. More than 95 nurses and other professionals attended the collaborative event. The Denver AACN Chapter remains the lead planner for the 2015 collaborative event. The CNE partnership continues, and an additional 6 organizations have joined in the collaborative planning. Partnership affords opportunities for education and collegiality and allows us to connect beyond specialties. The vision for teamwork across a city of nurses requires true collaboration and authentic leadership: our innovation has created a culture of partnership that educates and improves practice.