

2014 National Teaching Institute Evidence-Based Solutions and Chapter Best Practices Abstracts

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EB49 Achieving Zero

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Purpose: Surgical site infections (SSIs) increase mortality, readmission rates, length of stay, and cost to patients and medical facilities. A need for reduction of SSIs after isolated coronary artery bypass (CABG) with donor site surgery was identified by a comparison of our rate with the rates cited by the National Healthcare Safety Network. The purpose of this project was to decrease our rate of SSIs by 40% to achieve an annual rate of 1.61 per 100 procedures. This rate is based on the Centers for Medicare and Medicaid Services' national safety goal for overall reduction in hospital infections. **Description:** Using DMAIC (Define, Measure, Analyze, Improve and Control) and rapid adoption methods, a multidisciplinary committee of cardiothoracic surgeons, nurses from each patient contact department, environmental services, home health care, and support personnel was developed to begin the improvement process. The committee created a flowchart of the current process, from when the patient is identified for surgery until discharge, to provide a means to analyze all processes for inconsistencies and variations. The flowchart was posted in the cardiac intensive care unit and the operating room, where frontline personnel were actively engaged in the improvement process by reviewing and placing notes on the flowchart.

Direct observations were conducted in various areas throughout the patient care experience to ensure accuracy of the flowchart. In addition to observation, the charts of patient's with SSIs were reviewed for the past 2 years for common denominators, of which none were found. The committee conducted a current evidence-based literature review to verify that our process mirrored best practice. For 6 months, areas for improvement were identified and rapidly acted upon. The changes implemented included but were not limited to chlorohexidine oral rinse administered until discharge, use of disposable electrocardiography leads, use of silver-impregnated midsternal dressings, new sutures and surgical techniques, as well as standardization of all processes. **Evaluation/Outcomes:** Working with all levels of the organization, the committee implemented cultural changes between departments and worked together to make improvements. Our annual infection rate from March 2012-March 2013 decreased to 0.7, surpassing our targeted goal. We have now had 0 SSIs since May 2012. In the year preceding the change initiative, the total excess cost of SSIs after CABG with donor site surgery was \$250,965 with 156 excess hospital days. With the implementation of new practices and the standardization of processes, the incidence of SSI was reduced with a resulting cost avoidance of \$212,355 and a decrease in excess hospital days to 24. This process has allowed us to pursue excellence in patient care through collaboration and innovation.

EB50 E–Intensive Care Unit in the Community: Keeping the Patient Closer to You

Moriah Regan, Kathleen Uzdanovich, Michelle Heron; Melrose Wakefield Hospital, Melrose, MA

Purpose: To enhance patient safety, advance clinical care, and improve engagement of nursing staff in the intensive care unit (ICU) as well as the quality of care provided to patients in our community hospital ICU. **Description:** On February 14, 2012, we implemented eICU (electronic ICU trademark of Philips-VISICU) in an effort to manage higher acuity patients, obtain prompt intensivist access with a proprietary alert system, integrate ICU evidence-based standards, and increase clinical support and resources. Advances in technology and an ongoing aging population are contributing to an increasing demand for critical services. Twelve years ago, the Leapfrog Group identified 24/7 intensivist staffing as one of its safety standards for the ICU. It was estimated that more than 54 000 ICU deaths could be avoided if this best practice were implemented in US hospitals. Owing to a severe shortage in intensivist physicians, many hospitals are finding it impossible to provide the recommended level of intensivist coverage. Only 30% of ICUs in the United States are able to adhere to the Leapfrog Group's recommendations. The use of telemedicine is one approach to expand access to high-quality critical care by intensivists. eICU allows patients to stay closer to their families and support systems by raising the level of care available to them in their community hospital. **Evaluation/Outcomes:** After celebrating our 1-year anniversary with eICU, the Acute Physiology and Chronic Health Evaluation report reveals a trend that shows a significant decrease in our ICU's mortality rates and in our hospital's sepsis mortality rates. Also the National Database of Nursing Quality Indicators (NDNQI) practice environment survey has shown increases in collegial nurse-physician relations and an improvement in nursing foundations for the quality of care subscales score in the ICU. The eICU engages and empowers nurses to confidently care for and manage higher acuity patients by offering collaborative clinical support through evidence-based practice, enhancing critical thinking, and maintaining strict adherence to ICU protocols. Twenty-four hour eICU support provides constant reassurance to patients, their families, and nurses by acting as a second set of eyes, increasing safety for our acutely ill patients in the community.

EB51 Virtual Intensive Care Unit: Meeting the Need for Critical Care of Rural Veterans

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Purpose: The virtual intensive care unit (vICU) at the Denver VA Medical Center was designed by Leigh Anderson, MD, in 2009 to provide critical care services to veterans in the largest geographic region in the national VA Healthcare System. It is based on a rapid-response model, staffed and run by CCRN-certified critical care nurses in the Denver VA Medical Center. Nurses and providers at remote sites in VISN 19 (comprising Montana, Wyoming, Colorado, and eastern Utah) can call 24/7 for ICU support. **Description:** This nurse-driven program provides 24/7 coverage to assist with facilitation of transfers of critical care patients, procedural and clinical nursing resources, and immediate specialty service critical care consultations. It is a "virtual handshake" between critical care nurses in remote VA facilities and the ICU staff at the Denver VA, the regional referral hospital. Patients are able to stay in their home facilities and receive expert care remotely via Tandberg technology, or they can be transferred to Denver for high-level critical care. The vICU nurse on duty (the staff rotate to provide 24/7 coverage) acts as the charge nurse in either the medical ICU or the surgical ICU. Carrying a dedicated cell phone, the nurse is able to respond to calls from any participating facility (including VA hospitals in Grand Junction, CO, Cheyenne, WY, Sheridan, WY, and Helena, MT). During each 12-hour shift, the vICU nurse also calls each facility on the Tandberg mobile health cart, and by using live internet-based technology is able to receive a face-to-face shift report from the staff at remote sites. The Tandberg is also used to provide live specialty consultations to remote providers (cardiology, pulmonary, renal, etc), increasing access to rural veteran ICU patients. **Evaluation/Outcomes:** Using diagnostic coding as a cost basis, it is estimated that the vICU has saved more than \$2 million in health care costs by retaining patients within the VA Healthcare System rather than transferring care outside the system. In addition to providing specialty services to remote veteran patients, the vICU has demonstrated a decrease in costly and risk-laden critical care transports by allowing earlier intervention for critical patients in their home facilities. When critical transport is needed, the vICU nurse facilitates by verifying patients' status, ensuring ICU bed availability, admitting attending

acceptance, continuing assessment and care on site, and receiving ICU staff preparation.

EB52 A System's Approach to Improving Preoperative Antibiotic Timing in Congenital Heart Surgery

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Purpose: Surgical site infection increases mortality, morbidity, and length of stay and is associated with increased cost and reduced satisfaction among patients. A multidisciplinary team was formed to decrease sternal wound infection at a children's hospital. In the evaluation process, the team noted that compliance with recommended timing of preoperative administration of antibiotics was lacking. The aim of this project was to improve antibiotic administration times in congenital heart surgery patients. **Description:** The Plan-Do-Study-Act method was used to obtain data and quantify the need for improvement of preoperative antibiotic compliance for all congenital heart surgery patients. The team looked at the data, analyzed the process for preoperative antibiotic administration, initiated change in process based on findings, educated front-line staff to promote awareness and compliance, and communicated audit information for accountability and sustainability. Before the project started, the preoperative dose of vancomycin was administered at 6:30 AM. Based on a review of surgical cut times, it was clear the medication was being given too early to be in compliance with the recommended 60-120 minutes for vancomycin. The administration process for vancomycin was changed to include preparation in the pharmacy and initiation in the operative holding area. Administration of the drug was monitored by the anesthesiologist and direct communication occurred with nursing before the drug was initiated to ensure proper timing in relation to the surgical start time. The preoperative dose of cefuroxime was then given by the anesthesiologist in the operating room before the initial cut. **Evaluation/Outcomes:** Through awareness and a change in organizational process, the team increased compliance of vancomycin administration from 27% to 77% and cefuroxime administration from 79% to 96.4% during the 4-month project period in fiscal year (FY) 2012. The reported sternal wound infection rate for FY2012 was 4.23 per 100 surgeries. In FY2013, the rate was 2.47 per 100 surgeries, indicating a 42% decrease from the previous fiscal year. Preoperative antibiotic administration for the past 12

months was 98% for cefuroxime and 85% for vancomycin, demonstrating continued sustainability in compliance.

EB53 Saving Hearts 1 Minute at a Time: Reducing Emergency Department Door-to-Electrocardiography Times

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Purpose: The American Heart Association (AHA) recommends that electrocardiograms (EKGs) be obtained on all patients with potential acute coronary syndrome (ACS) within 10 minutes of arrival in the emergency department (ED). This recommendation was not being met in 1 ED, and a need for improvement was identified. Compliance with this standard is required to maintain AHA Chest Pain Center accreditation for the medical center. A bedside nurse was engaged to determine the cause of and solutions for this problem. **Description:** Design—Project began as a staff development project and progressed to a quality assurance and performance improvement project. Setting—A 24-bed suburban teaching hospital and level 2 trauma center with a mean of 44 000 visits annually. Participants—All patients of all ages who presented to the triage nurse with complaints of chest pain, shortness of breath, syncope or near syncope, weakness, and palpitations during the study were screened as potential ACS patients and an EKG was obtained. All patient care staff, both licensed and unlicensed, were given EKG training and expected to participate. Methods—Literature reviews, process observations, and brainstorming sessions were completed to determine areas for improvement to decrease door-to-EKG times. Through direction from both administration and frontline leadership in the ED, a 2-week trial was completed. This included staff education, the development of an EKG protocol, entry of an EKG order in triage, telephone notification to staff that an EKG is needed, immediate bedding of patients, purposeful placement of EKG machines, use of timers that went with patients from triage, and completion of the EKG before visitor entry. **Evaluation/ Outcomes:** The mean door-to-EKG time of 11 minutes was dramatically decreased. A mean of 6.1 minutes was achieved during the first 7 months with more than 90% of EKGs completed within the 10 minutes in subsequent months. Monthly surveillance is performed to ensure that the benchmark continues to be met. Implications—Implementation of

these nurse-driven changes to the EKG protocol and related interventions significantly improved door-to-EKG times for ACS patients arriving at the ED, and they could be easily applied in similar facilities seeking to meet this critical benchmark. These changes were inspired and implemented by leaders at the bedside and supported by their management.

EB54 Implementation of an Early Extubation Protocol for Cardiovascular Surgery Patients

Cynthia Briner; Brookwood Medical Center, Birmingham, AL

Purpose: Using data from the Society of Thoracic Surgeons (STS), the cardiovascular surgery subsection determined that implementation of a rapid extubation protocol was indicated. Before implementation, the goal for extubation was less than 24 hours after surgery end time. Mean time to extubation was 10 hours, and less than 40% of the patients were extubated within 6 hours of surgery end time. Our goal was to decrease time to extubation without increasing the rate of reintubation or pulmonary complications. **Description:** Research has demonstrated that early extubation, defined as extubation within 8 hours after surgery, has led to improved patient outcomes by initiation of early activity, decreased postoperative pain and depression, as well as an overall decrease in length of stay without increasing mortality or morbidity. In the literature, rapid extubation processes that have proven to be successful had weaning protocols that were included in the routine postoperative orders, allowing the critical care nurse to initiate weaning when the patient met the criteria. A multidisciplinary approach was indicated as implementation of an early extubation protocol would affect anesthesia, surgery, respiratory therapy, and nursing practice. The current weaning orders were changed to include specific criteria that enabled the bedside nurse to initiate weaning as well as criteria for extubation. The new weaning protocol was included in the postoperative orders as well as the cardiovascular surgery pathway. In addition to changes in the weaning protocol, anesthesia practice changed the type of sedation given at the end of the case, allowing the patient to awaken more quickly after arriving in the intensive care unit.

Evaluation/Outcomes: The protocol was implemented in the first quarter of 2011. By the end of the year, 57% of patients were extubated within 6 hours of surgery. In the first quarter of 2013, 83.6% of patients are extubated

within 6 hours of surgery. Since implementation of the protocol, a 1.2-day decrease in length of stay and a 33% decrease in pulmonary complications have been noted. Reintubation and mortality rates have also decreased. Extubation times, length of stay, and mortality data are presented monthly during the subsection meeting. Data from the STS are presented quarterly to measure incidence of pulmonary complications and rate of reintubation as well as comparison of performance with like facilities and STS overall.

EB55 Prehospital to Discharge: Improving Cardiac Arrest Outcomes With a Team Approach to Cooling

Diane Barkas; Santa Barbara Cottage Hospital, Santa Barbara, CA

Purpose: Using a multidisciplinary team approach can improve survival rates of cardiac arrest patients receiving therapeutic hypothermia. The team manages such complex patients by following identified protocols. Use of therapeutic hypothermia can improve neurological outcome of survivors at discharge when started early. The aim of this project was to improve a hypothermia protocol for patients after cardiac arrest beginning in the prehospital setting, through the emergency department and catheterization laboratory into the intensive care unit (ICU). **Description:** Out-of-hospital cardiac arrests occur at least 225 000 times each year with survival rates as low as 21% to 33%. Based on the landmark studies from Australia and Europe, survival rates for out-of-hospital cardiac arrest improved to 49% to 59% with favorable neurological outcomes when therapeutic hypothermia was introduced. Despite these favorable results, and recommendations to use therapeutic hypothermia in the 2005 and 2010 American Heart Association's guidelines for Advanced Cardiac Life Support, adoption of targeted temperature management for out-of-hospital cardiac arrest has been slow. There are multiple perceived barriers to implementation at community hospitals. A multidisciplinary team was developed by the critical care clinical nurse specialist, including clinical staff representing critical care, prehospital care, emergency department, catheterization laboratory, critical care medical director, cardiologist, and a neurologist. A hypothermia protocol was developed that began in the field once return of spontaneous circulation was achieved. Further cooling was initiated in the emergency department and continued in the catheterization laboratory, where an intravenous

cooling catheter was inserted. When the patient arrives in the ICU, intravascular cooling was begun for up to 24 hours. **Evaluation/Outcomes:** During the initial 3 years of implementation of this protocol, survival rates matched those of the landmark studies. With the revision and expansion of the protocol, survival rates have increased to higher than the rates in the initial studies. Beginning early and fast cooling, while maintaining constant cooling for 24 hours, seems to have contributed to this progress. The mean time for time of arrest to start reaching goal temperature of 33°C is less than the recommended 6 hours. Additionally, discharges with favorable Cerebral Performance Category scores are significantly higher than those reported in the literature.

EB56 It's Time to Wake Up: You've Got to Move It, Move It!

Stephanie Sanderson; University of New Mexico Hospital, Albuquerque

Purpose: The nursing and medical staff in the medical cardiac intensive care unit (MICU) recognized the need to change our management of patients receiving mechanical ventilation. After our statistical data were reviewed, it was noted that the intubated patients in the MICU received mechanical ventilation for longer than patients in the rest of the country. Our patients were oversedated and weak despite the use of a pain and sedation protocol and visits from physical therapy. **Description:** After considering the evidence in the literature, and several discussions with a physician champion, the "ABCDE" bundle (Awakening and Breathing Trial Coordination, Daily Delirium Monitoring and Early Exercise and Mobility) was identified as a means to improve patients' outcomes. Nursing and respiratory staff collaboratively applied the bundle in a 3-step process. First, the introduction of the trial was made to the nursing and respiratory therapy staff. The orders were augmented to include the bundle for every patient in the MICU. Next, the education for delirium monitoring and was presented to the ICU nursing staff. And finally, the mobility portion of the protocol was rolled out to nursing, respiratory, and physical therapy staff members. In addition to the education about the bundle, details of the pain and sedation protocol were reviewed with all medical and nursing staff as the protocol includes evidence-based details regarding how to titrate and decrease sedation methodically and consistently throughout the patients'

intubation phase. Buy-in from the disciplines was achieved by presenting the evidence in multiple venues with an emphasis on doing what is right for the patients in our care. **Evaluation/Outcomes:** To date, the ventilator days have decreased exponentially since the application of the bundle. Patients are more awake and able to participate in their breathing trials and managing to have successful extubations in a timely fashion. The early mobility portion of the protocol has also enhanced our ability to extubate patients and move them closer to their discharge home. Staff members are more satisfied with their ability to effect change and help their patients get extubated sooner. Our respiratory therapists had some difficulty adapting to the change in culture but continue to support the process. Their group has identified champions who participate in the education of our team.

EB57 Quite Alarming! Reducing the Incidence of False Alarms to Prevent Alarm Fatigue

Sasha Carr, Cheryl Herrmann; UnityPoint Health-Methodist, Peoria, IL

Purpose: To improve patient safety and reduce alarm fatigue by decreasing the incidence of false alarms for a central telemetry monitor station that can watch up to 62 patients. **Description:** After attending AACN's National Teaching Institute (NTI) 2013, the NTI Action Pak-Alarm Management was presented to the cardiac performance improvement council. The council reviewed the literature, including the AACN practice alert on alarm fatigue. A survey was sent to cardiac nurses to determine if the guidelines were being used in daily practice. Data were collected on 57 telemetry patients on the cardiac and noncardiac units. The data captured all arrhythmia alarms: false and true alarms and causes of alarms. Data were collected for 24 hours per patient. The initial data excluded ST-segment alarms because of the inability to collect the data. Then, ST-segment data were collected on an additional 27 patients for 24 hours. Predata were quite alarming! In 2 days, the central station had a total of 787 alarms with 61% false alarms. The biggest culprit for false alarms was the couplet alarm, constituting 58% of all false alarms. In addition the ST-segment data collected for 24 hours resulted in 158 more alarms and 100% of those were false alarms; making the predata 68% false alarms. The council used the AACN practice alert to create an action plan. The first step taken was to change couplet and ST alarms to messages and then recollect

data to determine the next steps. **Evaluation/Outcomes:** After changing couplet and ST alarms to message, the central station alarms reduced false alarms by 426 alarms in just 48 hours of implementation. False alarms decreased to 50% from 68%. In further analysis, postdata showed ventricular tachycardia/fibrillation now is the big culprit for false alarms, relating to movement artifact. Presurvey of the nurses indicated that only 4% often prepared the skin before electrode application. In review of the data, the council implemented the next phase of the project: changing skin preparation practices. Because of the poster abstract deadline, postdata are not available yet but they will be included in the poster.

EB58 Stepping Forward to Reduce Verbal Orders in the Pediatric Intensive Care Unit

Jamie Sklar, Rita Giordano, Daniela Davis, Sean O'Neill, Cheryl Dominick; The Children's Hospital of Philadelphia, Philadelphia, PA

Purpose: Verbal orders (VOs) put patients at risk for harm. Errors occur because VOs are misheard, misinterpreted, or incorrectly transcribed. A multidisciplinary team was created to reduce unnecessary VOs in the pediatric intensive care unit (PICU). Our goal was to achieve a 50% reduction in the number of VOs entered in the electronic health record (EHR) and the number of Pyxis MedStation overrides (PO) in the PICU in a 6-month period. **Description:** Our institution reviewed multiple serious safety events and found VOs to be a root cause. From the start, we recognized that this was not just a nursing problem, but an issue for our entire critical care team. A multidisciplinary team was created to reduce unnecessary VOs and POs, which occurred more often in the PICU than other units. Key barriers identified by the team included computer access, order sets, and the culture of accepting VOs. We worked with the EHR transition team to provide institution-wide education related to VO reduction. PICU education focused on e-mails, posters, and just-in-time training highlighting the process of "write down, read back and confirm" when taking VOs along with education on when a VO is/is not appropriate. Nurses were educated that overriding medications from the Pyxis station without an order is outside their scope of practice. Computer access was improved with the addition of stations in the medication rooms and at the bedside. Admission, intubation, and emergency order sets were created to improve workflow and

provider compliance. Individual follow-ups after POs and VO entry created a steady culture of change. Data were collected weekly, with communication of progress to all staff biweekly. **Evaluation/Outcomes:** The PICU achieved a 77% reduction in the median number of VOs per week (preintervention, 30/week; postintervention, 7/week). This change was sustained for an additional 10 months until the transition to a new EHR, which eliminated VOs. We achieved a 39% reduction in the median number of POs per week (preintervention, 276/week; postintervention, 169/week), with a reduction to 49% at the 1-year mark. We sustained that improvement with a 84% reduction at 45 months (median, 42/week), with variables of acuity and census, the addition of 10 beds to our unit census and the transition to a new EHR. We have been able to maintain this reduction thanks to improved workflow and a multidisciplinary culture change.

EB59 A Pilot Program for Progressive Mobility in the Intensive Care Unit

Jennifer Chavez, Shannon Bortolotto; University of Colorado Hospital, Aurora

Purpose: Background—Current practice in the surgical intensive care unit (SICU) involves manual repositioning and progressive mobility (PM) after removal of invasive devices/tubing. Reluctance was noted to proactively mobilize critically ill patients and patients receiving mechanical ventilation. Hesitancy was found during peer query and stemmed from a fear of the patient's hemodynamics deteriorating or extubation. Patients become deconditioned quickly and thus decompensate easily when moved, requiring considerable staff assistance. When response to mobility is poor, staff perceives a patient need to remain in bed and do not attempt mobilization, often until the next day. Purpose—Successful PM standardization required a guiding, engaged multidisciplinary team that saw a clinical need and had a shared commitment to change practice. The purpose of the PM guideline was to develop a tool with inclusion/exclusion criteria and individualized goals, based on the mobility order. **Description:** Methods—The PM multidisciplinary team gathered supportive practice evidence. Team collaboration consisting of medicine, nursing, respiratory, and rehabilitation services created the practice guideline. Before application, mobility data were gathered to evaluate the actual level of mobility achieved. A SICU champion represented the PM team to then conduct

a practice intervention to include mobility educational rounds. Training reviewed PM goals, inclusion/exclusion criteria, safety efforts, practice barriers, and implementation of specific interventions to improve mobility.

Evaluation/Outcomes: Preguideline results noted for patients who met inclusion criteria: 62% beach (bed in chair) position, 50% side of bed, 51% chair, and 30% ambulated. After education and clinical support, data showed increased mobility. The postguideline results noted for patients who met inclusion criteria: 77% beach chair position, 56% side of bed, 46% chair, and 39% ambulated. Currently PM practice is supported and outcomes are reviewed. There have been no care occurrences attributed to PM practice. Implications for Practice—Development of a PM guideline employed a critical appraisal of practice evidence and increased progression to ambulation. This allowed staff to ensure PM would occur safely; regardless of tubing/devices. The PM guideline facilitates an advanced level of care, promotes safe practices, champions holistic recovery, and encourages active involvement of patients.

EB60 Unit-Based Early Progressive Mobility Champion

Ana Rona Esteban, Jocelyn Espejo, Rowena Estrera-Portal, Bobbi-Jean Plummer; St Joseph's Regional Medical Center, Paterson, NJ

Purpose: Prolonged immobility in critically ill patients leads to extended length of stay, increased morbidity and mortality, cognitive impairment, and increased health care costs. Our unit-based early progressive mobility (EPM) champion engaged medical intensive care unit (MICU) nurses in our 16-bed unit to progressively mobilize our critically ill patients by using a nurse-driven, evidence-based protocol during the first 6 months of 2013.

Description: A literature review was conducted, and the synthesis of several studies demonstrated the benefits of EPM on critically ill patients. Between November 15 and January 24, our chairman of medicine provided a 5-day expedition webinar series, prepared by the Institute for Healthcare Improvement, attended by physicians, advanced practice nurses, physical therapists (PTs), and staff nurses. A staff nurse from our unit who was active in her professional development showed interest in EPM. She became the unit-based EPM champion, and 9 other MICU nurses were recruited to form an EPM task force. Our EPM champion launched a raising awareness campaign by

using EPM posters, pins, stamps, and magnets. She used a unit-designed safety checklist each shift that guided her in identifying patients' eligibility, data collection, implementation, coordination, and evaluation of the plan of care for patients enrolled in the EPM program. MICU patients who were enrolled in EPM at the start of the study on January 2013 were categorized into 2 groups. The first group was managed by the physical therapist for evaluation, treatment, and orders. The EPM champion and task force members, with the participation of MICU staff nurses who received training on EPM, managed the second group. **Evaluation/Outcomes:** During the 6 months of study, the unit daily average patient census was 14.7, a daily average of 7 patients were progressively mobilized by the physical therapists alone in January and that number steadily decreased to 2.6 in June. In contrast, the daily average of patients being progressively mobilized by the EPM champion, task force, and MICU nurses steadily increased from 0 in January to 4.5 in June. This shift in data showed that the EPM champion was a crucial factor in influencing a positive change in the attitude of MICU nurses, which led to a steady breakdown of established archaic and antiquated culture in clinical practice as they steadily embraced the idea and evidence-based practice of EPM.

EB61 Lessons Learned in Caring for Patients Treated With Therapeutic Hypothermia

Catherine Swedberg, Kelly Wolfenden; Lehigh Valley Health Network, Allentown, PA

Purpose: Research confirms that therapeutic hypothermia (TH) redefines postresuscitation care and offers an aggressive intervention with the potential to mitigate postresuscitation syndrome. An academic, community Magnet hospital interprofessional team, motivated by excellence and innovation, treated more than 200 patients with TH in 8 years. This poster details their experiences in the implementation and refinement of a TH clinical practice guideline, focusing on 5 critical elements for success. **Description:** The use of TH after cardiac arrest to improve neurological recovery was instituted globally after 2 landmark studies published in 2002. In both studies, a higher percentage of patients treated with TH, compared with nontreatment groups, were discharged from the hospital to home or a rehabilitation facility with fewer neurological deficits. Further credence was granted to TH effectiveness in 2010 when TH consideration was

added to the post–cardiac arrest algorithm within the 2010 Advanced Cardiac Life Support update. The presenting organization began using TH therapy in 2005. Prompted by literature recommending interprofessional collaboration as paramount for optimum clinical outcomes, the multidisciplinary TH committee was formed to oversee implementation and ongoing evaluation. The purpose evolved to translate new evidence and expert experience into practice. The organization's successful TH program is believed to be associated with 5 key elements: (1) interprofessional stakeholders are imperative, (2) coordination of care delivery is crucial, (3) interprofessional case analysis promotes practice changes and refinements, (4) education is an ongoing journey, and (5) participation in a global database drives care enhancements. **Evaluation/Outcomes:** This organization's experience matches published outcomes for ventricular tachycardia and fibrillation patients using TH—approximately 50% patient survival with minimal disability. Embedded within the identified key elements of success is nurse advocacy. Nurses have the expert knowledge and influence to ensure that TH is used in accordance with established evidence-based protocols; it is the nurse who is often called upon to challenge the appropriate use of TH by exercising ethical accountability and integrity. The experiences shared by this team can be used in any TH setting to enhance processes and ensure optimal outcomes.

EB62 Evidence-Based Practice of Using Syringe Size Less Than 5 mL With Neonatal Peripherally Inserted Central Catheter

Leora Patton; Baylor All Saints, Ft Worth, TX

Purpose: To assess the evidence related to safety of syringe size less than 5 mL when used with neonatal peripheral insertion central catheters (PICCs). Manufacturers' guidelines state that to avoid damage from high pressures, the minimum syringe size is 5 mL. Many intravenous medications administered to infants have volumes less than 3 mL. Syringe manufacturers' guidelines state that preparing small volumes of medication in a 5-mL syringe would compromise accuracy. **Description:** Current practice in our facility is for medications to be received from the pharmacy in the size syringe appropriate for the volume of the medication. Following a review of staff practice, it was found that a variety of methods were used to administer medications with volume less than 3 mL through a PICC. The results of the review of

staff practice showed a common theme of administering medications with volume less than 3 mL through a PICC by using a syringe pump or transferring the medication to a larger syringe. Manufacturers' guidelines for the PICCs recommend catheters not be subjected to injection pressures greater than 25 psi. Additionally, the syringe pumps used at our facility were discovered to have alarm settings above the maximum PICC pressure recommendation for a 1-mL syringe but within the recommended range for the 3-mL syringe. Clinical guidelines for best practice with neonatal PICCs states that smaller syringes can generate very high pressures that may rupture a PICC and infusion pumps' occlusion sensitivity should never be set greater than 25 psi. A recently published retrospective study of PICCs in the NICU showed mechanical complications to be the most common reason for the removal of catheters. **Evaluation/Outcomes:** A multidisciplinary team was formed that included pharmacy, a neonatal nurse practitioner, a member of the neonatal intensive care PICC team, and bedside nursing staff. The literature search results were examined to determine best practice. The decision was made to prime extension tubing with the entire volume of medication for 1-mL syringes and administer with a flush and the syringe pump. The process for a 3-mL syringe would be to use the syringe pump to administer. Future considerations include awareness by staff of their role in use and selection of patient care equipment and for the PICC and syringe manufacturers to have greater recognition of the unique needs in the neonatal setting.

EB63 Beating Sepsis! It's a Sprint, NOT a Jog!

Sarah Coleman, Tina Jackson; Holy Spirit Hospital, Gettysburg, PA

Purpose: The goal of implementing a sepsis protocol was to improve early identification of patients with sepsis and improve outcomes of those affected by sepsis and septic shock in the hospital. The number of patients admitted to the hospital with sepsis has increased in the past several years, and no protocol has been in place to screen patients for sepsis. **Description:** The sepsis team was formed and through interdisciplinary collaboration a sepsis screening tool based on the Surviving Sepsis Guidelines (2008) was developed for use on patients who entered the hospital through the emergency department and continued screening every 8 hours throughout hospitalization as a pilot project. A nursing protocol to include

stat blood cultures and lactic acid levels was developed and used when a patient screened positive for sepsis with the screening tool. A pilot study was conducted in the intensive care units to see if use of a screening tool was feasible and would alert nurses to a higher suspicion that sepsis was present. After successful completion of the pilot study, the interdisciplinary team decision was to adopt the screening tool house-wide. The screening tool was subsequently incorporated into the electronic computer system that is used on all patients every 8 hours throughout the hospital. The nurse-driven protocol is an order set preapproved by doctors so when patients screen positive for sepsis, nurses can automatically obtain stat blood samples for culture and measure lactic acid levels. The sepsis bundle was also revised and incorporated into management of patients with sepsis. **Evaluation/Outcomes:** Use of the evidence-based sepsis screening tool and management protocols hospital-wide has been successful in improving interdisciplinary team collaboration and patients' outcomes. Its use has resulted in a decrease of 6 days in the mean length of stay for patients with a diagnosis of sepsis. The readmission rate has decreased by 12.2%, resulting in an annualized savings of \$347 000.

EB64 Going Beyond Zero Catheter-Associated Bloodstream Infections

Gemma Sarmiento, Eleanor Beltran, Lorena Borrero; University of Maryland Medical Center Midtown Campus, Baltimore

Purpose: Hospital-acquired infections (HAI), including central catheter-associated bloodstream infection (CLABSI), are harmful to patients and costly for health care organizations, but they are preventable. In July 2011, the intensive care unit (ICU) at University of Maryland Medical Center Midtown Campus (UMMC-MC) hit a 4.8% CLABSI rate per 1000 central catheter days. This prompted us to enhance patient safety by starting the CLABSI initiatives. Our goal was to eradicate HAI-CLABSIs in the ICU and expand this project throughout the hospital.

Description: Evidence-based practices from the AACN, Nursing Spectrum, and the Centers for Disease Control and Prevention on CLABSI prevention were reviewed, adapted, and implemented in our initiatives. A pretest and a posttest on ICU nurses' knowledge of central catheter care were conducted. A mandatory education tool was then distributed, including a safety video. A unit-based guideline to prevent CLABSIs was then developed.

Per evidence-based studies, we implemented daily 2% chlorhexidine (CHG) baths on all ICU patients. CHG oral care was performed every 12 hours on all ventilator as well as unconscious nonventilator patients with poor oral hygiene. The central catheter insertion checklist was revised with emphasis on proper hand hygiene and the use of a maximum barrier kit. An independent observer was required to complete this form. This enhanced compliance to sterile technique. Swab caps were used to disinfect central catheter ports before each use and all unused ports were covered with swab caps. To increase and monitor compliance with central catheter care, a central catheter daily maintenance care bundle was implemented. The central catheter bundle queries the need for the central catheter and whether required documentation regarding care and maintenance has been completed.

Evaluation/Outcomes: Since the implementation of the CLABSI initiatives, the UMMC-MC ICU has been CLABSI-free for more than 2 years. Based on the Maryland Hospital Association data, as of June 2013, the Maryland State CLABSI rate is 0.5%/1000 central catheter days whereas the city of Baltimore's CLABSI rate is 0.1%/1000 central catheter days. Other UMMC institutions' ICU CLABSI rate is averaging 2%/1000 central catheter days. Compared with 2011 data, when UMMC-MC's CLABSI rate was 4.8% per 1000 central catheter days, our current CLABSI rate is 0/1000 central catheter days. The current CLABSI initiatives are being implemented in all units in UMMC-MC with a goal of sustaining a CLABSI-free hospital.

EB65 Evidence-Based Staffing: Using the Synergy Model to Improve Patient and Nursing Outcomes in the Intensive Care Unit

Stephanie Sanderson; University of New Mexico Hospital, Albuquerque, NM

Purpose: As the face of health care continues to change, the methods by which nurses conduct their work must evolve. Ensuring that the needs of the patients can be met by the skill of the nurse could not be more important as we move toward a health care culture of safety and accountability for outcomes. Creating balanced workloads based on evidence and synergizing relationships between patients and nurses is one way to improve outcomes for both nurses and patients. **Description:** Evidence is used in all facets of patient care, from how we bathe a patient to how we use rotation therapy to improve oxygenation

in patients with adult respiratory distress syndrome, yet there is limited use of evidence to drive effective staffing and appropriate workload delegation. Often the goal is to “staff the unit” regardless of the situation. In the critical care environment today, the skill mix can be extremely variable and the complexity and vulnerability of the patient mix can be just as variable, and an evidence-based approach could be the solution to many of the poor outcomes experienced by hospitalized patients, such as catheter-associated urinary tract infection (CAUTI), central catheter-associated bloodstream infection (CLABSI), ventilator-associated pneumonia (VAP), pressure ulcers, and falls. Linking the skill of the nurse to the needs of the patient has been described in the Synergy Model as a means to base staffing and workload assignment to promote and achieve improved outcomes in the ICU. In our medical ICU, we took the Synergy Model and developed a staffing model and a workload assignment tool to promote and achieve improved outcomes for both nurses and patients. All of the charge nurses were trained to use the tool, and we also provided training to the relief charge staff nurses to promote a consistent approach to staffing decisions. **Evaluation/Outcomes:** To measure and evaluate outcomes, our rates for CAUTI, CLABSI, VAP, pressure ulcers, and falls were reviewed before and after implementation of the new workload tool. The goal in our ICU, just as any other, is to have no “never events” and to sustain rates of “zero” for CAUTI, CLABSI, VAP, and falls. We found that our rates for each indicator decreased (from several to 0) after implementation of the Synergy Model for quantifying workloads and matching skill of the nursing staff with the needs of the patients. We also noticed the nursing staff seemed more prepared and more willing to make the change to an evidence-based approach to meeting the unique staffing needs after the Synergy Model was implemented.

EB66 Early Mobility in the Intensive Care Unit: A Community Hospital’s Experience

Danielle Fraser, Wendy Forman, Martin Fortes,
Leeanna Spiva, Caroline Hallen; WellStar Kennestone
Hospital, Marietta, GA

Purpose: This project focuses on the “E” (early mobility) in the ABCDE bundle. One week of bed rest can result in functional decline and loss of up to 20% of muscle mass. Prolonged immobility in critically ill patients is associated with delirium, increased duration of mechanical

ventilation, increased length of stay, and higher costs. Based on this evidence, our goal was to develop an early mobility program and determine the feasibility of implementing a dedicated mobility team in the intensive care unit (ICU) of a community hospital. **Description:** A multidisciplinary ICU mobility committee was created that included nurses, physical therapists, physicians, respiratory therapists, and administrators. Committee members completed a review of the literature to evaluate best practice and traveled across the country to consult with experts in ICU mobility. This information, and published outcomes of dedicated ICU mobility teams, provided the evidence needed to create our own mobility team (MT) consisting of a physical therapist, critical care nurse, and rehabilitation technician. Before implementation, education about the new program was provided informally in the ICUs and also at multiple forums including Nursing Shared Governance, the Critical Care Performance Improvement Committee, and physicians’ offices. The MT screens patients within 24-72 hours of admission by using the mobility program algorithm developed by the mobility committee. If the patient is appropriate to participate, the MT is used to evaluate the patient and develop a mobility plan of care. The ICU MT provides coverage for 50 critical care beds, primarily Monday through Friday in the medical, trauma/surgery, and coronary care units. **Evaluation/ Outcomes:** We have created and are successfully sustaining a dedicated ICU early mobility team in a community hospital setting. The MT completes an average of 125 sessions per month with 90% of patients achieving edge-of-bed or higher mobility activities. On average, 17% of patients are not eligible to participate because of physiological exclusion criteria. We have seen a significant decrease in scores on the Richmond Agitation and Sedation Scale (from -2.18 to -0.82, $P < .001$) and days of delirium ($P = .05$) in patients receiving early mobility. There were 0.2% adverse events, including a fall and dislodgement of a rectal and oral gastric tube. These findings are consistent with published data from academic hospitals.

EB67 Sleep Hygiene in Hospitals for Patient Healing Heather Brand; University of Colorado Hospital, Aurora

Purpose: Patients surveyed ranked lack of sleep among the top 3 sources of anxiety and stress during hospitalization in the intensive care unit (ICU). Published studies on sleep deprivation describe its negative effects

on patient's physical and psychological well-being and ICU delirium. Recent publications discuss nursing interventions that can be implemented to help patients achieve more restorative sleep. The goal of this evidence-based project was to implement a sleep hygiene protocol in a 24-bed medical ICU. **Description:** The sleep hygiene protocol was implemented in a 24-bed medical ICU in an academic hospital. Pre-post data were collected on (1) unit noise level via an audio noise meter (dosimeter), (2) frequency of nonessential entrance into patients' rooms by staff members, and (3) staff's awareness of noise and interruptions during the night shift in order to implement strategies to reduce noise and interruptions of patients' sleep. Staff education on negative effects of noise, reminder signs for quiet time, and journal club were used to translate evidence into practice. Methods used to measure effects of the educational interventions included direct observation of staff, critical evaluation of nighttime work flow to reduce noise between 11 PM and 4 AM, and objective measurement of noise (decibels). Noise meters were randomly placed throughout the MICU in close proximity to the nurse's station and patients' rooms to measure noise levels. Staff work patterns were observed to include number of times staff entered room and task during the hours of 11 PM and 4 AM. Data from the observations were used to redesign tasks to nonsleep times (eg, emptying trash, changing equipment). Quiet time signage was placed throughout the unit. **Evaluation/Outcomes:** Staff awareness for sleep hygiene improved after implementation of this evidence-based sleep protocol. Noise level decreased from 63 decibels before to 58 decibels after, a 5-decibel reduction in overall noise throughout the medical ICU practice environment. Noise remained greatest by the nurse's station during shift change in the ICU. Data from before implementation of the protocol indicated a mean of 47 interruptions during the hours of 11 PM to 4 AM; this was reduced to 21 interruptions after the protocol was implemented. Overall staff acceptance and compliance with a quieter work environment was obtained through the implementation of the sleep hygiene protocol.

EB68 "First, Do No Harm:" Reducing Health Care–Associated Pressure Ulcers in Cardiac Surgery Intensive Care Patients

Michelle Wasielewski, Andrea Wilhoit, Elizabeth Pollock, Pamela Jones; CJW Medical Center: Levinson Heart Hospital, Richmond, VA

Purpose: To reduce the number of health care–acquired pressure ulcers (HAPUs) in patients in the cardiac surgery intensive care unit (CVICU) and to develop nursing processes to prevent HAPUs, thus reducing morbidity, mortality, and cost. The need for an evidence-based solution (EBS) project was identified after the CVICU experienced a 2-fold increase in HAPUs in 1 year. **Description:** The EBS included multiple stages through the preoperative, intraoperative, and postoperative departments. Specifically, the patients were assessed preoperatively for the need for a specialty Clinitron air mattress (Hill-Rom). Intraoperatively, before the procedure, a Mepelix Sacrum (Mölnlycke Health Care) was placed on the patient's sacrum after a skin assessment. This practice is based on current prophylactic dressing literature. Postoperatively, the patient handoff included the results of the skin assessment, a daily skin assessment, changing of the Mepelix Sacrum every 3 days and the use of Prevalon heel boots (Sage Products Inc). An additional nursing practice change was the removal of fitted sheets and layering of more than 3 layers of linen on the bed. Guidelines from the Institute for Healthcare Improvement (IHI) were referenced in development of the pilot study. This EBS was developed by the nursing Shared Governance Council "Save Our Skin (SOS)" team, which included nursing champions from the cardiovascular care unit and nursing leaders in the quality department. Lean concepts were used along with analysis of each HAPU in order to identify risk factors and criteria. The pilot study was initiated and followed closely in the CVICU for 4 months. **Evaluation/Outcomes:** This pilot study resulted in a significant overall reduction in the number of HAPU cases in the CVICU. In addition, preoperative skin assessment practice has significantly improved and postoperative skin management was standardized by using the criteria and protocols developed for the EBS pilot study. Success of this EBS project was measured by a significant reduction in HAPU cases (>50%) as well as a long-term improvement in nursing practice related to HAPU prevention. During the 4 months preceding this EBS, a total of 35 HAPUs were documented. The number of HAPUs in a 4-month period after this EBS was reduced to 5 and has been as low as 0.

EB69 Nurse-Driven Practice Change in Reducing Health Care–Associated Infections

Brandi Holcomb; Louis and Peaches Owen Heart Hospital at Trinity Mother Frances Hospitals and Clinics, Tyler, TX

Purpose: Health care–associated infections (HAIs) affect 1 in 20 hospitalized patients with tens of thousands of lives lost each year. The purpose of this poster is to show how our hospital made dramatic changes in practice to reduce the number of HAIs in our cardiovascular intensive care unit (ICU). These changes have resulted in 0 cases of ventilator-associated pneumonia (VAP) in more than 40 months and a drastic reduction in central catheter–associated bloodstream infections (CLABSI). **Description:** In 2008, we established our “Stop the Line” initiatives for central venous catheters and instituted the VAP bundle for intubated patients. “Stop the Line” instilled accountability for maintaining sterility during insertion of central catheters. We reduced catheter days by assessing need for central catheters each day during daily interdisciplinary rounding. The “Scrub the Hub” campaign pushed for proper glove cleaning before medication administration or blood sampling. We saw a reduction in central catheter infections but knew we could do better. When a central catheter infection occurred, an interdisciplinary team would gather to “drill down” on potential causes. Our diligence has been rewarded with 33 CLABSI-free months. For our ventilator patients, in addition to implementing the VAP bundle, we began using the Taperguard Evac endotracheal tube with closed suction system (Covidien). We continued to elevate the head of the bed to at least 30°, perform oral care every 4 hours, and do subglottic suctioning and brush teeth every 12 hours. Our patients are constantly assessed for readiness to extubate and are started on a rapid weaning protocol when ready. Chlorhexidine glucometer 2% wipes are also used for all bed baths on ICU patients. **Evaluation/Outcomes:** Thanks to these changes in practice, we have seen a dramatic reduction in HAIs. We have had 22 consecutive months without a CLABSI and 52 consecutive months without a case of VAP. As a result, we have seen improved outcomes for patients and a significant decrease in length of stay, and have maintained a 3-star rating with the Society of Thoracic Surgeons for more than a year.

EB70 Using a TEAMwork Board to Engage Frontline Staff in Problem Solving

Cara Gallegos, Darcie Ineck, Lauren Smith, Jim Percy, Mike Reno; St Luke’s Children’s Hospital, Boise, ID

Purpose: The pediatric intensive care unit (PICU) is a fast-paced work environment. When problems arise,

staff members do not have the resources to solve the problem permanently. The purpose of the project was to use a method to engage frontline teams in problem solving. The TEAMwork Board is a visual tool used to solve problems that affect patients’ experiences and outcomes. The objectives included making problem solving a daily activity, improving engagement, and increasing efficiencies. **Description:** Several authors have demonstrated the value of visual management and the importance of engaging frontline teams in daily problem solving. In 2011, researchers recognized that a robust tool was essential to promote daily continuous improvement at the frontline staff level, thus creating change in a unit. In fact, significant benefits have been demonstrated when leaders engage and empower staff members closest to the problem to develop and test and implement solutions. The TEAMwork Board, based upon work done by Dr Michael Leonard and colleagues, was built to foster frequent problem solving via a visual management tool that supports identification and timely resolution of simple to complex problems. The TEAMwork Board is a visual representation displayed in the PICU, comprising 3 colored sections: red, yellow, and green. Frontline staff identify issues on a sticky note and place it on the red section of the board. At routine huddles, volunteers begin problem solving and move the sticky note to the yellow section. Once resolved, the sticky note moves to green to ensure that the focus continues until sustainment is achieved. **Evaluation/Outcomes:** Two staff members were initially trained to lead problem-solving activities and 4 more are scheduled for such training, comprising nearly 30% of the PICU team. In 10 weeks, 16 problems were identified and 8 problems were solved. The complexity of the problems ranged from simple (shortage of power cords) to complex (timely access to inotropic medications). As a result, staff engagement in problem solving has improved markedly, affecting patient safety and the quality of care provided in the PICU.

EB71 Reducing Bed Rest Following Manual Removal of Femoral Artery Sheaths After Diagnostic Angiography

Laura Mack, Jessica Schneiderman; FHN Memorial Hospital, Freeport, IL

Purpose: Traditional nursing care of a patient following manual removal of a femoral artery sheath includes restricting the patient to flat bed rest for a minimum of 6

hours. This practice is associated with back pain and discomfort for patients, and it has direct impact on nursing resources because of the monitoring and care involved after the procedure. The purpose of this project was to develop a protocol to reduce bed rest following manual removal of a femoral artery sheath after diagnostic angiography. **Description:** Using the Iowa Model for Evidence-Based Practice as a guide, our team conducted a comprehensive literature review. We found that bed rest times ranging from 1 to 6 hours following both diagnostic and interventional angiography have been studied. Most allowed the head of bed to be elevated to 45° upon achievement of hemostasis at the insertion site. Regardless of the bed rest time studied or sheath size used, the outcomes demonstrate no difference in complication rates. Based on this, a reduced bed rest protocol was developed for patients meeting inclusion criteria and undergoing angiography for diagnostic purposes. The protocol was designed to begin upon achievement of hemostasis at the groin site. At that time, the patient's head of bed may be elevated up to 45°, and the amount of required bed rest time is reduced to 3 hours. When bed rest time is complete, the patient is assisted to sit in a chair for 10 minutes and subsequently ambulate 100 feet (30 m). If the groin site remains free of complications, the patient is discharged 1 hour later. If bleeding recurs and requires additional compression time of more than 5 minutes, bed rest time starts over. **Evaluation/Outcomes:** Data were compared from before to after implementation of the reduced bed rest protocol. Bed rest time was reduced to a mean of 3 hours with only 1 report of pain in the protocol group as compared with a baseline average of 6.5 hours of bed rest and 50% of patients reporting pain. No groin site complications were seen in patients undergoing the protocol, and protocol patients were discharged more quickly, freeing up bed space and nursing resources. Our team's willingness to challenge traditional nursing practice has led to development of a reduced bed rest protocol that has improved patients' comfort and nursing resource allocation, while maintaining groin site hemostasis without complications.

EB72 Using Simulation for Skill Acquisition in Critical Care Education

Mandi Walker, Gina Stevenson; University of Louisville Hospital, Louisville, KY

Purpose: To increase the skill of nurses in the bone marrow transplant unit (BMTU) in caring for critically ill oncology patients and managing emergent situations. An influx of new graduate nurses needed additional support in transitioning to the dual role of oncology and critical care nurse, while existing staff would also benefit from routine exposure to advanced critical care skills. Additionally, the staff expressed a desire to be included in the code team rotation. **Description:** Unit leadership and the critical care educator collaborated to initiate quarterly unit education. A blend of simulation and case scenarios best addressed the unit's specific knowledge gaps. These teaching modalities create an environment conducive to learning new concepts, growing critical thinking skills, and applying content to realistic situations. Sessions initially focused on the American Heart Association Advanced Cardiovascular Life Support algorithms, hemodynamics, invasive monitoring, and mechanical ventilation. Nurses would first participate in a brief refresher on these concepts and then apply them in the simulation laboratory and during case scenario discussion. Sessions have expanded to include critical situations specific to oncology and are now driven by the requests of the unit nurses. **Evaluation/Outcomes:** Performance in the simulation laboratory and at the bedside steadily improved. In 2012, the nurses were added to the code and rapid response teams. Code reviews and critiques identify BMTU nurses as proficient members of the code team. In a 2013 evaluation of staff, 13 of 16 rated their ability to respond in an emergent situation as good or excellent, and all 16 agree or strongly agree the simulation laboratory improved their critical thinking skills and comfort caring for critically ill patients. The nurses now identify themselves as critical care oncology specialists and take pride in their unique skill set.

EB73 Infection PreCAUTION: Implementation of a Nurse-Driven Protocol for Removal of Foley Catheters

Molly Gratti; Geisinger Medical Center, Danville, PA

Purpose: The adult intensive care unit (AICU) at Geisinger Medical Center continually strives to decrease health care-acquired complications. One complication that has been difficult to control is catheter-associated urinary tract infection (CAUTI). The nurse-driven protocol for removal of Foley catheters was developed and implemented with the goal of decreasing CAUTIs. **Description:** The presence of a Foley catheter is the number 1 risk factor

for a CAUTI. Multiple research studies have demonstrated the effectiveness of nursing protocols in removing Foley catheters when no longer indicated. The Geisinger Health System's nurse-driven protocol for the removal of Foley catheters was introduced in April 2012. Education was the first step in implementing the protocol in the AICU. Over the first few months, barriers to successful implementation were identified, including provider push-back, overuse of "critically ill" as a rationale for the necessity of a Foley catheter, lack of protocol order, and lack of nursing empowerment. To resolve the issues with provider push-back and the protocol not being ordered, nurse representatives spoke at a critical care provider meeting to present the importance of the protocol. "Critically ill" being overused as a rationale for needing a Foley catheter was mitigated by developing a new definition of critically ill. Nurses were empowered through reminders and praise when the protocol was implemented effectively. The solutions to the identified barriers allowed successful implementation of the protocol. **Evaluation/Outcomes:** The goal for this project was to decrease CAUTI rates, as calculated by dividing number of CAUTIs by catheter days times 1000, standardized for national reporting. The actual number of CAUTIs decreased from 23 in the year preceding implementation to 18 in the year after implementation. Catheter utilization rates, catheter days divided by total patient days, decreased from 0.7-0.9 in the months preceding the protocol to 0.4-0.6 in the months after it. Average CAUTI rates for the year preceding the protocol were 2.41, whereas rates for the year after implementation were 2.51. Because of the decrease in actual number of CAUTIs and catheter utilization, the CAUTI rates showed no improvement.

EB74 Burn Center Nursing Case Conference: Identifying Problems and Developing Solutions

Regina Welch, Elizabeth Kirk; Arkansas Children's Hospital, Little Rock, AR

Purpose: To objectively review adverse patient events and discuss systems-based root causes in a nonpunitive, confidential atmosphere. Traditionally, physicians have used morbidity and mortality conferences for the review of adverse events. Since the publication of *To Err Is Human: Building a Safer Health System* in 2000, the nursing profession has realized a need to review their practice. The aim is to evolve into a place of ownership and accountability. **Description:** In the summer of 2012, the

clinical nurse specialist (CNS), through a quality improvement project, determined a need for review of certain adverse events and errors within our intensive care burn unit. Using a model designed from our nursing division's quality plan, a bimonthly program conference was developed and implemented. Nursing staff submit topics to review that are based on preventable and nonpreventable adverse events. The case is presented by a nurse who has investigated the adverse event. The CNS serves as the mediator in this conference, allowing open dialogue and a nonpunitive environment. Events analyzed include incomplete patient/family education/discharge needs, deaths, unplanned or failed extubations, falls, hospital-acquired conditions, and unexpected escalation of care. Outcomes, root cause analysis, and suggestions for quality improvement are discussed. **Evaluation/ Outcomes:** In our first year, the average attendance was 12 nurses. Comments included the following: "These conferences have allowed me to reflect on the care I provide every day, for instance what could I have done to prevent this or perhaps how do we as a unit need to work to improve the outcome for each patient. While working on the floor, I rarely have time for free thought to improvements/changes that could make our unit better. The conference is a time-out with open communication that allows floor nurses as well as the research component of our unit to discuss cases." This conference supports staff in taking ownership and increasing accountability to improve patients' outcomes and promote clinical excellence.

EB75 Preventing Health Care–Associated Infections in Burn Patients

Susan Brown, Kendrea Jones, Elizabeth Kirk, Regina Welch; Arkansas Children's Hospital Burn Center, Little Rock, AR

Purpose: Per the 2012 National Burn Repository data, more than 40 000 patients required hospitalization for burn injury with 3500 deaths in 2011. The leading cause of mortality and morbidity in burn patients is infection. They also have significantly high rates of health care–associated infections (HAIs). More than 50% of burn patients are uninsured or covered by government programs, and the public costs are extremely high. Our unit experienced 18 HAIs in the first 4 months of 2012.

Description: No studies focused on prevention of HAIs in burn patients have been published, so ideas and tools from AACN practice alerts and the Agency for Healthcare

Research and Quality were used. This program was developed through the unit-based Shared Governance council. Program details included education for care and maintenance of central catheters, urinary catheters, and ventilators. Additionally, the need for continued use of the catheters was added to daily physician/nurse rounding discussions. Bundles to prevent ventilator-associated pneumonia, central catheter-associated bloodstream infections, and catheter-associated urinary tract infections tailored to the specific needs of burn patients were developed and implemented. Nurse champions were selected to complete daily audits using the bundles with real-time education provided with any noted noncompliance. Root-cause analysis was completed on any documented catheter infection with education provided to staff upon completion. Emphasis was placed on improving hand hygiene of staff and visitors with unit nurses as hand-washing observers. Infection rates were tracked by the hospital's infection control department. Compliance with the program was monitored and tracked daily by the project author. **Evaluation/Outcomes:** This improvement science project reduced the number of HAIs, increased nurses' knowledge, and was instrumental in developing nurse champions for infection prevention. It could easily be implemented in any ICU setting. Based on our previous data from the first 4 months of 2012 before implementation of this program and the Institute for Healthcare Improvement data for average HAI cost, it is estimated that approximately \$500,000 in health care dollars has been saved. The use of a burn-specific infection program has the potential to markedly decrease the incidence of HAIs and the cost of burn care.

EB76 Impact of a Nurse Protocol for End-of-Life Care in the Adult Intensive Care Unit on Nurses' Burnout and Satisfaction

Karen McCarthy; The Medical Center of Plano, TX

Purpose: Caring for dying patients has been identified as a source of occupational stress for intensive care unit (ICU) nurses. The purpose of this project was to improve the care of dying patients in the ICU through implementation of a standardized, evidence-based nursing protocol for care at the end of life (EOL). Diminishing one of the most stressful aspects of the ICU nurse's job may decrease burnout, improve nurses' satisfaction, and diminish the risk of turnover through improved care at the EOL. **Description:** ICU staff at The Medical Center

of Plano were invited to attend a 1-hour educational presentation on EOL care. An evidence-based nursing protocol to operationalize nursing care at the EOL was introduced for implementation in the ICU. Attendees were invited to participate in a research project on EOL care and were surveyed before the educational presentation and protocol implementation (n = 36). The Maslach Burnout Inventory (MBI) was the tool used to measure burnout before and after the intervention. The MBI is designed to assess the 3 aspects of the burnout syndrome: exhaustion, cynicism, and professional efficacy. A modified National Database on Nursing Quality Indicators (NDNQI) staff satisfaction survey was used to measure satisfaction before and after the intervention. During the study period February 1, 2013, through March 31, 2013, ICU staff implemented the EOL protocol with all dying patients. ICU staff was resurveyed with the MBI and the staff satisfaction survey 2 months after the educational presentation and implementation of the EOL protocol. **Evaluation/Outcomes:** Though results show a low to moderate degree of burnout and a high degree of satisfaction on surveys conducted before and after implementation of the EOL protocol, raw scores on the MBI subscales reflected a lower degree of burnout after the intervention. These results suggest that education and process change related to EOL care may decrease or maintain a low degree of burnout and a high degree of satisfaction in ICU nurses. In addition to these results, anecdotal evidence reveals that this project has received wide support from ICU staff, who have embraced the protocol as a tool to improve the care of their patients at the EOL.

EB77 Reduction of *Clostridium difficile* Infections in the Intensive Care Unit

Tamara Powers, Julie Pennewill, Nicole Marks; Providence St Patrick Hospital, Missoula, MT

Purpose: *Clostridium difficile* hospital-acquired infection (HAI) rates continued to be higher than 0 in our 24-bed intensive care unit (ICU), despite daily and terminal cleaning of every room with bleach, soap and water hand hygiene, contact precautions, and antimicrobial stewardship efforts. Our ICU's unit-based council (UBC) increased the frequency of bleach cleaning of frequently touched items and used a checklist to designate which items were cleaned by whom in patients' rooms with the goal of reducing our *C difficile* infection (CDI) rates. **Description:** Recent evidence by Weber and

Rutala published in the *American Journal of Infection Control* supports the fact that contaminated surfaces play a role in the transmission of multidrug-resistant organisms that cause hospital-acquired infections including CDIs. Using a checklist to designate which patient care items are cleaned by environmental services and which items are cleaned by nursing staff is an effective strategy to improve cleaning and disinfection of frequently touched items in patients' rooms. Using the Plan Do Study Act (PDSA) rapid cycle test of small change, the UBC developed a checklist of items to be cleaned with bleach wipes every 8 hours by environmental services or nursing in *C difficile*-positive patient rooms. The checklist is posted on the outside of the patient's room and either environmental services or nursing cleans the items and completes the checklist. The list is turned in to the manager. Our goal was to reduce the contamination of frequently touched items, thereby reducing the transmission of CDI. **Evaluation/Outcomes:** Before and after implementation, CDI rates were tracked to measure success. Our CDI rate in the ICU for the 4 months preceding implementation was 53.9 per 10000 patient days. During the 3-month implementation period, our CDI rate was 16.1 per 10000 patient days, representing a 70% reduction for our ICU. Environmental services and nursing both agreed that it was not overly burdensome because only the CDI-positive rooms were cleaned every 8 hours. Results of the reductions were shared with staff at unit meetings and posted on the unit to engage staff and support ownership of the process.

EB78 Crossing the Lines: An Innovative Critical Care Cross-Training Program

Christina Rose, Jan Smith, Heather Escudero; Denver Health Medical Center, Denver, CO

Purpose: To describe the development and implementation of a level I trauma center's innovative design of a cross-training program involving nurses in the surgical intensive care unit (SICU), the medical ICU (MICU), pediatric ICU (PICU), and the emergency department (ED). The goal of the program was to expand critical care nursing knowledge and skill, improve continuity of care to critical care patients, increase the pool of nurses available in these intense environments, and provide excellence in customer service and care to patients and their families. **Description:** To improve the quality of trauma care, as well as expand the knowledge of nurses in these areas, a cross-training program was created by the nurse

managers and clinical nurse educators in 2 departments at Denver Health Medical Center, an urban public safety net hospital. The program embraced SICU and ED nurses (initially) to work concurrently in these 2 departments with the trauma patient population. Since then, the program expanded to the MICU and PICU. The educators designed an orientation program to alternate ED nurses with SICU nurses for a period of training to be followed by a shared full-time position in both departments. Specifically, the nurses participate in didactic learning, including a critical care course, a trauma care course, emergency nursing pediatric course, pediatric advanced life support, and trauma nursing core courses as a required portion of their training. In addition, the nurses have preceptors in each area orienting them to the bedside clinical practices of each unit. The unit educators follow the training progress in their area and provide mentorship throughout the orientation and after training is completed. **Evaluation/Outcomes:** Data collection per participant surveys reveals several positive outcomes including improved knowledge and skill of the nurses in both departments that translated into improved care for the patient, increased nurse retention and job satisfaction, improved communication and camaraderie between the 2 units, expanded staffing options for both units, and increased experience level of nurses allowing expanded options for future career advancement. In addition, cost savings can be calculated by using in-house staff to float to units rather than using overtime or agency staff.

EB79 Yes We CAM—Create A Culture of Delirium Assessment and Treatment

Justin Dilibero, Annalyn Ninobla, Allison Woods, Janice Moreira; Beth Israel Deaconess Medical Center, Boston, MA

Purpose: Delirium is an important predictor of clinical outcomes and is associated with an annual cost of \$4 billion to \$16 billion. However, delirium remains unrecognized in 60%-80% of cases. Optimizing outcomes depends on staff's ability to identify delirium accurately. Although compliance with performing delirium assessments is easily achieved, ensuring consistent and reliable assessments is more challenging. The goal of this project was to achieve >90% accuracy in delirium assessments by using the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) tool. **Description:** This project was completed through participation in the Boston

cohort of the AACN's Clinical Scene Investigator Academy. Although our institution has successfully achieved >85% compliance with delirium screenings by using the CAM-ICU tool, opportunities for improvement in assessment accuracy were noted. Specifically, delirium assessments were performed accurately in <75% of assessments in all patients and in <50% of assessments in patients with an altered level of consciousness shown by the Richmond Agitation-Sedation Scale. The most common cause of inaccurate assessments stemmed from confusion related to the application of the CAM-ICU tool within several patient scenarios. Although interventions included education designed to increase understanding of the features of the CAM-ICU tool and improve staff members' ability to apply the CAM-ICU tool within these core patient scenarios, an emphasis was placed on creating a culture of delirium assessment and treatment to support a sustained improvement in quality. Key interventions included engaging frontline staff in all aspects of project development and implementation; development, implementation, and evaluation of an educational program; provision of 1:1 support; ongoing auditing; and provision of real-time feedback. **Evaluation/Outcomes:** We have successfully achieved our goal of >90% assessment accuracy. In addition, staff have become highly engaged in this work. Staff are not only seeking out the CSI project leaders for assistance with difficult assessments, but are also found supporting one another, engaging the interdisciplinary team in discussions around delirium assessments, and facilitating the formation of an interdisciplinary plan of care. In addition, several staff have taken on the role of unit champions to provide ongoing support for sustaining improvement in accurate delirium detection. These outcomes support the finding that we have created a culture that says "Yes we CAM assess and treat delirium!"

EB80 Rapid, Automated (<3 s), QT-Interval Assessment for Prolongation

James Bradley; Veterans Administration, La Jolla, CA

Purpose: Fewer than 1% of patients are evaluated for QT-interval prolongation. Goals were to approach 100% compliance in QTc documentation, <3 seconds per patient added time, >95% sensitivity and specificity identifying risk for torsades de pointes, no complex decision making, no manual calculations, sidestep inability of computer charting system to calculate, quick access to QT drug lists, little management oversight, and work

with existing terminology and equations (Bazette's) currently used by physicians. **Description:** A total of 44 articles were used to validate critical QT intervals and justify prolonged QT intervals, including several comprehensive reviews. The article search identified a nomogram isolating cases of torsades de pointes from noncases. Bazette's QTc equation was then overlaid on the graph. Bazette's equation was split into heart rate ranges and a critical QTc was identified for each range, solving the problems of overcorrection and undercorrection. The resulting line was successfully used to distinguish documented cases of torsades de pointes from noncases with sensitivity and specificity exceeding 95%. Bradycardic patients were found to have high risk if QT >0.500 s (rather than QTc >0.500). Each critical QT was then back-solved (by using Excel) from the critical threshold for each heart rate. These records were aggregated as text and placed in a "drop-down box" in the charting system. During charting, the nurse types the heart rate, the system zooms to the correct record, and the nurse can rapidly determine if the patient has a prolonged QT interval based on QT measurement alone—or the nurse selects an exclusionary reason (atrial fibrillation, atrial flutter, bundle branch block, or paced rhythm). **Evaluation/Outcomes:** A training program was implemented for QT-interval knowledge (PowerPoint, individualized instruction, group instruction, pre and post testing, handouts, list of QT drugs—all also in the unit's online folder). Audits of computerized patient charts (100% of patients in the unit, n = 100) indicated 65% compliance with 15% of the nurses still untrained (due to scheduling). During the following 2 days, compliance increased to 90% and then the following week to 95% as training was completed. Continued audits are performed to maintain compliance and provide reinforcement. Analysis indicates the cost to be \$50 per episode of avoided torsades de pointes.

EB81 Step Forward to Best Practice: Reducing Use of Restraints

Bridget Ryan, Maureen Seckel, Jacqueline Grau, Jane Wagner, Kellie Kessler; Christiana Care Health System, Newark, DE

Purpose: Restraint use in the 22-bed medical intensive care unit (MICU) was higher than the National Database of Nursing Quality Indicators (NDNQI) magnet facility comparison mean of 16.08%. For the fiscal year 2012, restraints were used for 4.6%-52.9% (mean, 33.8%)

of patients in the MICU. In September 2012, the solution chosen was to give ownership of this multifaceted project to the MICU Value Improvement Team (VIT) to empower and educate staff to use evidence-based alternatives.

Description: The VIT brainstormed and researched the literature and found several solutions: (1) Resourceful posters were created to educate staff on restraint alternatives and included catchy, comical, and informative slogans. Examples of slogans included “Smitten for Mittens” and “Keep Calm and Mitts On.” (2) The MICU participated in a new product trial of a larger, more comfortable mitt with better access to fingers for nursing and respiratory therapy care. (3) VIT members engaged in a phone conference with Massachusetts General Hospital to compare practice. Take-away information included the importance of interdisciplinary collaboration and our continued use of extubation assessments, appropriate sedation, and delirium assessment along with our early mobility program. (4) Education was provided by the VIT to the entire MICU to help overcome barriers to and fears of alternative methods. (5) VIT members participated in a hospital restraint collaborative and reviewed data on unit self-extubation rates and use of restraints. This helped to dispel the myth that restraints prevented self-extubation. (6) Surveys were sent regarding restraint practice before and after education. (7) Daily restraint use was added to charge report and the MICU daily rounding board. **Evaluation/Outcomes:** Restraint use for fiscal year 2013 improved with a range of 5.88%-40.9% (mean, 19.68%) with rates for 6 out of the past 6 months less than the NDNQI mean of 16.08. Survey results from before the education showed that 53.1% of staff thought that use of restraints was warranted to prevent self-extubation vs 35.5% who thought so after education. Empowering the staff changed the MICU practice and culture. On May 30th, 2013, the MICU achieved our “all time best” of 0 restrained patients in a 20-patient census.

EB82 An Interprofessional Feeding Tube Team Steps Forward to Initiate Early Enteral Nutrition in Critically Ill Patients

Rosario McGrath, Elizabeth Kozub, Karen Worthy, Lisa Purdon, Brenda O’Day, Eva Skinner, Julius Vapor, Aileen Ravelo, Judy Willon; Sharp Memorial Hospital, San Diego, CA

Purpose: To improve the time enteral nutrition (EN) was initiated through small-bowel postpyloric feeding in

the medical and surgical intensive care units (ICUs) from a baseline of 72-120 hours after admission to a goal of 24-48 hours after admission. In order to meet the goal for early nutrition, an interprofessional team was convened, including a nurse, a dietitian, and an endocrinologist, to develop a solution. **Description:** Guidelines from the Society of Critical Care Medicine and the American Society for Parenteral and Enteral Nutrition recommend starting EN within 24-48 hours of admission to the ICU because of the beneficial immune system responses, reduced metabolic complications, and improved outcomes for patients. The Canadian Critical Care Nutrition Society recommends small-bowel postpyloric feeding compared with gastric feeding because of the reduced risk of pneumonia developing, better tolerance of EN, and decreased risk for regurgitation and aspiration in critically ill patients. The major barrier identified by the “ICU Feeding Team” for initiating early EN was the timeliness in placement of a postpyloric feeding tube (PPFT). The ICU Feeding Team explored different options for placement of PPFTs and decided to train a core group of clinical nurses to place PPFTs at the bedside by using the Cortrak feeding tube placement system. The device provides the inserter of the PPFT a visual representation of the tube insertion, allowing safer placement compared with blindly inserting the tube. In addition, the patient avoids the potential complications of transport off the unit to radiology. It is now the standard of care for all PPFTs to be placed at the bedside. **Evaluation/Outcomes:** Since the EN program began, the time from admission to initiating enteral feeding has improved significantly. After the first year of creating the program, the mean time to initiating enteral feeding decreased from 77.61 hours to 50.26 hours ($P < .05$). After 3 years, the mean time to start enteral feeding was decreased to 41.98 hours. The financial benefits are staggering when nurses place PPFTs. It costs \$1371 for the PPFT to be placed in radiology, compared with \$468 when placed at the bedside, for a cost savings of \$903 per feeding. In 2012, 240 PPFTs were placed at the bedside, rather than in interventional radiology, for a cost savings of \$216 720.

EB83 Happiness Matters Initiative, An Inspiration From the National Teaching Institute 2013

Martha Wilkins, Anne Weave, Carol Preston, Barbara Farrington; UMass Memorial Healthcare PICU, Worcester, MA

Purpose: The intent of the Happiness Matters Initiative is to improve patient care by helping staff increase morale, reduce job stress, encourage teamwork, and to bring back the joy to our daily practice. The problem addressed was the chronic and continuing decline in morale in our pediatric intensive care unit (PICU), which is attributable to traumatic deaths, ethical dilemmas, changes in PICU medical and nursing leadership, and protracted labor negotiations with a negative public campaign by hospital administration. **Description:** To address the decline in morale, the Happiness Matters Initiative was created. The Happiness Matters Committee incorporated the principles of positive psychology to create activities that would illustrate, build interest in, and encourage internalization of these principles. At the AACN's 2013 National Teaching Institute, Shawn Achor's keynote speech was inspirational and timely. We obtained *The Happiness Advantage* and began meeting to discuss the effectiveness of positive psychology in facilitating change. Copies of the book are now available to the entire staff. We have asked staff to share at least 1 positive moment of the day at change-of-shift report. An inspirational quote of the week is now attached to our daily assignment sheet. A thought-provoking question of the week is posted in prominent locations in our unit and on our social media user group. We designed and implemented a month-long game called "Celebrate You, Celebrate Me," which encouraged the recognition and recording of positive contributions of team members and self. We provide desktop links to videos about positive psychology. Planning for future activities include a journaling club, exercises about conscious acts of kindness, and interdisciplinary team-building activities. **Evaluation/Outcomes:** Morale has improved as a result of the Happiness Matters Initiative. Anecdotal evidence was collected and a questionnaire was designed to measure staff members' involvement in the activities and their subjective feelings of happiness. Results have ranged from enthusiasm to cynicism. Positive comments at shift change proved difficult to adopt. Staff members added inspirational quotes of their own to the daily assignment sheets. Members of other disciplines began requesting to participate. The game "Celebrate You, Celebrate Me" had participation from team members including nurses, physicians, physical, occupational, and respiratory therapists, social workers, and secretaries. The committee felt inspired to continue the initiative.

EB84 Creating a Unit-Based Journal Club Led by a Clinical Nurse

Paul Heskin; Children's Hospital Colorado, Aurora, CO

Purpose: This presentation describes the development of a nurse-led, unit-based journal club. As a manager in an intensive care unit (ICU), I was looking for methods to improve the knowledge and practice of myself and the nurses with whom I work. I wanted to share the knowledge base from our ICU with our overarching entity, the Children's Hospital Heart Institute (CHHI), to improve the care of our entire patient population. I wanted to create a collaborative and fun way to gain knowledge and promote our critical thinking. **Description:** Our solution was to form a journal club for nurses to read, share, and discuss journals pertinent to our practice. Our first goal is to augment communication and socialization with nurses in the CHHI. The second is to educate nurses on how to read a scholarly journal and how to critique the information that they have read. I developed a packet that has several different assessment tools, including assessing levels of evidence, interpreting statistical data, and a breakdown of the elements of a journal. The third and most important goal is to drive change that will improve care for our patients and their families. Journals are selected on the basis of our pediatric critical care practice. The quality of the article is discussed on the basis of our assessment tools. We then use critical thinking skills to compare our nursing practice with the evidence-based practice in the article. Finally, we decide if the article we read indicates that we should improve or change a policy, procedure, or guideline. Journal club findings can be brought to our shared governance clinical practice council to assist us in developing and implementing practice changes. The ideal and ultimate goal of journal club is to drive nursing-led studies and publications from nurses on my unit. **Evaluation/ Outcomes:** Journal club has been meeting since March and is quickly becoming popular in the CHHI. We measure our success in attendance and in ideas propagated. In this short time, attendance is increasing and we have had 2 journals that prompted work on a nursing practice change. One dealt with cardiopulmonary resuscitation (CPR) training for parents of cardiac patients. One member joined a relevant house-wide committee and got funding for CPR kits. This evidence-based program will be rolling out soon. The second dealt with infusing heparin in central venous catheters prophylactically. All attendees wanted

to do follow-up research. We brought it to our clinical practice council, and a quality improvement proposal is being drafted.

EB85 Impact of Standardized Algorithm on Timeliness to Blood Collection for Culture in Sepsis

Erin Gasser, Hildy Schell-Chaple; University of California, San Francisco

Purpose: To evaluate the effect of an algorithm that standardized workflow to obtain cultures and included escalation to obtain phlebotomy assistance on the time from order to collection of blood samples for culture. **Description:** The 2012 Surviving Sepsis Campaign (SSC) guidelines recommend collection of samples for culture before administration of antimicrobial therapy. Timeliness to obtaining samples for culture is pressured by the recommendation to administer antimicrobial agents within 1 hour of sepsis recognition. Feasibility of obtaining samples for culture during this time is challenged by competing care priorities, phlebotomy skill level, and patient-associated phlebotomy access variables. Implementation of a blood culture collection algorithm can affect timeliness to culture collection and compliance with SSC guideline care bundle elements. A survey of current practices and perceived barriers to culture collection was conducted. Baseline and postintervention data regarding time intervals from culture order to collection were collected. A blood culture collection algorithm was developed and implemented. Staff education on the importance of identifying the causative pathogen and risks of delayed antimicrobial therapy in severe sepsis was completed via multiple methods, including culture case reviews. Case reviews included staff interviews to assess barriers when more than 60 minutes was needed for collection. Survey results revealed variable practice in culture attempts and assistance requests. **Evaluation/Outcomes:** Preintervention review of 66 collections revealed a mean collection time of 87 (SD, 101) minutes for routine orders and a mean collection time of 117 (SD, 149) minutes for stat orders. Postintervention chart review of 43 collections revealed a decrease in stat order collection times to 59 (SD, 67) minutes. A standardized algorithm for collection of blood samples for culture including criteria for escalation for assistance can facilitate compliance with the elements of the SSC guideline care bundle.

EB86 Surgical Intensive Care Unit Centralization Versus Decentralization

Brian Richard, Brian Olson, Nicole Stafford, James Haenel, Heather Escudero; Denver Health Medical Center, Denver, CO

Purpose: The surgical intensive care unit (SICU) at Denver Health was outdated with minimal storage, had difficulty meeting the needs of patients and nurses, and had difficulty meeting regulatory standards. Demolition and remodeling of the old SICU began in December 2012, and the unit moved out of a centralized unit to a temporary space in a decentralized configuration. The unit analyzed admissions and outcomes based on moving from a centralized unit to a decentralized unit. We compared data from the first quarter of 2012 with data from the first quarter of 2013. **Description:** Patient safety concerns were identified when the initial plan for the SICU temporary move was made. The SICU would be moving to a floor that was designed for stable pediatric patients. Current unit conditions in the SICU were a centralized unit with glass doors, pod system, and good visualization of patients from other rooms and anywhere in the pods. The new space was a linear unit with small windows, solid doors, and decentralized, double occupancy rooms. The unit was interested in the difference in the number of defined outcomes that are measured within the ICU based on centralization vs decentralization of an ICU. The following were analyzed: total number of admissions, midnight census, deaths, patients receiving mechanical ventilation, unplanned extubations, reintubations <48 hours, unit-acquired pressure ulcers, organ tissue donors, falls, central catheter-associated bloodstream infections/1000 device days, catheter-associated urinary tract infections/1000 device days, cases of ventilator-associated pneumonia/1000 ventilator days, and overall satisfaction positive feedback from patients/families. In addition, we surveyed the nurses before the move and then after the move on important care aspects such as patient visibility, work flow, teamwork, and nurse satisfaction. **Evaluation/Outcomes:** Data collection revealed that although total admissions in the 2 periods were the same, acuity, length of stay, patients receiving mechanical ventilation and days of mechanical ventilation were significantly higher during the time in the decentralized unit. Also in the decentralized unit, unplanned extubations doubled, patient falls increased, and reintubations in less than 48 hours as well as newly acquired pressure ulcers increased.

Overall patient/family satisfaction was only slightly decreased in the decentralized unit. In this observation, there is an apparent correlation between patient safety and outcomes related to unit layout. Nurse satisfaction was higher with the centralized unit.

EB87 Operating Room to Pediatric Intensive Care Unit Hand-offs

Mary Wintz, Michelle Chiodini; Children's Hospital Colorado, Aurora

Purpose: Communication breakdowns associated with hand-offs and transitions of care are known to adversely affect patient safety. Our institution's culture of safety survey and incident reports indicated that communication during transitions of care was a significant concern. A multidisciplinary task force was developed to improve patient safety by improving communication during the hand-off process for patients transferred directly from the operating room (OR) to the pediatric intensive care unit (PICU). **Description:** A multidisciplinary task force with members from both clinical areas used the Institute for Healthcare Improvement (IHI) Plan, Do, Study, Act (PDSA) method. The hand-off process was formalized and structure was provided through development of an OR to PICU hand-off checklist and associated guidelines. The checklist provided a standardized and reliable communication process, beginning when the surgical procedure was ending in the OR through the acceptance of responsibility for patient care by the PICU provider and nurse. The components of the hand-off report include significant medical history, anesthetics used, the surgical procedure, airway status, complete assessment, medications given in the OR, anticipated postoperative course, potential issues, and recommended plan of care. After implementation, an evaluation survey was developed to assess care failures and staff satisfaction with the hand-off checklist and transition of care process. Evaluation surveys were conducted from both perspectives, namely, the PICU (receivers) and the OR (senders) of the information and measured effectiveness, safety and participant satisfaction. These data were shared with the participants and used to continually improve the process. **Evaluation/ Outcomes:** The greatest measure of success was the decrease in care failures attributed to hand-off communication (initially in 44% of hand-offs, reduced down to 0%). Measures of effectiveness that achieved 100% were minimal interruptions and distractions, PICU receivers'

knowledge of the patient's issues and what the patient required, an opportunity to ask questions, and a clear transition of responsibility. Overall satisfaction with hand-off communication for PICU participants increased from 56% to 75%; OR participants' satisfaction increased from 75% to 96%. Improvement opportunities were introductions of team members, consistent use of the checklist, and room and equipment readiness upon arrival in the PICU.

EB88 Free to Heal, Restraint-Free Initiative in the Cardiovascular Intensive Care Unit

Ma Victoria Caluag, Ligaya Tejada; Florida Hospital, Orlando

Purpose: To minimize or eliminate the use of restraints in the cardiovascular intensive care unit (CVICU). Our goal was to reduce the usage by 20% in the first year and by 50% by the second year by implementing a restraint reduction protocol. The CVICU Nurse Practice Council (NPC) understood that changing the culture of restraining all immediate postoperative patients and patients receiving mechanical ventilation would be challenging, and therefore the goals were set low initially. **Description:** Many alternatives other than using restraints may help the bedside nurse maintain a safe patient environment in the CVICU. Use of restraints does not address underlying problems, it may actually worsen them. Patients often perceive restraints as punishment, a form of assault, and a violation of basic human rights. Restraints cause stress, fear, anger, isolation, and depression, which may last long after the experience. Effective restraint reduction requires an innovative approach to changing the culture where patients receiving mechanical ventilation are routinely restrained. It has been shown that 81% of patients who remove their endotracheal tube were restrained at the time. Restraints should be used only after other measures have been considered and are either unsuccessful or inappropriate. Reasons for restlessness or agitation should be addressed, such as pain, sleep deprivation, anxiety, delirium, drug reactions, interactions, or withdrawal. Measures to reduce the use of restraints include staying at the bedside, reassuring patients as they emerge from anesthesia, providing adequate pain medication, using less restrictive safety devices such as mittens or elbow extenders, and extubating as soon as clinically possible. **Evaluation/Outcomes:** Following the implementation of the restraint reduction protocol, restraint use went from

100% to 1.2%, which far exceeded the initial goal of a 20% reduction. This is a 98.8% decrease in restraint use in the first 5 months of initiation. An algorithm was used to evaluate the need of using restraints immediately after cardiac surgery. We challenged our nurses to take the risk to provide excellence in patient care by stepping out of their comfort zone of restraining all patients immediately after surgery. Wrist restraints are now used only as a last resort for patient safety.

EB89 Bridging the Communication Gap Among Critical Care Nurses and Nurse Practitioners in the Intensive Care Unit

Mariea Casas, Natassia Singh; Memorial Sloan-Kettering Cancer Center, New York, NY

Purpose: The intensive care unit (ICU) comprises >60 registered nurses (RNs) and 19 nurse practitioners (NPs). Implementation of the NP staffing model in the ICU has revealed ongoing challenges between the RN and NP groups, resulting in increasing tension between said groups. The National Database of Nursing Quality Indicators (NDNQI) does not directly assess the relationship between RNs and NPs. An ICU RN/NP task force was formed to explore these issues. **Description:** A team of 2 RNs and 2 NPs formed the RN/NP task force. The RN/NP task force used NDNQI indicators that speak directly to interactions between RNs and physicians in the ICU and applied them to interactions between RNs and NPs in order to identify and begin an open dialogue about all the issues each team was experiencing. A problem list was generated by each team and prioritized with the intent of formulating a plan for resolution. This round-table discussion allowed each group insight into the other's experiences. As a result, each group identified a top-ranking issue and created guidelines for each team to follow. The RNs reported feeling micromanaged and often spoken to without respect. The NPs responded by reporting a lack of respect in their role, experiencing their opinions being opposed and circumvented as the RNs would escalate issues directly to the attending physician. A staff in-service training session was created to address key issues such as open and honest communication, encouraging appreciation and acknowledgment of staff members' hard work, and adopting a culture of timely conflict resolution. **Evaluation/Outcomes:** As part of a team, coworkers develop a positive attitude, which increases the morale in the working environment, serving as the

catalyst for building stronger working relationships. Fifty-two members from the RN and NP staff participated in a 2-part survey. The results revealed that 69% of the staff reported improved communication between the RNs and the NPs. Sixty-five percent of the staff considered the working relationship between the 2 groups to have improved. By empowering the staff to be active participants in the creation of a harmonious working environment, a sense of ownership has developed in which both groups are working cooperatively and exercising mutual respect.

EB90 Breaking Free From Restraints

Kirstan Baxter, Sharmila Johnson, Lindsay Long; Christiana Care Health System, Newark, DE

Purpose: Since the inception of the open heart surgery program at Christiana Care in 1986, restraints have been applied on 100% of patients postoperatively. This ritual has been practiced under the guise of nurse and patient safety, despite the fact that self-extubations would occur with restraints in place. In light of an organizational drive to minimize use of restraints, this project was initiated with the goal to reduce the percentage of patients who are restrained during the recovery phase of open heart surgery from 100% to 75%. **Description:** Instituting a multidisciplinary team approach, the Lean Process was used to determine areas for change. The process of automatic use of restraints postoperatively was eliminated. Nursing comfort measures such as pain control, family presence, and use of mitts were implemented before use of restraints was considered. The presence of respiratory therapists on the unit was prioritized to ensure rapid ventilator weaning and extubation. Training and reassurance was offered to nurses until comfort was achieved with the new process. The direct key measure was percentage of restraint use. The project yielded 3% restraint use on postoperative patients in the cardiovascular ICU. With the reduction in restraint use, a cost savings of >\$1000 per year is projected. Other tracked measures included intubation times, medication use, and reportable events such as self-extubation. No significant changes from baseline occurred in any of these areas. **Evaluation/Outcomes:** The goal of 75% restraint use was astoundingly exceeded (down to <5%) without having adverse effects on other areas measured. Survey results also indicate improved satisfaction among nurses and patients. It was accepted that patients must be restrained before they awaken from anesthesia after open

heart surgery, for both patient and nurse safety. This project has shown nursing staff that without restraints, most patients awaken calmly and cooperatively and are easily managed by other means.

EB91 A 3-Year Journey to Decrease Occurrence of Pressure Ulcers in an Academic Medical Intensive Care Unit

Inge Smit, Cheri Blevins; University of Virginia, Charlottesville

Purpose: To decrease the incidence and prevalence of pressure ulcers in the medical intensive care unit (MICU) by using evidence-based methods such as staff education, wound care champions, frequent unit prevalence rounds, and flagging of high-risk patients. Implementation of a skin care bundle (use of Ultrisorb pads [Medline Industries Inc], Mepilex dressings [Mölnlycke Health Care], and moisture barrier wipes/lotion for incontinence), off-loading of extremities, appropriate use of bed overlays, and turning were emphasized for staff education. **Description:** MICU nurses were required to attend a pressure ulcer identification class or complete a wound care competency that reviewed staging, charting, and a system of flagging patients at risk. Bimonthly rounding was done, which consisted of bedside inspections of patients' skin and chart reviews. Teaching in the moment occurred during rounding as well as during normal shifts when wound care champions were in patient care. Various elements of preventative skin care were the focus, including offloading of extremities, turning patients every 2 hours, using the skin care bundle, and when to consult the hospital's wound care team nurse. Staging and charting wounds especially during admission as well as when to order bed overlays was reviewed. Additional interventions such as having the head of the bed elevated 30° to prevent shearing and keeping sheets wrinkle free and clear of monitoring cords were also an integral part of the bedside educational efforts. Frequently updating staff on unit and hospital-wide pressure ulcer prevalence rates including comparing the MICU with other units was done via e-mail. Use of unit education boards included posting tips on prevention of pressure ulcers and charting. **Evaluation/Outcomes:** In November 2010, the MICU's hospital-acquired pressure ulcer prevalence rate exceeded 33%. In the past 3 years, the pressure ulcer prevalence rate has dramatically decreased with the highest rate of 11% in the past 8 quarters. Maintaining the outlined

practices requires continued vigilance and ongoing education to maintain success. Room for improvement still exists, including consistent patient-turning rates, performing a root-cause analysis on each hospital-acquired pressure ulcer found on the unit, and holding direct caregivers accountable for the care and documentation. The wound care champion role remains vital to ensure positive outcomes for patients.

EB92 Reducing Nosocomial Infection Rates With Outcome Champions in a Neuromedicine Intensive Care Unit

Catherine Schmieder, Tara Sacco; University of Rochester Medical Center, Rochester, NY

Purpose: In 2012, an Outcome Champions Committee (OCC) was formed on a neuromedicine intensive care unit (ICU) to reduce the incidence of nosocomial infections: catheter-associated urinary tract infections (CAUTI), central catheter-associated bloodstream infection (CLABSI), and ventilator-associated pneumonia (VAP). The OCC's goal was to decrease infection rates by increasing compliance with evidence-based care bundles, providing ongoing staff education, and unit-based expertise in infection control. **Description:** Researchers have identified a positive correlation between nosocomial infection rates and lack of adherence to care bundles; in other words, lack of adherence to care bundles leads to increased infection rates. On a neuromedicine ICU, it was noted that infection rates were above national benchmarks and bundle compliance was inconsistent. In order to reduce infection rates and improve compliance, the OCC focused education on awareness of nosocomial infections and the care bundles implemented to combat them. Unit education was initiated by addressing 1 nosocomial infection at a time, through posters displays and PowerPoint presentations. Mandatory web-based competencies were introduced that ensured consistent education and compliance with completion of such education. In addition, committee members worked alongside staff members as a resource to ensure that the bundles were being properly implemented. Committee members were available to answer any questions and provide just-in-time education. Members completed weekly compliance audits and reported results to staff. Quarterly infection data were reviewed, shared with staff members and plans for ongoing interventions were discussed in monthly committee meetings. **Evaluation/ Outcomes:** After 1 year,

bundle compliance for CLABSI increased from 81% to 100%, VAP from 94% to 100%, and CAUTI from 56% to 100%. There was also a decrease in CLABSI and VAP rates to 0 from 4.29 and 3.42, respectively. However, despite improvements in bundle compliance and staff knowledge, CAUTI rates persisted; thus, the OCC is focusing on CAUTI prevention. Based on the literature, the next step is to implement a 3-month patient hand hygiene trial. Overall, the formation of the OCC has resulted in increased staff knowledge of nosocomial infections and decreases in CLABSI and VAP rates, which have increased the quality of care.

EB93 Use of Castile Soap for Indwelling Urinary Catheter Care in Critically Ill Patients

Teresa Panchisin; Christiana Care Health System, Newark, DE

Purpose: To develop a consistent and effective way to provide indwelling urinary catheter care to critically ill patients in order to decrease the rate of catheter-associated urinary tract infection (CAUTI). Barriers to catheter removal combined with a lack of a consistent care regimen and pericare products have made CAUTI prevention in this population a challenge for nurses. **Description:** The lack of convenient pericare products was a barrier to catheter care. This brought about the idea of using Castile soap towelettes and soap packets, which have always been in supply in the intensive care unit, for catheter care. These items had previously been used only for clean catch urine specimens and enemas. Review of the literature failed to produce information regarding routine catheter care using Castile soap. Studies comparing chlorhexidine with tap water showed no significant difference in prevention of bacteriuria. In other studies, routine care using soap and water was just as effective as more complex protocols using antiseptic cleanser, soaps, or creams. A plan was developed whereby staff members were educated individually on the project and taught how to use the Castile soap products for catheter care. Newsletters providing information about the study were distributed to the nurses and other interdisciplinary team members. A supply of Castile soap, along with a tip sheet for providing catheter care, was kept on the counter of each patient's room. Keeping the product in view serves as a reminder to perform catheter care and to refill the supply. This evidence-based project occurred during a 6-month period. **Evaluation/Outcomes:** The 6-month

preintervention CAUTI rate was higher at 8.4% per 1000 catheter days than the National Healthcare Safety Network's mean rate of 3.4%. The initial rate reduction goal was set at 20% (within 6 months). This goal was met and surpassed with a 35% reduction in CAUTIs in the 6-month postintervention period. The postintervention rate decreased to 5.5% after 6 months of using Castile soap. Nurses voiced increased satisfaction with the use of the Castile soap products in providing catheter care. There has been an increased awareness of how important effective catheter care is to decreasing CAUTI rates and an increase in compliance with catheter care.

EB94 Bedside Nurses Leading the Way Using Evidence-Based Practice to Attain Better Clinical Outcomes for Fall Prevention

Marty Cangany; Franciscan St Francis Hospital, Indianapolis, IN

Purpose: Falls in hospitals are widespread and a serious threat to patient safety. Using AACN's Clinical Scene Investigator (CSI) program, bedside nurses were trained in leadership, project identification, social entrepreneurship, data collection and analysis for patient and fiscal impact, project implementation, and strategic communication. By using bedside nurses who have been trained with additional skills in leading quality initiatives, falls on a progressive cardiac care unit will be decreased by 50%. **Description:** Implementation of a staff, patient, and family teaching program is used to promote awareness of patients' safety and fall reduction. A week-long educational program was implemented for staff to improve understanding of the "fall bundle" related to prevention of falls. Patients who are identified as high risk according to their Morse Fall Score have a fall bundle initiated. The fall bundle consists of the following interventions: new to the bundle included a sign on the ceiling above the patient's bed that states "please call, don't fall," as well as a contract that the patient and his or her family sign. This contract states that they understand their fall risk and the interventions that will be implemented. Additional interventions that are a part of the fall bundle include a yellow armband, yellow blanket, yellow non-skid footies, a yellow magnet outside the patients' room, and bed/chair alarms on all high-risk patients. An important piece of this intervention is staff buy-in with maintaining vigilance to the process and continual awareness. Yellow fall prevention shirts, bracelets, and buttons were

given to all staff. **Evaluation/Outcomes:** An audit tool was developed to monitor staff compliance by using the new fall bundle and the teaching contracts. Data will be collected for 6 months looking at implementation of the fall bundle, total number of falls, and falls with serious injury by using data from the National Database of Nursing Quality Indicators. Data are currently being analyzed. Preliminary data analysis indicates that the goal of a 50% reduction in falls was achieved. Fall prevention is high on the priority list of hospital quality initiatives. Implementation of a bundle for patients at high risk of falling and education of staff, patients, and patients' families in using individual fall prevention measures will reduce falls and ensure that the appropriate interventions are in place.

EB95 An Evidence-Based Practice Initiative to Decrease Catheter-Associated Urinary Tract Infections in the Pediatric Intensive Care Unit

Lisa Morgan, Christina McRay, Deborah Salani, Nicole Sardinas-Lago; Miami Children's Hospital, Miami, FL

Purpose: An evidence-based practice initiative was implemented to decrease catheter-associated urinary tract infections (CAUTIs) in the pediatric intensive care unit (PICU). The purpose was to increase knowledge and awareness of CAUTIs in the PICU, to standardize nursing care and surveillance of pediatric patients with an indwelling urinary catheter (IUC), and to reduce CAUTI rates to less than 2.0 per 100 catheter days. **Description:** CAUTIs are the most common health care-associated infections (HAIs) that patients experience during hospitalization. Approximately 80% of HAIs are associated with the use of an IUC. CAUTI is considered an HAI and, therefore, hospitals are no longer receiving reimbursement for CAUTI-related treatment costs. CAUTIs are an enormous burden that will increase hospital expenses and patients' length of stay and are associated with increased morbidity and mortality. The PICU launched an innovative quality improvement campaign that included the development of a standardized practice bundle to reduce CAUTIs among critically ill pediatric patients. A child-friendly mascot, Kiko the Kidney, was created to serve as a visual cue for patients, their families, and health care providers. The mascot is used as a guide and reminder to ensure standardized nursing interventions for CAUTI prevention. Laminated cards with Kiko's picture are placed at the

bedside, in a visible location, for every pediatric patient with an IUC. An auditing tool was developed to monitor ongoing compliance with the new practice bundle. Nurse champions in the PICU perform weekly audits to gain valuable surveillance data. **Evaluation/Outcomes:** Key measures to sustain a reduction in CAUTI rates in the PICU include the following evidence-based practice changes: (1) use of a visual cue as a nursing reminder system, (2) daily physician rounds to determine in the IUC is still clinically indicated, (c) performing weekly audits to determine practice bundle compliance by health care providers, and (d) ongoing staff education related to CAUTI prevention. These nursing practice changes played a significant role in reducing the CAUTI rate in our institution to 0 from quarter 1 of 2012 through quarter 1 of 2013, reinforcing successful sustained evidence-based practice.

EB96 First-Dose Antibiotic Administration: Unit Practice Committee Stepping Forward To Achieve Best Practice

Donna Prentice, Diann Eschbacher, Connie Dumm, Heather Arnold, Michele Gatzert; Barnes-Jewish Hospital, St Louis, MO

Purpose: The medical intensive care unit (MICU) of a large tertiary medical center provides care for a significant number of patients with sepsis who are receiving antibiotics. The 2012 Surviving Sepsis guidelines recommend administration of first-dose antibiotics within 1 hour. Delay in antibiotic administration decreases survival by almost 12% per hour. The purpose of this project was to determine compliance in the MICU with the 1-hour time frame for antibiotic administration and to identify opportunities for improvement. **Description:** Baseline data were collected from a convenience sample of 100 MICU patients with 243 antibiotic orders in May 2012. Twenty percent (48/243) were administered within 1 hour and 38% within 1.5 hours with a median of 1.92 hours. The unit practice committee (UPC) collaborated with the unit-based clinical pharmacist to evaluate the results and identify possible solutions. Members of the UPC retrieved administration time from the medicine administration record and compared it with time of order verification to determine administration time. Pharmacy reviewed antibiotic administration from other areas of the hospital to ensure only first-dose antibiotics were included. Education of all nurses regarding the importance of timely antibiotic administration was provided.

Follow-up with individual nurses with delayed administration was conducted to understand reasons for delay. The electronic medical record order entry function was modified to allow stat orders for all first-dose antibiotics, which improved pharmacy turnaround. Education of all physicians on correct ordering was completed. Pneumatic tube system delivery of all first-dose antibiotics was implemented. **Evaluation/Outcomes:** Quarterly results were reviewed by the UPC and communicated to staff. Both nursing and pharmacy staff were invested in achieving the 1-hour target. In June 2013, a convenience sample of 67 patients with 156 orders showed 45% (71/156) were administered within 1 hour and 60% (94/156) within 1.5 hours with a median time of 1.1 hours. This resulted in a 43% improvement in meeting the 1-hour target. The process was expanded to all areas of the hospital with first-dose antibiotics, which will improve care to all patients receiving antibiotics.

EB97 Maximizing Alarm Management in a Tertiary-Care, Teaching Medical Center Surgical Intensive Care Unit and Telemetry Unit: Sharing Our Story

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Purpose: Our call to action was 2-fold; recent alarm-related patient safety incidents and the alarm fatigue emphasis at the 2013 National Teaching Institute (NTI). The more we read and explored, the more we realized the impact of alarm fatigue on patient safety at University Hospitals Case Medical Center (UHCMC). Our goals were to increase nurses' awareness of clinical alarm management, address identified areas of vulnerability, develop strategies to better manage our high-risk patients and to decrease nuisance alarms by 20%, which directly reduces alarm fatigue. **Description:** Developing and implementing an evidence-based practice (EBP) clinical alarm management program specific to UHCMC was a priority. The interdisciplinary team included 4 intensive care units and 7 telemetry divisions. The process began with a 5-day alarm audit that identified issues. Nurses took a preaction alarm management survey that identified current practice. Practice change pilots included implementation of daily electrode changes and new alarm default settings based on the EBP cited at NTI. Vulnerabilities related to alarm management were identified and these will be unique to each organization. The

first vulnerability identified was "keep the babies close," which emphasizes increasing visibility of the central monitor. We relocated the central monitor station to the center of the unit. This sent a powerful message in our unit that alarm safety is a priority and that it is everyone's responsibility. Our second area of vulnerability was "you don't know what you don't know," related to bedside and central alarm station competencies. Annual hands-on competencies were developed. Postimplementation clinical alarm audit completed. Data were compared with assessment data. The next step will be to standardize practice within UHCMC and the system. **Evaluation/Outcomes:** Success was achieved. Increased nursing awareness of the essential components of alarm management was validated by survey results, and alarm reduction was >20%, thus addressing alarm fatigue. Alarm management included daily electrode changes and standardizing monitoring protocols. The 20% reduction in nuisance alarms was the result of elimination of non-significant alarms such as paired premature ventricular contractions or ventricular bigemy. Multiple overlapping ventricular events/rhythms were decreased while maintaining patient safety. Red alarms were not adjusted. In addition, new oxygen saturation techniques have been addressed to support care of high-risk patients. The plan is to reevaluate and continue to update alarm practices.

EB98 Our Beacon Journey

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Purpose: The Cardiovascular Critical Care Complex (CVCCC) is a blended unit, formed from the previous cardiac and cardiovascular intensive care units and the open heart step-down unit. These units were initially combined in order to improve efficiency and address variable census within all 3 units. These changes decreased staff satisfaction as evidenced by scores on the AACN Healthy Work Environment Survey. Various programs and processes were enacted to combat low staff morale and establish a strong, unified team. **Description:** One of the biggest challenges identified at the inception of the CVCCC was creating an appropriate staffing model. By using the AACN's Synergy Model, the CVCCC was able to adapt to caring for a wide variety of critically ill patients with rapidly changing conditions. Cross-training education was developed in order to prepare each staff member to care for the opposite patient population,

while promoting safe and effective care. A unit-based coordinating council was formed to oversee our transformation and establish 1 shared governance structure, leading to staff member engagement and active participation in unit-based and system-wide activities. The Coordinating Council determined additional problem areas for improvement by using the AACN's Beacon Award application tools as a model to guide our transformation. Our 3 main focus areas became interviewing, mentoring, and resources for new nurses. These changes bridged many gaps and allowed the CVCCC to provide efficient, effective patient care in a safe and supportive environment. **Evaluation/Outcomes:** The CVCCC used AACN's Healthy Work Environment Survey to serve as measurable evidence to track our progress toward becoming a cohesive team. Our 2010 survey exhibited low scores in many of the survey areas, indicating the dissatisfaction occurring throughout the unit. By 2012, the CVCCC experienced a steady increase in all survey areas, demonstrating positive changes resulting from our new processes. In addition to our positive survey results, the CVCCC was also extremely proud to receive the AACN's Gold Beacon Award for Excellence. We believe that this award is a true testament to our unwavering determination to make the CVCCC a great place for patients and staff members alike.

EB99 Enhancing Patient- and Family-Centered Care in a Surgical Intensive Care Unit: Improving Consistency and Communication Among Staff

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Purpose: A performance improvement (PI) project to create staff guidelines and scripting for family visitation to create consistency across all staff in a surgical intensive care unit (ICU). After expanding visitation to 24 hours and implementing family presence during hand-offs, some nurses felt that they did not have the ability to tailor the visitation to meet the patient's condition. Also, some nurses reported not having the communication skills required to communicate therapeutically with visitors. **Description:** The unit practice council initiated the PI project because of staff dissatisfaction and comfort with the new 24-hour visitation practice. There was variability between how nurses managed family visitation, which frustrated both families and nurses. A literature

search was conducted and the text, Putting Patients First (Frampton and Carmel) served as a framework for the patient-family centered care (PFCC) concepts of the project. There was substantial evidence about the benefits of 24-hour visitation in the ICU, but little evidence to help the nurses transition their practice. A survey was created to assess staff's individual stress level with PFCC, and their skill level in reducing families' anxiety level and managing conflict with patients and families. In addition, visitation guidelines for front-line staff, developed by their peers, addressed the most challenging situations they encountered when communicating with families around visitation practices. Scripting prompts served as a foundation to start discussions with families. These guidelines created consistency between nurses and allowed the nurse to tailor the visitation on the basis of the patient's need. **Evaluation/Outcomes:** Creating a framework for staff to start challenging communications helped improve staff skill with communication and increased staff satisfaction with PFCC. After implementation, the average stress level of staff with PFCC (reported on a Likert scale of 1-5) decreased 20% from 2.5 to 2.0. There was a 39% increase (57% to 79%) in staff's ability to reduce anxiety among patients and their families. Staff reported feeling more supported by the charge nurse when managing situations where families have concerns about care, a 20% increase from 80% to 96%. Finally, there was a 10% increase (79%-87%) in staff skill level in managing conflict with patients and families.

EB100 Safe Handling of Patients in a Surgical Intensive Care Unit

Noeleen O'Byrne; Sharp Memorial Hospital, San Diego, CA

Purpose: To reduce staff injuries in a surgical intensive care unit (SICU). The patients in the SICU are usually dependent on staff to reposition and mobilize them. In fiscal year (FY) 2012, the SICU had 12 workers compensation injury claims related to strains and sprains when turning, repositioning, or moving patients. Although education had been given to all employees on the correct use of lift equipment, no lift equipment was used in all 12 injuries. **Description:** An evaluation tool was created to evaluate baseline compliance with lift equipment and progress of the project. A baseline prevalence study was conducted for 3 days to evaluate all patients who failed a mobility-in-bed assessment test (Scoot Test) and the correct use of lift equipment. In total, only 15% of patients

had the correct lift equipment in place. A team of nurses and nursing assistants conducted daily focused sessions to assess why staff were not using the correct lift equipment to avoid worker injury. Several barriers were identified, including a lack of knowledge on how to properly assess patients' mobility status and use of the lift equipment. A set of short educational videos, filmed to address these barriers, were uploaded to the SICU website so they could be easily accessed and viewed by the entire unit. Using a new medium to disseminate information to staff was truly innovative for the SICU. These videos are also readily available to educate new unit staff and are shared with float staff to ensure that they are knowledgeable to protect themselves from injury. **Evaluation/Outcomes:** The results of the project to reduce staff injuries were remarkable. For 3 quarters of FY 2013 there has been a 48% total reduction in workers compensation claims pertaining to strains and sprains compared with this time last year. There were no injuries in the first quarter for FY2013, compared with 2 injuries in FY 2012. In the second quarter of FY2013, there was 1 worker compensation injury as opposed to 2 injuries in FY2012. Given that the average cost of a worker's compensation claim is \$11 000, this project has resulted in savings of \$33 000 a year to date, not to mention the intangible cost of pain and suffering to the injured employee and the lost wages.

EB101 Stepping Forward for Patient Safety: Using TeamSTEPPS Concepts to Reduce Medication Errors in a Surgical Intensive Care Unit

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Purpose: To improve communication among staff in a surgical intensive care unit and reduce medication errors. The communication method chosen was an evidence-based teamwork system called TeamSTEPPS, which is designed to help health care professionals improve communication. The need for this project was identified through the annual safety survey, specifically the communication openness domain (baseline was between the 50th and 75th percentile), and medication errors. **Description:** Medication administration errors are reported to occur more frequently in critical care settings and can cause severe consequences. The Institute of Medicine's 2006 report highlighted the link between the incidence of medication-related incidents and lack of communication

among caregivers. In order to build a culture of safety, communication tools must be taught and hard wired in the health care setting. A group of champions in the SICU created 3-5 minute videos to explain the TeamSTEPPS concepts and demonstrate how a particular concept could be applied in practice. SICU nurses were educated on the following TeamSTEPPS concepts: huddles, DESC (describe, express, suggest, consequences), SBAR (situation, background, assessment, recommendation), CUS (concerned, uncomfortable, safety issue), debriefs, and cross-monitoring. The education plan consisted of creating videos every 2-3 months, educating the staff, and hardwiring the process through discussions with staff at change of shift, at huddles, and individually to assist in application of the concepts. The videos were uploaded to the SICU website for easy access and orientation.

Evaluation/Outcomes: In a 6-month period baseline from April to September 2012, there were 21 documented medication errors involving a wrong patient, wrong dose, wrong rate, wrong drug, omission, or an extra dose of medication given. After introducing the TeamSTEPPS concepts in September 2012, medication errors for the following 6 months (October-March 2013) decreased by 57% to 9 medication errors. From April to September 2013, the same time frame as the baseline data, there were 6 documented medication errors, a 72% reduction in medication errors.

EB102 Walking the Walk: Mentoring Professional Development of Staff Nurses

Stephanie Vaupel-Juart, Loletia Herron; The Ohio State University Wexner Medical Center, Columbus

Purpose: To improve patients' outcomes by increasing the number of staff nurses in a surgical intensive care unit (SICU) who were participating in clinical advancement and certification programs. Participation in these programs was minimal, and the senior staff nurses and the SICU management team devised a plan to address this issue. The overall goal is to have 100% BSN and 100% CCRN certified registered nursing (RN) staff. **Description:** In December 2012, the SICU Professional Advancement Committee was formed to address staff participation in our institution clinical ladder program, RN to BSN programs and CCRN certification. Using recommendations and mandates from The Institute of Medicine's (IOM) 2010 report on the Future of Nursing and the AACN 2009 Healthy Work Environments, the committee developed

an advancement program. Current literature indicates that education, professional advancement programs, and staff nurse empowerment improve patients' outcomes by cultivating nursing practice and sustaining nurse recruitment and retention. This also gives the bedside nurse the opportunity "to contribute to improved quality, safety, and operations" of the institution. The committee developed a program that supported the process from application to completion and provided assistance in every step. The plan used individual and general meetings to encourage and assist in the process. Participant progress is tracked and individual interventions are used to keep participants on a timetable. Committee members have successfully completed these advancement programs and serve as mentors to each of the committed staff members. **Evaluation/Outcomes:** The goal was to increase staff participation in the clinical ladder program and CCRN certification by 5% each and in RN to BSN programs by 2% in the year 2013. Each following year, the goal is to increase the participation rate by 3%. As of September 2013, the interventions created by the committee resulted in an increase in the participation rate in the clinical ladder program by 16.5%, CCRN certification by 8.26%, and RN to BSN programs by 4.96%. An evaluation form will be completed by each RN at completion of the program to assess the committee's interventions and support. The response rate of the staff showed that mentoring and a hands-on approach will foster participation in these programs.

EB103 Really Soon: A Change in Practice for the Care of Patients With Alcohol Withdrawal Syndrome

Mary Eschel, Jennifer Greenlief; Advocate Good Shepherd Hospital, Barrington, IL

Purpose: Demonstrates how a nurse-driven evidence-based practice (EBP) change can positively affect our patients. By using the Iowa Model, the evidence gathered from science, driven by nurses' observation and assessment on the Clinical Institute Withdrawal Assessment (CIWA) scale along with patients' symptoms, to effectively treat patients with alcohol withdrawal syndrome (AWS). The outcomes will demonstrate decreases in transfers to the intensive care unit (ICU), falls, restraint use, and calls for security assistant management. **Description:** EBP has shown that early intervention on a disease process improves patients' outcomes. At Advocate Good Shepherd Hospital (AGSH), a small community hospital, nurses on the rapid response team noticed a pattern of increased

ICU transfers, falls, use of restraints, and security-assisted management calls with patients experiencing alcohol withdrawal. A literature review revealed several ways to treat the patient going through AWS, but 2 common threads were apparent: the use of benzodiazepines and the use of accurate CIWA scoring to document the alcohol detoxification symptoms objectively. We built an interdisciplinary team of nurses, doctors, pharmacists, and social services staff to achieve a well-rounded protocol. The protocol itself is a hybrid approach from the evidence. Benzodiazepines are given on a sliding scale based on CIWA scoring, which is a symptom-driven scale. The protocol starts intervention based on the patient's health history of alcohol current or previous use. Education was provided to all the nursing staff on the physiology of AWS, CIWA scoring, and application of the new protocol. The outcomes include decreases in ICU transfers, falls, restraint use, and security assistant management. **Evaluation/Outcomes:** Through chart review, the outcomes show from the implementation of the new CIWA protocol (2013) compared with the use of the old change protocol (2012) a decrease of at least 30% in ICU transfers, falls, restraint use, and security safety assistance calls. An unexpected outcome, which was obtained by interview of the nurses on the medical and surgical ICUs, has been that many of the floor nurses state that they feel empowered by being allowed to have a voice in the change and observe how EBP can work at the bedside and improve patients' outcomes on the basis of the nurses' assessment. The nurses are more likely to follow the protocol because of their sense of ownership for the protocol.

EB104 Assessing Pain in Critically Ill Patients Who Are Unable to Self-Report

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Purpose: Lack of a standardized tool to assess pain in critically ill patients who are unable to self-report can result in inconsistent and ineffective pain management. The surgical intensive care unit at Saint Joseph Mercy Hospital implemented the Critical-Care Pain Observation Tool (CPOT) to standardize pain assessment and thus reduce variation, improve documentation, and increase nurses' confidence in assessing pain in critically ill patients. **Description:** Numerous studies have compared CPOT with other pain scales evaluating reliability, validity, feasibility, and impact on nursing practice. The *Clinical Practice*

Guidelines for Pain, Agitation and Delirium published by the Society of Critical Care Medicine recognize CPOT as a valid and reliable tool for use in patients who are unable to communicate. The American Society for Pain Management Nursing also supports CPOT as a valid tool for use in patients unable to self-report. Thanks to these recommendations, key stakeholders were identified to become engaged in the action planning process for implementation. The action plan was executed by using the Johns Hopkins Model for Translating Evidence in to Practice. In February 2013, 54 nurses were surveyed to evaluate baseline knowledge regarding pain management. Nurses attended 10-minute educational sessions upon survey completion. Education included review of the identified problem, project goals, current literature related to CPOT, and how to use CPOT in practice. **Evaluation/Outcomes:** Chart reviews and a survey completed by 40 nurses in June 2013 were used to evaluate outcomes. Survey results show that CPOT is easy to use and 97% of nurses report that CPOT now guides personal practice. The percentage of nurses who feel unsure of how to document pain in critically ill patients decreased from 68% to 51% after education. During education, 60% of the time patients did not fit the criteria to be assessed by using CPOT based on level of sedation or ability to self-report. Chart reviews after implementation showed that CPOT use in patients who do not fit criteria decreased to 36% of the time. Other outcomes measured included frequency of pain assessment, reassessment, and pain goal.

EB105 Time for Change: Reduction of Infections Associated With Central Catheter Dressing Maintenance

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Purpose: Central venous catheters (CVC) are associated with a risk of associated bloodstream infections (CLABSI). Studies have indicated that the type of dressing used may affect the risk for infection. As part of our efforts to decrease the CLABSI rate in the cardiac surgery intensive care unit (ICU), we looked at the quality of our current CVC dressing. Our purpose was to decrease the CLABSI rate through improved dressing adherence, improve catheter security, and decreased frequency of CVC dressing changes in the cardiac surgery ICU.

Description: Guidelines from the Centers for Disease Control and Prevention call for gauze and tape to cover

the CVC site and secure the CVC. Currently no clear guidelines are available about which type of dressing is the most appropriate, so we investigated the quality of the Tegaderm (our current dressing, manufactured by 3M) and compared it with the Sorbaview dressing (Centurion). We audited central catheter dressings of our patients before and during the 4-month period that we tried the Sorbaview dressing. Our audit tool consisted of direct observation and included the following items related to CVC dressing care practices as outlined in our hospital's CVC dressing care policy: type of access (site and type of catheters), dressing location, dressing condition (dry, intact and occlusive), date dressing applied, and number of times dressings changed within 24 hours. Our study population included all types of cardiac surgery patients with CVCs. We used descriptive statistics to describe demographic variables. We used χ^2 analysis to test the relationship between the dressing method and adherence and logistic regression to evaluate whether the rate of dressing changes was different with the Tegaderm vs the Sorbaview dressing, and we evaluated cost. Significance level was set at $P = .05$. **Evaluation/Outcomes:** A satisfaction survey (75% of staff) revealed that the Sorbaview dressing was an improvement over the Tegaderm. About 78% of dressings were at the internal jugular vein; they were changed much less frequently ($P < .001$) using the Sorbaview (164.3/1000 days) versus the Tegaderm (320.2/1000 days) and were more likely to be dry (90% vs 10%; $P = .002$) and occlusive (83% vs 17%; $P = .002$). Fewer CVC kits were used during the trial because the Sorbaview dressing adhered better to the skin (1.25 kits vs 1.63 kits). Cost analysis showed an annual cost difference of \$1644 if we use the Sorbaview dressing kits. However, if we factor in the cost of a single CLABSI (we had none during the trial), the potential savings is huge.

EB106 Step Forward: Implementing Mobilization in the Intensive Care Unit

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Purpose: In 2011, the staff of the intensive care unit (ICU) attended a conference in which the multiple benefits of early mobility were showcased. The shared governance clinical practice council decided to implement early mobility in our own unit for the purpose of improving patients' well-being and potentially decreasing delirium.

A goal was to increase patients' participation and assist them to achieve their full potential for recovery. An additional purpose was to create staff collaboration and alter the culture of the unit to one that is more accepting of mobilizing ventilated and critically ill patients.

Description: Immobility is shown through research to cause a variety of complications in critically ill patients; because the ICU is dedicated to creating a culture driven by the needs of patients and families, it was important to address this concern. Current knowledge indicates that immobility leads to depression, altered cognition, impaired skin integrity and a host of potential complications leading to prolonged length of stay. The ICU was privileged to have access to a researcher who has done studies on early mobility, and the team was able to build upon this to instruct the design of our program. The team adopted exclusion criteria used in prior research studies. All patients were able to tolerate some form of range of motion exercises. The interdisciplinary team consisted of physical and occupational therapists, ICU nurses, unit leaders, respiratory therapists, and critical care physicians. Daily assessment by nurses and therapists was used to identify candidates able to tolerate mobilization. The sample was all ICU-level patients who met the inclusion criteria, including those patients receiving mechanical ventilation. Data were already being collected on ventilator days and showed a consistent reduction throughout the time early mobility was implemented from a mean average of 3.1/1000 patient days to a mean of 2.9 in 2012 and a mean of 2.7 in 2013. Also the incidence of ventilator-associated pneumonia (VAP) in the ICU remained at 0 in the same time period. **Evaluation/Outcomes:** A significant reduction in the number of ventilator days was seen during the implementation of the project. The unit has an extended period of 0 incidence of VAP (4 years), and mobilization is shown to lower the risk of VAP. An important, yet difficult to measure, outcome was the cultural change in the minds of the staff from a unit that shied away from mobilizing patients to one in which ventilator patients were seen ambulating and nurses were the primary impetus in moving patients to chairs each shift. As the mindset changed in the unit, we were able to see a measureable difference in the number of patients who received early mobilization. Patients and families are vulnerable during an ICU stay; it is imperative for the nurses to continue to embrace this cultural change in order to benefit patients.

EB107 Don't Fall—Call! Development of a Falls Prevention Program in a Coronary Intensive Care Unit

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Purpose: Historically, this 24-bed intensive care unit (ICU) in a 1400-bed midwestern medical center has fallen well below the National Database of Nursing Quality Indicators (NDNQI) mean of 1.10 falls per 1000 patient days. In 2010, the unit experienced 0.81 falls per 1000 patient days (4 falls), and in 2011, the unit experienced 1.23 falls per 1000 patient days (11 falls). To address this trend, a plan was developed to review and analyze the falls, and implement interventions to decrease the number of falls in the coronary ICU. **Description:** A falls committee was formed to analyze the 11 falls to determine trends and develop an action plan. Analysis demonstrated a mean age (58 years), sex (6 male, 5 female), and similar diagnoses (endocarditis, alcohol/drug use, arrhythmias, and cerebrovascular accidents). Other findings included locations/characteristics of each fall. The Falls Prevention Nursing Protocol was reviewed to ensure compliance, and a literature review was completed to identify any new strategies in fall prevention. A convenience sample of 50 patients was assessed to see whether the call light was within reach (72%) and the bed was in the lowest position (44%), to determine compliance with 2 known strategies for preventing falls. Based on these data, new strategies were developed and implemented: (1) nurse education on correct use of the bed alarm, keeping beds in the low position, and ensuring that the call light is within reach, (2) cards stating "For Your Safety, please ask your nurse before getting out of bed" were posted in full view of the patient, (3) nurse education to identify patients who could get out of bed (eg, after sheath removal recovery), increase use of bedside commodes, and put "grippy" socks on all patients, (4) physical therapy consultation to assess patients and assist with bed to chair transfer. **Evaluation/Outcomes:** In 2012, the 24-bed coronary ICU experienced 0.44 falls per patient day (3 falls)—well below the NDNQI average of 1.10.

EB108 Ultrasound Scanning for Evaluation of Skin Integrity in the Critically Ill: Procedures for Obtaining the Best Scan

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Purpose: Pressure ulcer prevention is a high priority in acute care. Tissue damage in the dermis may occur before visualization. A diagnostic tool such as high-frequency ultrasound (HFUS) used by bedside clinicians may enable detection of dermal abnormalities and supplement visual assessments. However, processes for obtaining the best scans, especially in critically ill patients, have not been fully delineated. The purpose of this project was to describe the best procedures for obtaining optimal HFUS scans.

Description: HFUS is a cost-effective, noninvasive tool for immediate visualization of subepidermal tissue change and thus has the potential to decrease pressure ulcer incidence through early detection. Collection of HFUS images may be conducted by multiple bedside clinicians; however, analysis of images relies on consistent high-quality scans. Scan recommendations include a prone position, specific site location, a specified amount of gel, and perpendicular probe position. In sedated critically ill patients, this may not be possible, especially to obtain sacral scans. It is not known how position and other scanning procedures may affect scan quality. Our goal was to develop an evidence-based procedure for obtaining high-quality scans consistently. Initial training/consultation was supplied by the manufacturer. Research literature was reviewed to develop and revise a procedure for optimal scan collection. Scan quality was assessed by expert reviewers after each change in the procedure by using defined evaluation criteria. Because no data were available related to positions other than prone, an evaluation of volunteers placed in various positions was undertaken to determine the effect of position and the reliability of multiple operators. **Evaluation/Outcomes:** HFUS images were reviewed from 150 patients over a 3-year period. Changes to the scanning procedure occurred throughout that period if scan quality diminished, including processes for locating the coccyx, consistent use and amount of probe gel, and probe pressure. Retraining on the new procedure was then conducted. Evaluation of scans in volunteers revealed that quality scans can be obtained by nurses with basic training. Overall scan quality was adequate with patients in prone, lateral, and semilateral positions using multiple operators. Recommendations for obtaining the best scan include lateral position, palpating for the coccyx, using minimal gel with no pressure, and unhurried data collection.

EB109 Sustainable Practice Change: Reduction in Tracheostomy Peristomal Breakdown

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Purpose: Tracheostomy peristomal skin breakdown has been identified as an important patient care issue; prevalence data indicated that 77% of patients with tracheostomies were affected in a neurointensive care unit. Delayed suture removal, device-related pressure, and moisture placed tracheostomy patients at high risk. A unit-based performance improvement project evaluated use of a bedside checklist describing strategic prevention measures to reduce skin breakdown. **Description:** A literature review conducted via PubMed and CINAHL using search terms “tracheostomy,” “stoma,” and “moisture associated skin damage” did not yield specific guidelines for prevention or management. A bedside checklist was then developed that incorporated standards of care, preventive strategies, and key steps in team communication. The checklist included tracheostomy procedure date, planned suture removal date, bedside safety equipment, a prompt for stoma site assessment, and stoma site interventions. After the tracheostomy procedure, the checklist was placed at each patient’s bedside and served as a reference tool. Using the checklist also promoted peer to peer communication for identification of patients’ risk factors and key interventions to prevent skin breakdown. Strategic preventive measures included increased frequency of oral hygiene, hydrocolloid dressing application to protect peristomal skin, frequent tracheostomy tie changes, and prompt intervention for actual skin breakdown. During a 6-month period, weekly audits were conducted to assess tracheostomy patients for skin breakdown or the presence of risk factors and to evaluate strategic prevention measures. **Evaluation/Outcomes:** Twenty-seven patients were audited; prevalence of tracheostomy peristomal breakdown decreased from the baseline 77% to 18%. The most frequent type of skin damage was reddened, unbroken skin under the stoma. Moisture damage associated with secretions was identified as a risk factor in 74% of patients. Pressure-related risk factors were identified in 29% of patients, prompting use of hydrocolloid dressings as a strategic prevention measure. Using a bedside checklist improved team communication and implementation of plan of care. Peer to peer communication facilitated adaptation of treatment measures and risk assessment. Further evaluation is needed to describe successful preventive strategies.

EB110 Early Identification and Treatment of Sepsis Achieves Positive Outcomes for Patients and Hospital

Rhonda Gluckner, Mary Bigowsky; Humility of Mary Health Partners, Youngstown, OH

Purpose: To develop and implement a multidisciplinary program aimed at early identification and treatment of sepsis. Our goal was reduce sepsis mortality and length of stay by improving the process of providing evidence-based services to patients presenting with sepsis to the emergency departments (EDs) within our hospital system. Our system includes an urban tertiary level 1 trauma center, a level 3 trauma center, a community hospital, and 2 free-standing EDs. **Description:** An interdisciplinary sepsis team was charged with developing the structures and processes necessary to improve the management of sepsis for patients presenting to the ED. Policies and procedures and a “sepsis bundle” of key actions were developed on the basis of evidence-based guidelines from the Surviving Sepsis Campaign and review of best practices. During baseline data collection, the team recognized the need for a system-wide dedicated registered nurse sepsis coordinator. The sepsis coordinator is responsible for monitoring and evaluating compliance with standards of care for sepsis patients. The sepsis coordinator played a significant role in educating nurses and physicians on the sepsis “bundle” and best practices and in developing tools to facilitate compliance with best practices. The sepsis coordinator monitors compliance with standards reports results to performance improvement committees, shared governance councils and emergency department and intensive care unit committees. In addition to the responsibilities in the hospital, the sepsis coordinator also works to improve our community’s understanding of sepsis through a variety of public venues and presentations. **Evaluation/Outcomes:** Baseline data for severe sepsis and septic shock showed a mortality rate of 19.8% and length of stay of 13.7 days. Following the implementation of the sepsis bundle and sepsis coordinator role in 2010: mortality and length of stay decreased, resulting in 32 lives saved and 3369 days saved with an estimated cost savings of \$1010700 in 3 years within our system. The implementation of the sepsis coordinator led to reductions in mortality and length of stay, as well as increased compliance with evidence-based interventions. Collaboration among the sepsis coordinator, medical and nursing staff, education, and

consistent monitoring of compliance are key to improving outcomes for sepsis patients.

EB111 Smart Pump Wireless Technology: An IQ Boost for the Pump

Cathy Sullivan, Elizabeth Palillo; Beth Israel Medical Center, New York, NY

Purpose: Reduction of medication errors associated with intravenous infusions is of great importance in critical care settings. Findings from a 2008 summit on medication errors indicate that 58% of parenteral medication errors are initiated during administration and these errors are 3 times more likely to cause harm or death. We sought to determine whether the use of smart pumps could improve patient safety, reduce alert fatigue, improve adherence to policies, and reveal practice issues in intensive care units (ICUs). **Description:** A multidisciplinary team was created to standardize our hospital formulary, including drug concentrations, diluents, and weight-based dosing. Current best practices and drug information resources were consulted for our library development. This new drug formulary was updated in our electronic medical record and computerized physician order entry system. A single uniform smart pump drug library was created, establishing parameters such as soft and hard dosing limits, clinical advisories, and bolus dosing. Wireless integration of the smart pumps provided real-time data monitoring for clinical decision support and retrospective reporting on dosing trends and practices. This real-time monitoring allowed assessment of all infusions and identification of dosing limit deviations. Retrospective reporting allowed identification of trends within drug library utilization, dose overrides, dose corrections, and most frequent infusions associated with alerts. Weekly distribution of alert reports to pharmacy, nursing, providers, and administration provides for ongoing monitoring and analysis. Report data were used to analyze the integrity of the library and ensure optimal safe medication administration practices for nursing. **Evaluation/Outcomes:** Data analysis identified 5780 dosing alerts in the ICUs. Approximately 7% of alarms were dose corrections. We quantified our good catches, significantly reduced our alerts, and achieved 100% utilization of the drug library. Additionally, we identified 5 target infusions associated with the highest incidence of dose overrides: heparin, fentanyl, red blood cell transfusion, dexmedetomidine, and propofol. Based on pump programming

review, interventions to reduce alerts included adjustment of soft dosing limits, reinforcement of bolus feature, and reeducation on dosing. Reanalysis after the intervention revealed a reduction in alerts, ranging from 45% to 88%, involving the 5 identified infusions.

EB112 Step Forward: Advancing the Scholarship of Pediatric Nursing Through a Nursing Science Fellowship

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Purpose: To provide the opportunity and dedicated time for pediatric nurses to collaborate with and be mentored by nurse scientists via formal and informal instructional sessions. To guide and support nurses in designing and conducting a clinical inquiry project to address the clinical questions generated from their practice. **Description:** Clinical inquiry includes quality improvement science, evidence-based practice, and original research and is vital for advancing the science and scholarship of pediatric nursing. Current literature highlights barriers to clinical inquiry without offering feasible strategies to reduce them. Although commitment to clinical inquiry is strong at our free-standing pediatric hospital, there was no formal program to assist nurses in conducting their own inquiry. A confluence of internal and external events including the Future of Nursing report from the Institute of Medicine and the Robert Wood Johnson Foundation provided the impetus to create the Academy for Clinical Scholarship and Innovation in Pediatric Nursing. An integral aspect of the academy is the nursing science fellowship. Nurses with demonstrated interest in clinical inquiry are chosen to participate in this 2-year experience of quarterly forums consisting of didactic and interactive content plus networking with each other and sharing the progress of their work. There are also biweekly one-on-one sessions with their mentor. Throughout this time, fellows learn the appropriate method by which to address their question and complete the related steps from question formulation to dissemination of results. **Evaluation/Outcomes:** The expected outcome is for each fellow to apply for an internal or external grant, submit a protocol to the institutional review board for review and approval, and complete at least 1 project or study including dissemination of findings at local, regional, and/or national nursing forums. To date, 4 fellows have received grants. Most have presented at local conferences and some have presented at regional or

national conferences. In addition, several of their manuscripts are under review.

EB113 Stepping Forward to Empower Nurses to Obtain Certification

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Purpose: The benefits of obtaining nursing specialty certification have been increasingly supported in the evidence-based literature in recent years. Increased nursing certification rates support evidence of enhanced outcomes for patients such as increased satisfaction and improved quality of care. Research has identified that certified nurses report increased perception of empowerment, increased job satisfaction, and decreased turnover. Despite the overwhelming evidence in favor of certification, in January 2012, our 32-bed medical-surgical cardiac care unit (CCU) employed only 4 certified nurses. Creating a culture that encouraged and empowered nurses to pursue specialty certification was identified as a top priority by unit leaders. Progressive care certification (PCCN) was the certification identified as the most valuable and relevant for the unit's population of patients. **Description:** The importance of achieving certification was communicated with the CCU staff at staff meetings, and additional information was made available through intranet postings. A plaque displaying the credentials of the 4 current certified nurses was purchased and prominently displayed on the unit. Once the concept of obtaining certification was introduced, offering a collaborative, nurse educator-led review class was identified as an ideal strategy to promote PCCN certification on the unit. A proposal to create and offer an 8-week (paid time) review course based on the PCCN examination blueprint was developed by unit leadership and the education department and was approved by senior nursing leaders. The hospital also committed to reimbursing test fees for nurses who successfully passed the examination. In order to be granted approval to participate in the review class, nurses had to meet PCCN eligibility requirements for the examination, understand the importance of self-study outside of the class, be up-to-date on all unit-based education, and commit to taking the PCCN examination within 3 months of course completion. The review class met for 2 hours each week and covered the PCCN material by system. Before each class, the nurses were provided with a reading assignment in the PCCN review

book and with supplemental reading materials. At the end of each class, PCCN examination review questions were answered as a group and nurses were provided with a packet of study questions to take home and complete independently. The initial review course was taught by our CCRN-certified nurse educator. The subsequent review course was co-taught by our nurse educator and our newly PCCN-certified nurses. Course content and use of class time to review test questions were streamlined for the second review course on the basis of feedback from the nurses who participated in the first review course. **Evaluation/Outcomes:** Our collective PCCN journey led to some very exciting practice changes on the floor. During the initial review class, report changed from “Jane is a 72 year-old-woman who came in to the ED yesterday with an NSTEMI” to “Jane is a 72-year-old-woman who came in to the ED yesterday with an inferior/posterior NSTEMI. She had ST depression in her inferior leads, and I am currently monitoring her in lead II.” The excitement and thirst for knowledge grew during the 8 weeks the course was in session, and the unit was ecstatic when all 8 of the first review course participants achieved PCCN certification, as did 2 additional nurses who had studied independently for the examination. Upon formal evaluation of the course, the newly certified nurses were actively seeking the opportunity to offer their knowledge and experience to help teach the next review course, and the opportunity to learn from their peers was well received by participants. After the completion of the second review course, we have, at present, a total of 19 certified nurses, 17 of whom are PCCN certified. Our unit certification rate increased from 15% to 79% in 1 year! Some nurses did not stop there, to date, 3 PCCN-certified nurses have obtained dual certifications (in medical/surgical nursing, critical care, and cardiac medical care), they are currently the only dual-certified floor nurses in the entire hospital. Now the culture of certification on our unit is both prominent and distinct. Thanks to the excitement and momentum surrounding certification on our unit and the overwhelming success of the review class, our colleagues in other specialties have been moved to step forward and create a similar culture of certification.

EB114 Where Did the Nutrition Go? An Evidence-Based Look at Enteral Nutrition Policy

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Purpose: Critically ill patients’ increased metabolic rates necessitate greater caloric intake to prevent poor outcomes. A study on a neurological/surgical/medical intensive care unit (ICU) showed that the amount of enteral nutrition (EN) infused during a 24-hour period was significantly less than the ordered volume. EN was interrupted for gastric residuals, procedures, transport off the ICU, and nursing care. A team was formed to create evidence-based solutions to reduce EN shortages.

Description: A unit study showed that in 24 hours patients were receiving significantly less EN than the ordered volumes. An interprofessional team of nurses, dietitians, and intensivists was formed. The study showed the greatest contributors to lost nutrition were EN being withheld for gastric volume residuals (GVR) of 250 mL and patient care. Patient care mainly contributed to lost nutrition as EN was withheld while patients were being repositioned. A literature review was conducted to create a comprehensive evidence-based enteral feeding policy. Literature, particularly the REGANE study, showed that not withholding EN until GVR exceeded 500 mL did not result in gastrointestinal complications, pneumonia, increased duration of mechanical ventilation, or longer ICU stays. Literature and the American Society for Parenteral and Enteral Nutrition recommendations state that EN should not be turned off when repositioning patients. As extended time in the supine position may result in aspiration, patients should be returned quickly to an upright (30°) position. The new policy states that EN be withheld for GRV exceeding 500 mL for 2 consecutive residuals or signs of physical discomfort-abdominal distention, nausea, vomiting, or constipation and includes not turning off EN to reposition a patient. **Evaluation/Outcomes:** A study done 2 months after education on the new policy showed the 1 episode of EN being withheld for GVR volumes was in accordance with the new >500 mL policy. GVR was no longer a significant reason for discrepancies between actual infused and ordered EN volumes. However, repositioning of patients resulted in significant differences between actual and ordered EN volumes. Withholding EN for GVR is a collaborative decision between the nurse and intensivists. Intensivists had face-to-face education with a physician champion. The nurses’ computer education focused mainly on the GVR policy changes, with less content on stopping the tradition of withholding EN while repositioning patients. Policy support by a unit nurse champion is planned.

EB115 Some Like It HOT!

Emily Rockafellow, Lynn Comried, Laura Cullen, Cheryl Bombei, Joseph Greiner; University of Iowa Hospitals and Clinics, Iowa City

Purpose: Do you treat your patient's fever or recognize that "some like it HOT"? It is time to question our traditional practice of treating fevers with antipyretics. Our purpose was to implement and evaluate evidence-based management of fever due to infections in the medical intensive care unit (MICU). We have all heard, "We've always done it that way." The safety of our critically ill febrile patients is at stake. The Iowa Model and EBP Implementation Guide provided direction for the team. **Description:** Evidence shows that the presence of fever in an ICU patient increases nursing workload. Perhaps that is part of the reason that antipyretics are often routinely provided to febrile patients. However, research shows no benefit and even shows potential harm from aggressive management of fevers caused by infection. Mortality improves for most patients when permissive hyperthermia, as the natural fever response, is allowed. However, evidence supports aggressive fever management in acute neurological and postcardiac arrest patients, so their needs must also be addressed. Although fevers are common in ICU patients, managing them is complex. Developing an evidence-based decision algorithm was an important strategy to guide practice related to fever management. The team developed additional implementation strategies as well, such as highlighting advantages, having a core group, opinion leader, education, outreach, and audit and feedback to promote adoption of the practice change. **Evaluation/ Outcomes:** Evaluation occurred before and after the practice change. Preimplementation questionnaires (nurses, before = 48, after = 23) and chart audits (patients, before = 32, after = 31) assessed current knowledge, attitudes, and practices. The MICU cares for a large number of patients with infection-related fevers (before group = 44%; after group = 45%). Improvements were identified in staff knowledge (before group = 67%; after group = 85%). Antipyretic use for fevers decreased (before group = 93%; after group = 57%). Documentation of acetaminophen for pain management increased (before group = 7%; after group = 37%). A long-held tradition of using antipyretics for all fevers is finally cooling off because "some like it HOT"!

EB116 Using a Structured Approach to Reduce Pressure Ulcers in Spinal Cord Injury Patients

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Purpose: The goal of the project was to improve patient satisfaction by reducing the incidence of pressure ulcers (PUs) to 0%. Objectives were to determine the current state of PU prevention and implement best practice guidelines, engage the interprofessional team in effecting practice change, implement process changes and tools to support the team in proactively preventing the occurrence of new PUs and effectively managing care of existing PUs, and reduce the incidence of PUs to 0%. **Description:** Approximately 14% of spinal cord injury (SCI) patients at Toronto Western Hospital (TWH) were having pressure ulcers develop. An assessment suggested that there was a lack of understanding of the Braden score and the appropriate interventions based on the categorical risk. A review of current literature indicates that the use of structured communication methods such as huddles and formalized tools increases staff engagement in decision making and dissemination of information, streamlines decisions, and reduces response times to resolve issues. Changes were implemented to refocus the team on PU prevention and management by using the following strategies and tools: creating a formal document that indicated standard of care required based on categorical risk, daily interprofessional PU huddles to discuss best practices regarding skin assessment, interventions and pressure ulcer staging, implementation of a turning and positioning system for high-risk patients, establishing a performance board to identify and track patients admitted with PUs and patients who had a new PU develop within the unit, and using a tracking tool to monitor patients with identified PUs. **Evaluation/Outcomes:** Since the project was initiated in June 2012, the number of new pressure ulcers has decreased from 14% to 6%. Subsequent audit indicates Braden documentation has improved from 36% to 80% and the implementation of the standards of care increased from 38% to 85%. The success of this initiative is fueling a broader rollout within the organization. How was success measured? By number of newly developed PUs monthly within each unit, number of patients who arrived on the unit with an existing PU (including patients who were transferred from another University Health Network unit or externally),

% of days Braden score was documented, % of days standards of care were implemented, and patient satisfaction surveys.

EB117 Stroke Volume or Central Venous Pressure: Examining the Evidence

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Purpose: Postoperative care for cardiac surgical patients includes assessment for hypovolemia. However, accurate assessment of hypovolemia is difficult, and the patient's response to treatment may not be recognized or may be misdiagnosed. Stroke volume (SV), the amount of blood that the heart pumps with each beat, is the first hemodynamic parameter to change when there is a threat to blood flow. Is SV more accurate than central venous pressure (CVP) for diagnosing and managing hypovolemia in postoperative cardiac surgical patients? **Description:** Physicians in our unit have traditionally used CVP to guide fluid therapy. However, evidence has shown that SV is the first hemodynamic parameter to change when volume loss occurs. An evidence-based project was conducted to answer this question. A team consisting of a cardiothoracic surgeon, nurse practitioner, and 3 experienced cardiothoracic ICU nurses was put into action. Data were collected for 3 months on 47 patients by the nursing staff, who used a written tool developed to collect CVP, SV, and the use of any inotrope or vasopressor agents on admission to the cardiothoracic ICU and following any fluid boluses. Changes in SV and CVP were documented on the tool as well as any changes in the amount of vasopressors/inotropes. Surgical procedures included but were not limited to coronary artery bypass graft, valve repair/replacement, aortic aneurysms, and maze procedures. Patients were categorized as responders and nonresponders. Responders were those who had an increase in SV with no change in CVP after a fluid challenge. Nonresponders were those who did not have an increase in SV after a bolus. **Evaluation/Outcomes:** Twenty-eight patients responded to a fluid bolus with an increase in SV but no change in CVP for a 57% response rate. Eighteen of these patients who responded positively to the bolus had a decrease in the use of vasopressor therapy for a 46% response rate. Five of the patients who responded had a decrease in the use of inotropes for a 17% response rate. What does this mean for our unit? Our cardiothoracic surgeons are now using SV as the

first parameter to guide fluid therapy. There has been better optimization of our patients as evidenced by a normal SV leading to a decrease in inotrope and vasopressor therapy. These changes have allowed quicker transitions out of the cardiothoracic ICU.

EB118 Stepping Into a New Way of Bathing: Decreasing Health Care–Associated Infections in the Wake of Innovative integration of Chlorhexidine Bathing

Elizabeth Enfield, Kristi Wilkins, Kathleen Rea, Beth Quatrara; University of Virginia, Charlottesville

Purpose: Hospital-acquired infections harm patients' outcomes and increase health care costs. Patients who acquire a central catheter–associated bloodstream infection (CLABSI) have an increased length of stay of 3 weeks, mortality rate between 12% and 25%, and cost of \$45 814. Catheter-associated urinary tract infections (CAUTI) increase length of stay 2-4 days, have a mortality of 2.3%, and cost \$896. A clinical nurse specialist (CNS) team decreased this associated morbidity and mortality through the implementation of chlorhexidine bathing. **Description:** Nurse-driven interventional hygiene of 2% chlorhexidine bathing is supported by the evidence. The Centers for Disease Control and Prevention provides a category II recommendation for the use of daily chlorhexidine baths to decrease CLABSIs in their 2011 guidelines. This recommendation is further supported by more recent data. In 2012, a meta-analysis of 12 chlorhexidine bathing studies solidified the benefits of chlorhexidine bathing in reducing bloodstream infections. Furthermore, there is a growing body of evidence in support of 2% chlorhexidine perineal care and indwelling urinary catheter care as a CAUTI prevention measure. In February 2012, an interdisciplinary team gathered to examine the evidence and develop an implementation strategy for chlorhexidine bathing. Product utilization, infection rates, and implementation costs were determined to be the most substantial outcome indicators. These data were recorded monthly and regularly reported. A CNS-led team developed a training video and, through simulation-based education, trained 947 nursing staff on appropriate techniques for chlorhexidine bathing. On May 1, 2013, chlorhexidine bathing was started throughout the adult intensive care units and for all patients with urinary catheters, central catheters, and who were culture positive for carbapenem-resistant enterobacteria. **Evaluation/Outcomes:** The

outcomes are noteworthy. The CNS team provided daily education and monitored progress and compliance. With the implementation of 2% chlorhexidine bathing, institutional CAUTI rates decreased by 3.75 infections per month compared with 2012. CLABSIs decreased by 3.77 per month. This resulted in a 3-month total reduction in hospital-associated infections of 22 patients and a savings of approximately \$10 000 for CAUTI and \$518 000 for CLABSI. This yielded a net savings of \$437 000 in the 3 months. We expect annual return to continue at its current pace and expect a further reduction of 45 CAUTIs and 45 CLABSIs, with a potential annual savings approaching \$1 800 000 net and most importantly, 12 lives saved.

EB119 Tele-Intensive Care Unit Nurses Design a Program to Decrease Central Catheter-Associated Bloodstream Infections by Using Simulation

Lynn Brayton Fitzwater, Vicki Siler; Cincinnati Veterans Affairs Medical Center, Cincinnati, OH

Purpose: With the goal to reduce central catheter infections, the newly formed tele-intensive care unit (tele-ICU) team was asked to monitor central catheter insertion as witness to sterile procedure. During the first month of monitoring, several problems were identified: residents' lack of confidence with equipment (sterile gowns, gloves, drapes, and catheter kits), assistants within 3 feet of the sterile field without donning sterile garb, room doors open during the procedure, and support staff entering the room without masks and caps.

Description: The multidisciplinary project targeted both residents and nurses. Residents had previously been trained peer to peer; no formalized training was being offered. The need was met through an educational offering developed by using guidelines from the Centers for Disease Control and Prevention (CDC), The Joint Commission, the Agency on Healthcare Research and Quality, and the hospital's policy. The CDC recommends the use of a central catheter-associated bloodstream infection (CLABSI) bundle that includes catheter cart, standardized checklist, staff education, and nurses' empowerment to stop the procedure if the sterile field has been broken. Tele-ICU nurses provide monthly training for incoming residents including a PowerPoint presentation and a simulation on sterile procedure. Fellows teach the hands-on catheter insertion segment. The tele-ICU monitors all central catheter insertions, providing real-time feedback concerning breach in sterile field and adherence to practice

guidelines. Staff nurses at the bedside are involved in a culture change that provides the safest insertion practices for patients, including the empowerment to stop a procedure if the sterile field has been breached. Nurses are educated to collaborate with physicians concerning continued need for the catheter and to provide daily assessment and catheter care. **Evaluation/Outcomes:** Since the implementation of monthly CLABSI training in September 2012, 73 residents and 4 fellows have been trained. A total of 253 catheters have been monitored. Central catheter infection rates in both the medical and surgical ICUs have been 0 for 12 months. Residents and nurses alike are confident in following the guidelines. Tele-ICU nurses are available to assist residents with hemodynamic monitoring, review of laboratory tests, calling the bedside nurse for supplies, and ordering chest radiographs for placement confirmation.

EB120 Stepping Forward by Creating a Unit Resource Library to Promote Education, Professionalism, and Certification

Deborah Giblin-Barber, Ruth Salathe, Donnatilda Tabana; Jackson Health System, Miami, FL

Purpose: To step forward and promote professionalism, education, and certification on a neuroscience intensive care unit, a unit resource library was created. Growing evidence links improved outcomes for patients and increased nurses' personal and professional satisfaction with certified nursing practice. The staff would have free, easy access to all resources within the library. By promoting high standards of professional practice, our aim is to better serve our patients. **Description:** AACN's Create a Culture of Certification and the AACN Ambassadors Best Practices site were used as guides to create a resource library. To ensure that the library reflects the needs of the neuroscience intensive care unit staff, a library survey was conducted. Once the needs of the staff were isolated, a book drive was launched for the unit. E-mails and flyers were sent to everyone. We were able to stock the library with many donated and loaned books, journals, CDs, and DVDs. Titles such as *AACN Handbook for Critical Care*, *AACN Certification and Core Review for High Acuity and Critical Care*, and *CNRN Neuroscience Nursing Pocket Study Guide* were now part of our library. Because certification review materials were the most requested from the staff, a fundraiser was conducted. The funds raised allowed us to purchase more resources and a cabinet to

house the actual library. Guidelines specifying how long resources would be loaned, how the library would be organized, and who would be responsible for maintaining the library were developed. The staff then did an in-service training on the use of the library once it was completed. Administrators were extremely supportive and encouraging during the entire process. Both administrators and staff were very receptive. **Evaluation/Outcomes:** The neuroscience resource library is considered to be a success in both tangible and intangible ways. One measurable outcome was the number of new certifications obtained by staff. Fifty percent of the staff who used the library had successfully achieved certification. Membership in professional associations such as AACN and AANN also increased. A number of staff members also became active participants in the local Greater Miami Area chapter of AACN. Employees have also used the library to expand their knowledge base outside of seeking certification. Our library continually seeks to foster the goals of promoting professionalism, certification, and education.

EB121 Implementation of Continuous ST-Segment Monitoring and Mapping Using the EASI 12-Lead System

Lisa Job, Denise Ernst; Saint Francis Medical Center, Cape Girardeau, MO

Purpose: To implement continuous ST-segment monitoring and mapping using the EASI 12-lead system in the cardiac intensive care unit (CICU). The goal was to identify early myocardial ischemia, particularly in the absence of symptoms. Rapid identification would further prompt earlier interventions to increase chances for maintaining viable myocardial tissue. **Description:** Research has shown continuous ST-segment monitoring would provide additional data to supplement a patient's risk factors, cardiac biomarkers, and clinical assessment, broadening the picture of whether ischemia is present, worsening, or resolving. In July 2011, the Heart and Cancer Center at Saint Francis Medical Center was opened and expanded to include a dedicated 10-bed CICU. This unit included new bedside monitors, capable of providing continuous ST-segment monitoring and mapping using the EASI 12-lead system. A new policy and procedure, Continuous ST-Segment Monitoring and ST Mapping, was developed. The procedure included identification of appropriate patients by using class I, II, and III criteria, skin preparation and lead site placement, application for the bedside monitor, alarm response, and documentation and trending.

The policy was approved in April 2012. A comprehensive education plan was developed for staff, including a return demonstration regarding lead placement and application for the monitor. On June 1, 2012, after all staff had completed the education and demonstrated competency, continuous ST-segment monitoring and mapping was implemented. **Evaluation/Outcomes:** Continuous ST-segment monitoring and mapping has become the standard of practice and an invaluable monitoring tool in the CICU. After 3 months, data revealed that 120 patients met criteria for ST-segment monitoring and mapping. Early ischemic changes were identified in multiple patient conditions: ST elevation myocardial infarction (STEMI; n = 2), non-STEMI (n = 2), mechanical ventilator weaning (n = 2), postcardiac surgery pericarditis (n = 3), and during vasopressor and inotrope titration (n = 3). All physicians supported the continuous ST-segment monitoring and mapping using the EASI 12-lead system and further recommended it for implementation on the progressive care unit.

EB122 Use of Turn and Position Device to Prevent Pressure Ulcers in Cardiovascular Surgical Intensive Care Patients

Mary Luetgen, Rachel Loberg, Kathleen Nelson; Aurora St Luke's Medical Center, Milwaukee, WI

Purpose: Hospital-acquired pressure ulcers in critical care patients have dramatic consequences that affect both patients and health care costs. Prevention strategies such as turning a cardiac surgery patient can be challenging because of prolonged duration in surgery and hemodynamic instability. A protocol was developed with predictors of pressure ulcer risk to enable early prevention, identification, and implementation of a turn and position (TAP) device. **Description:** Critically ill patients show highest prevalence rates of hospital-acquired pressure ulcers (14%-42%) and are associated with adverse outcomes with higher patient cost. Predictors of risk in critical care patients include age, length of stay, mobility, friction/shear, norepinephrine infusion, and cardiovascular disease. Recent studies show treatment cost for pressure ulcers to be approximately \$2000 for stage I/II and \$43 180 for stage III/IV with no reimbursement. The sacral region is the most common location on the body for development of a pressure ulcer. Use of a glide transfer device to reduce effects of friction/shear is supported to maintain skin integrity. The pressure ulcer prevalence

rate in the unit soared to 16%. It was on this premise that a team of nurses from critical care and wound care developed a plan to identify high-risk patients and prevent pressure ulcers. Two interventions were developed. First, the team developed a protocol to support caregivers in assessing predictors of pressure ulcers to trigger use of the TAP device. Second, training sessions were conducted with staff to implement the use of the protocol and the TAP device. **Evaluation/Outcomes:** This evidence-based initiative is designed to improve early detection of risk and prevent pressure ulcers in cardiac surgery patients, which improves patient recovery, decreases cost, and shortens length of stay. Metrics include monitoring length of stay, use of the TAP protocol, and pressure ulcer prevalence. Quarterly pressure ulcer prevalence rates show a decrease to 5.5% after TAP protocol implementation with 100% reduction in pressure ulcers in patients who used the TAP. Patients using the TAP device incurred no pressure ulcer treatment costs in comparison with pretrial patients. Tap device cost was \$2543. Overall projected cost savings for pressure ulcer treatment was \$54637.

EB123 Mobilizing Patients With a Percutaneously Inserted Axillary Intra-aortic Balloon Pump Before Heart Transplant

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Purpose: Mobilizing patients before heart transplant with the traditional femoral intra-aortic balloon pump (IABP) has always been a challenge. Patients with femoral IABP stay on bed rest for an undetermined length of time, resulting in a deconditioned state. Complications such as catheter infection and limb ischemia are seen in femoral IABP. Percutaneously inserted axillary intra-aortic balloon pumps (PAIABPs) inserted at our institution enable these patients to mobilize while waiting for a donor heart. **Description:** A cardiologist developed the PAIABP for pretransplant patients in our institution. Compared with the traditional femoral insertion, which necessitates prolonged bed rest while waiting for a heart, this new procedure allows patients to mobilize. Early mobility in the intensive care unit (ICU) could minimize loss of functional abilities and thereby shorten hospital stay. The IABP is inserted percutaneously in the catheterization laboratory via the left axillary artery. Patients (17 males, 3 females) were initially evaluated for mobility by a physical therapist 1 day after IABP insertion. Nurses take over mobilizing

patients afterward, with activities like dangling the legs, sitting in a chair, and walking around the room, to the bathroom, and in the hallways depending on the patient's condition. Unique problems encountered in patient care are (1) nursing reluctance to deviate from traditional IABP bed rest patient care, (2) patients having numbness and pain in the left arm, (3) time and manpower constraints, (4) incidence of ruptured balloon and kinked catheter. This new procedure has challenged nurses in the coronary care ICU into thinking outside the box by developing new protocols and innovations in patient care in response to the unique problems encountered. **Evaluation/Outcomes:** On average, PAIABP support lasted 14 days. Patients were mobilized 2 days after insertion of PAIABP, averaging 3 times a day. Progressive increase in distance walked/time sitting up were observed in most patients. In addition, no incidence of catheter infection or limb ischemia was noted in these patients.

EB124 Implementation of a Standard Protocol for Resuscitation of Cardiac Surgery Patients

Myra Ellis, Lynn McGugan, Jill Engel, Kelly Spillane; Duke University Hospital, Durham, NC

Purpose: Our 20-bed cardiothoracic intensive care unit (CTICU) in a tertiary care center had equipment for emergency re sternotomy, but lacked a standard protocol for how or when to use the equipment or training of nurses and advanced practice providers. Staff reported feeling unprepared and disorganized in attempting to contribute to the resuscitation efforts during open chest codes. In order to address these issues, a standardized protocol was instituted for resuscitation and emergency re sternotomy in cardiothoracic patients in the ICU.

Description: Many of the conditions leading to cardiac arrest in cardiothoracic surgery (CTS) patients are treated best by emergency re sternotomy. Current Adult Cardiac Life Support (ACLS) guidelines do not adequately address the resuscitation needs of patients after cardiac surgery, leaving a practice gap for a standard protocol. In 2009, the European Association for Cardio-Thoracic Surgery (EACTS) endorsed a protocol for cardiac arrest management in CTS patients (CSU-ALS). The core of the protocol is early initiation of effective resuscitation, skilled personnel, and specialist equipment including sterile chest opening. In addition, the protocol maximizes the quick use of defibrillations and epicardial pacing, possibly avoiding potentially harmful effects of external compressions on a

fresh sternotomy. After collaborative review and receiving clinical and administrative approval, the CTS team created and implemented a comprehensive plan for multidisciplinary education. The education of the protocol for nurses and advanced practice providers consisted of an 8-hour day of lectures, problem-based learning, return demonstration, and simulation. Respiratory therapists and residents were given an overview of the protocol. Use of the new protocol began in February 2011. **Evaluation/Outcomes:** The code survival to discharge rates before and after implementation of the new protocol are similar, although immediate code survival rates are slightly higher. Importantly, 3 of 9 ventricular fibrillation arrests were corrected with 1 or 2 defibrillations only, preventing the possible untoward consequences of compressions on a fresh sternotomy. Implementation of this protocol has helped organize open chest codes and establish standard roles for each participant. Time to chest reopening has improved with a mean time of 15.5 minutes in the first year and 8.6 minutes in the first 6 months of the second year. Staff debriefing after a code indicates improved organization and comfort among the staff.

EB125 Operation ZERO! Our Journey to Eliminating Hospital-Acquired Infections

Sandra Simmons, Jeanette Oakley, Karen Bono, Janet Stedcke; HealthPark Medical Center–Lee Memorial Health System, Fort Myers, FL

Purpose: The culture of the HealthPark Medical Center (HPMC) intensive care units (ICUs), in relation to hospital-acquired infections (HAIs), was one of expectation and acceptance. From 2005 through 2008, our ICUs as a whole, which included medical, open heart, and surgical ICUs, averaged 9 to 14 cases of ventilator-associated pneumonia (VAP), 5 to 9 central catheter-associated bloodstream infections (CLBSIs), and 25 to 45 catheter-associated urinary tract infections (CAUTIs) per year. Multidisciplinary ICU staff were often heard justifying why patients acquired infections, and there was no sense of urgency about prevention. Something had to be done to decrease and eliminate HAIs! **Description:** The HPMC's overall HAI rates per 1000 device days from January 2005 through December 2008 were 2.59 VAPs, 2.21 CLBSIs, and 5.78 CAUTIs. These rates led us to embark on our Operation ZERO journey in order to eliminate HAIs. The ICU leadership team collaborated with the ICU Quality Council, made up of front-line staff nurses and certified

nursing assistants, to strategize for transformation to a culture of safety. This culture of safety included implementation of evidence-based practice bundles, a system-wide initiative to improve hand hygiene compliance from a mean of 40% to a goal of 90%, real-time review of all suspected and confirmed HAIs by members at all levels of the multidisciplinary team so that we could learn from each event, and continuous monitoring and communication of HAI results to all staff in an effort to maintain awareness. Stretches of time without an HAI were celebrated in order to provide positive reinforcement. Multidisciplinary rounds were improved to allow patient and family participation. This change allowed education of patients and families to stop a caregiver who is not following a bundle element, and provided a forum to express concern if, for example, a central catheter insertion site showed signs of infection. A transparent and safe culture was created. **Evaluation/Outcomes:** As a result of Operation ZERO, the HPMC ICUs have seen a significant decrease in HAIs. Today, our medical ICU has been 4.8 years without a VAP and 4.2 years without a CLBSI. Our surgical ICU has gone 4.6 years without a VAP and 1.7 years without a CLBSI. Our open heart ICU was recognized with a national award by the Department of Health and Human Services in 2011 for sustaining 0 CLBSIs for 3 years. This same open heart ICU has not had a VAP or a CAUTI in more than 1.5 years. In November 2009, we opened a neurological ICU and in 3.9 years, this unit has never had a VAP or a CLBSI. Most importantly, when an HAI occurs in any unit, EVERYONE wants to know why and learn from the event. HAIs now lead to a sense of urgency among all!

EB126 Impact of Research Training Program on Nursing Practice in a Community Hospital

Tykeysha Thomas, Lorraine Evangelista; Hoag Hospital, Newport Beach, CA

Purpose: Although ample research shows that programs to engage nurses in evidence-based practice (EBP) promote clinical inquiry, data on the impact of these training programs on an organization's EBP culture are limited. This project was designed to assess the impact of the Translating Research into Practice (TRIP) program and active endorsement, accountability, and role modeling on nurses' attitudes toward research and EBP and nurses' perceived barriers toward embracing EBP in daily practice. **Description:** One of the components of the

TRIP Program is the TRIP fellowship, a series of workshops developed to prepare clinical nurses to identify unit-based practice issues amenable to evidence-based performance improvement and guide them as they plan, implement, and evaluate clinically focused TRIP projects. The sequence of the workshops systematically guides the TRIP fellow through the process of developing and completing an EBP innovation and includes (1) framing the problem, (2) compiling and appraising relevant literature, (3) determining the gap between current practice and the identified best practice, (4) formulating an appropriate clinical change in practice, and (5) conducting a pilot study on the unit to evaluate the feasibility of adopting the change in clinical practice. A unique feature of our program was promoting active endorsement, accountability, and role modeling of the TRIP fellows; fellows were groomed to be the EBP champions and to lead their unit-based council in promoting a spirit of inquiry with the overall goal of building a culture of clinical inquiry and continual learning. Data related to nurses' attitudes before and 2 years after the implementation of the TRIP program were collected through a brief survey. **Evaluation/Outcomes:** To date, 15 nurses completed the TRIP program and have established an informal leadership role within their units. Survey data collected before ($n = 248$) and after ($n = 140$) the TRIP program was established showed that nurses' perceptions that research should guide practice, nurses should have the opportunity to engage in research, evidence should be used as a foundation for practice, and the use of best evidence will improve quality of patient care, improved significantly over time ($P < .001$). Common barriers to adoption of EBP were lack of time to search for research and implement change, lack of access to research reports, and lack of confidence in understanding the evidence.

EB127 Moral Distress: A Lesson for Advocacy in the Heat of the Moment

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Purpose: Patient advocacy is both an ethical and legal obligation in nursing practice. Advocating for patients' dignity, rights, values, and beliefs is a clear expectation in the American Nurses Association's Code of Ethics for Nurses. Nurses experience moral distress when they encounter barriers to their attempts to advocate for their

patients. Learning from experience, using available resources, and sharing lessons learned with colleagues transformed a team of nurses' moral distress into exemplary professional practice. **Description:** After a morally distressing experience related to an emergency situation, this team of nurses reached out for support from their nursing leaders. Subsequent strategies used were additional emotional support, debriefing the impact of the critical event and its complexities, a retrospective clinical ethics consultation, a unit-based in-service training session, and a house-wide presentation to colleagues on the lessons learned. Both presentations used their case to illustrate the challenges nurses face in advocating for their patients in emergency situations. The objectives of the presentations were to discuss the nurses' role in clarifying patients' preferences, explore challenges to patient advocacy in an emergency situation, and identify resources in support of patient and nurse advocacy. The identification of moral distress as well as the provision of education and tools to address and manage moral distress in the work environment is imperative and will lead to essential improvements in patient care and outcomes (AACN Policy Statement). It is necessary to find ways to respond constructively to experiences of moral distress so that we can mitigate the detrimental effects of moral distress, such as detachment, emotional upset, and burnout.

Evaluation/Outcomes: This team of nurses expressed relief, gratitude, and a decrease in their distress (regret, guilt, sadness) by using the support of each other, their leaders, and other institutional resources. Their moral distress was transformed into exemplary professional practice when they were empowered to use their experiences and lessons learned to enhance other colleagues' ability to advocate more effectively in similar emergency situations. Given the nature of professional practice, we may not be able to avoid ethical challenges; however, we can learn to address moral distress, which will be beneficial to others.

EB128 Team Approach for Inpatient Chest Pain Alert Protocol Leads to Successful Outcomes

Kathleen Kamba, Frances Flynn, Laura Raczkowski; Advocate Christ Medical Center, Oak Lawn, IL

Purpose: The American Heart Association's "Mission Lifeline" drove hospitals to analyze in-house processes and outcomes to improve door to dilation times for acute ST-segment elevation myocardial infarction (STEMI).

The goal of this project was to rapidly rule out STEMI inpatients who exhibit chest pain or signs and symptoms of cardiac ischemia and develop an evidence-based approach to improve outcomes. **Description:** Studies show that STEMI inpatients had longer door to dilation times, longer stays, and greater 1-year mortality rates than did patients who presented to the emergency department. A retrospective review of our cases showed a delay to reperfusion. An intraprofessional team implemented a comprehensive protocol and education including stat electrocardiography (ECG) within 5 minutes, chest pain evaluation, expert ECG interpretation, and activation of a STEMI alert team. Implementation and recurrent education occurred for 14 months. Outcome measures included amount of time from ECG to dilation, with a goal of 90 minutes. **Evaluation/Outcomes:** The median time decreased from 214 minutes to 74 minutes for ECG to dilation from before to after the chest pain alert program (CPAP). The volume of CPAP calls also decreased from 250 in the fourth quarter of 2011 to 127 in the first quarter of 2013, indicating improvement in clinical assessment of cardiac ischemia. Using a dedicated team to evaluate and facilitate acute coronary ischemia along with multidisciplinary approach for education improved patient's ECG to dilation outcomes. Bedside nurses are the front-line responders for CPAP; their astute assessment and initiation of the chest pain alert have been key to its success.

EB129 Use of Chlorhexidine Gluconate to Bathe Patients in Intensive Care Units

Deborah Kohm, Casey Thompson, Rayna Sloane, Melissa Cicone, Chris Tran, Jody Runge, Heather Przybyl; Banner Good Samaritan Medical Center, Phoenix, AZ

Purpose: A 650-bed academic and level 1 trauma center struggling to reduce the number of central catheter-associated bloodstream infections (CLABSI) implemented an evidence-based practice (EBP) project to assess the effectiveness of chlorhexidine gluconate (CHG) baths in the intensive care unit (ICU). The PICOT question: "in adult ICU patients, how does having a standardized bathing protocol with CHG, compared with current ICU bathing practices with soap and water, affect overall CLABSI rates?" guided the project. **Description:** A comprehensive literature review was performed; evidence demonstrated that daily CHG baths reduced CLABSI rates by >60% in some cases. In 2011, the Centers for

Disease Control and Prevention recommended that a supplemental 2% CHG bath daily may assist in the prevention of CLABSI. A CHG bath protocol for ICU patients with a central catheter was developed on the basis of current literature. Staff education was led by team champions, including educating on the bath protocol, changing practice, designating a bath basin strictly for bathing purposes, and measuring outcomes. Survey data to assess current bathing process, product satisfaction, and nursing satisfaction were measured in addition to process measures of bottles of CHG per catheter days and monitoring the facility's CLABSI rates. CLABSI rates per ICU service catheter were measured before and after CHG bath implementation. **Evaluation/Outcomes:** Measured outcomes of the CHG bath protocol were mixed; however, positive findings and invaluable lessons learned translated into hospital and system-wide implementation of the project. The neurological and medical-surgical ICU (of 4 ICUs) demonstrated a reduction in CLABSI rates (from 1.33 infections per 1000 catheter days to 0 and from 1.1 infections per 1000 catheter days to 0.77, respectively) before and after project implementation. The trauma ICU maintained a 0 infection rate, and the infection rate in the cardiovascular ICU increased from 0 to 2.72 per 1000 catheter days for the 3-month measurement period. Strategies for continued reduction were discussed, and a system-wide CHG bath protocol was implemented.

EB130 Stepping Forward Together: Creating a Culture of Membership and Certification

Rosemary Olivier; St Jude Medical Center, Fullerton, CA

Purpose: According to a recent study, for every 10% increase in baccalaureate nurses with AACN certifications, there is an associated 2% decrease in 30-day mortality rate for patients. However, in many critical care units (CCUs) across the country, certification rates remain low. In 2009, a team was formed to increase certification and rates of AACN membership in a Southern California CCU. For the past 5 years, it has been this team's goal to increase and sustain high certification and membership rates. **Description:** A literature search was conducted to find an evidence-based solution in order to increase and sustain high rates of membership in and certification by AACN. To increase membership in the CCU, we held membership drives biannually for AACN and annually for the local chapter of AACN. Membership drives effectively encourage and engage staff nurses to become members

of professional organizations, take specialty certification review classes, read professional journals, attend the AACN's National Teaching Institute (NTI), and network with other critical care nurses. An AACN bulletin board in the nurses' lounge was created. Information about AACN, membership forms, member benefits, and upcoming review certification classes were posted. A section in the unit's website was created to provide links to the AACN website and other professional organizations. Staff members were encouraged to take review classes and the certification tests. Certified nurses also provided support to nurses who were interested in taking the national certification tests. Above all, the leadership team provided financial support in sending nurses to the NTI. All of these initiatives were successful in increasing the number of AACN and local chapter memberships, and, most importantly, the number of certified nurses. **Evaluation/Outcomes:** From 2009 to 2013, the amount of nurses with AACN memberships in the CCU more than doubled from 32% to 73%. In addition, the number of nurses who were members of our local AACN chapter increased 6-fold from 4% to 24%. The number of staff with AACN certifications has also increased by 21%. Increasing and maintaining a high level of nurse certification in the CCU has improved patient care and job satisfaction. Certified nurses in our unit are now stepping forward together using evidence-based practice, patient-centered care, and interprofessional collaboration to make a positive impact on high-quality and cost-effective care.

EB131 Continuous Lateral Rotation Therapy: Creation and Implementation of a Clinical Practice Protocol

Rosemary Olivier; St Jude Medical Center, Fullerton, CA

Purpose: In my 20-bed critical care unit (CCU), continuous lateral rotation therapy (CLRT) was not always used correctly. No clinical practice guideline for CLRT existed in 2011. This, coupled with the fear that nurses had related to the development of sacral pressure ulcers, caused this crucial pulmonary therapy to be rarely used. I conducted a literature search and created a clinical practice guideline in 2011. By creating a protocol and collecting data from 675 charts, I was able to empirically show the vital importance of using CLRT. **Description:** To increase the number of patients who received CLRT, each patient admitted to my CCU who was at risk for development of pulmonary complications was evaluated for

CLRT use. Patients identified as being at high risk for pulmonary complications were screened daily by using a hypoxemic score. If their ratio of PaO_2 to fraction of inspired oxygen (P/F ratio) was <300 and they fit all of the inclusion criteria, CLRT was initiated. According to Leslie Swadener-Culpepper, CLRT significantly improves pulmonary outcome indicators when implemented swiftly and properly. To study the effects of CLRT, I collected data for 83 patients treated with CLRT. The variables evaluated were age, length of stay, diagnosis, outcome, P/F ratio before CLRT, and P/F ratio after CLRT. After 18 months of data collection, I compared 66 patients who did not use CLRT with 66 patients who did. I controlled for age by matching the ages of patients who used CLRT with the ages of patients who did not. Almost all of the patients compared were the exact same age, although a few differed by no more than 3 years. In addition, 9 separate diagnoses were also separated and controlled for. After my results were compared, it was immediately evident that CLRT was invaluable. **Evaluation/Outcomes:** After a clinical practice guideline for CLRT was created in 2011, none of the patients using CLRT had new sacral pressure ulcers develop. The mean length of stay of patients with pneumonia who used CLRT was 16.96 days, for those who did not it was 25.24 days. For every category compared, except 1, the length of stay was lower for CLRT patients than for patients not using CLRT. And, from my data, I can extrapolate that the longer stays for CLRT patients are associated with the much lower mortality rate that they experienced. In addition, only 20% of patients with cardiac arrest who used CLRT died whereas 50% of the patients who did not use CLRT died.

CH132 A Chapters' Role in Promoting Certification

Deborah Hurley; Greater Rochester Area Finger Lakes Chapter, Rochester, NY

Purpose: To promote certification within the chapter and to increase the number of certified nurses throughout our critical care community. **Description:** The Greater Rochester Area Finger Lakes Chapter launched a Dare To Get Certified Campaign. This campaign included the coordination of a bulk exam registration, a review class, and a monetary incentive to new and existing members. Members who signed up for the exam and attended the review class received a rebate from the chapter. Certified members who encouraged noncertified nurses to sign up were eligible to win a gift card. **Evaluation/Outcomes:**

The bulk exam registration yielded 15 nurses. Three registrants did not attend the review class and planned on studying independently. To date only 1 of those 3 has obtained certification. Twenty-two nurses attended the review class. Eleven of the attendants had registered for the exam before attending class with the bulk registration. They had a 100% success rate for obtaining certification. Of the remaining 11 people who attended the class but did not commit to taking the exam with the bulk registration, only 1 has obtained certification. Coordinating bulk exam registration before a review class is a successful strategy to promote certification.

CH133 Paying It Forward: Serving Our GMAC Community

Joan Baker; Greater Miami Area Chapter, Miami, FL

Purpose: The Greater Miami Area Chapter (GMAC) sought ways to contribute to the community's well-being and asked, "How can we serve our community in a meaningful way?" We embraced the challenge to step forward!

Description: The GMAC aligns itself with AACN's vision to create a health care system driven by the needs of patients and families in which acute and critical care nurses make their optimal contribution. Caring for the community is an integral step of our annual strategic plan because patients and their families rely on nurses at the most vulnerable times of their lives. In our summer board meeting, we brainstormed ideas that we thought would benefit the community at large. We considered activities such as Back to School Supplies Drive, serving meals at Homestead Soup Kitchen, conducting CPR for Friends and Families, and establishing a Christmas Toy Drive. Participating in the Susan G Komen Breast Cancer Walk would allow us to show solidarity and contribute money to research for this deadly disease that affects many lives, even those of our very own chapter members. Another focus was to collect health supplies for individuals of third-world countries through a Missionaries of the Poor health supply drive. We also thought an Easter extravaganza would bring some cheer to residents of Ronald McDonald House, which is a home away from home for sick children and their families. **Evaluation/Outcomes:** The GMAC stepped forward and met our community goals. Our members donated numerous hours by providing health education and health supplies. A local school located in a low socioeconomic neighborhood received school supplies. We assisted in cooking

and serving a meal for the homeless. Sick children awaiting treatment at Ronald McDonald House were treated to story telling, Easter baskets, and a visit from the Easter bunny. We taught teenagers and their parents how to save a life by learning Adult and Child CPR and successfully completed a toy drive for underprivileged children, and we raised funds for breast cancer research. Our volunteers were satisfied that our Chapter was paying it forward.

CH134 Assessing Perceptions and Barriers to Nursing Certification

Joy Fumera; Kaiser Permanente, Irvine, CA

Purpose: Nursing certification validates clinical expertise and is often equated with expert, high-quality nursing care, yet many nurses do not hold a specialty certification. Currently there are 500 000 nurses who hold specialty certification from a nationwide survey of 2.9 million registered nurses (RNs). Understanding the nurses' perceptions about nursing certification and assessing the barriers preventing them from obtaining certification is a strategy that the Greater Long Beach Orange County (GLBOC) Chapter has undertaken.

Description: Institutional reviewboard (IRB)-approved descriptive surveys were distributed among RNs from a local chapter of a nursing organization in Orange County. Distribution of the 2 questionnaires occurred during the monthly journal program of the GLBOC Chapter. The first questionnaire is the Perceived Value of Certification Tool, which focuses on the nurses' perceptions of certification. The second questionnaire is the Perceived Barriers Survey, which addresses the barriers that prevent nurses from obtaining certification. All RNs who are members of the GLBOC Chapter of AACN were invited to participate and offered a questionnaire. AACN members who did not possess an RN license, such as students and those who are in the allied health field, were excluded from participation. The resulting demographic data painted the age and educational achievements as well as length of nursing experience of the chapter members. The results were compiled and ranked according to how the respondents indicated the importance of factors that prevented them from obtaining nursing certification. **Evaluation/Outcomes:** Evidence highlights the positive impact of nursing certification to the nurse, the profession, and the public. As a result of this study, the Chapter was able to compile a database of its members with significant demographics including age and educational degrees. The top

5 reasons for not obtaining certification included no time to study, high initial cost, no monetary incentive and no reimbursement, felt certification was unnecessary, and fear of failing the test. Understanding the barriers to nursing certification is important so that strategies are put in place to find solutions and increase the number of certified RNs.

CH135 Reaching Beyond: Mile High Service to Community

Theresa Nino, Jan Smith, Jama Goers, Mary Potter, Janna Petrie; Denver Chapter “Nurses With Altitude,” Denver, CO

Purpose: The Denver Chapter “reaches beyond” to fulfill the AACN mission. With “intention,” a confident evaluation revealed the need to serve community. Steps were taken to enhance our community participation through service. A service coordinator would be appointed to help plan events. Members interest was evaluated and the chapter worked to enhance our presence in community through service actions. Community service can help to maintain a legacy that promotes teamwork and valuable service to community. **Description:** The essence of nursing is caring. With the 2009 “Act With Intention” message, our chapter confidently added service to our work. First we appointed a community service coordinator. Next, Project CURE was chosen as our target organization and a relationship was established. We scheduled all 2009-2010 meetings at the Project CURE building. The chapter stayed 2 hours after each meeting to volunteer. Project CURE is the world’s largest distributor of donated medical supplies to areas of need worldwide. Our volunteers sort and package medical supplies for delivery. 2010-2013: Project CURE service continues as a yearly activity and the chapter is able to “Stand Tall” in pride that “Together” we could offer service to others. In 2012 we “Dared to” add a second service event to our calendar. The chapter prepared and served breakfast at The Gathering Place to more than 150 women and children. The Gathering Place is Denver’s only daytime drop-in center for women, children, and transgender individuals who find themselves homeless and in desperate need. Our Project CURE Community Service Night is in its 5th year and The Gathering Place is now scheduled for the second year. Reaching beyond, we are able serve our community and those in need. **Evaluation/Outcomes:** Success of our service activities is measured by our commitment

and growth of events. The community service coordinator remains a position on our board. Additionally, in the 2013 Member Needs Survey, a majority responded with positive interest to participation in service. The Project CURE event draws nurses to meetings and service that touches needs as far as Africa. The Gathering Place continues based on requests to make an impact close to home. Our service commitment has brought new members and a renewed sense of caring and worth to our events. Our service represents the qualities of our committed Denver AACN nurses who provide care for critically ill patients, their families, and communities. **CCN**