Quality & Safety Summit Abstract Submission Form

Presenter
Ahmed Elsayed

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Maria

Department
Tirona

Key Participant 2

Name

Department

Abstract

Title
Patients' perception of palliative treatment objectives

Objective
Palliative chemotherapy and radiation are often used in patients with advanced stage of cancer. To weigh the risks and the benefits of this treatment, patients need to be adequately informed about all treatment aspects including the side effects and potential benefits. Unfortunately, many patients are not well informed about the goal of their treatment, and many are under the impression that this treatment can be curative. The objective of this project is to examine patients' perception of their treatment goal and their satisfaction with the treatment at our local cancer center.

Methods
This is a prospective study that has thus far enrolled 50 patients with stage IV disease of solid malignancies, who are being treated with palliative intent at the Edwards Comprehensive Cancer Center in Huntington, WV. Patients were given a questionnaire designed to test their level of knowledge of their current treatment goals, and to evaluate the efforts of the health care team to educate patients.

Results
35 % of patients had lung cancer, 34% had GI cancer, 14% had breast cancer and 13% had GU cancers. 18 patients (36%) were under the impression that they are receiving curative treatment, 16 patients (32 %) were not sure about the goals of the treatment, and only 16 patients (32%) understood that the treatment was not curative. material about their disease, yet only 38% of patients knew the meaning of the word palliative and only 44 % of patients had their resuscitation status addressed at the time of survey.
Most of the patients were satisfied with their chemotherapy treatment, and with the duration of the encounter with the treating provider.
91.8% of the patients chose personal communication with the physician as their preferred method of getting educated about their disease.

Conclusion
Our data shows that most of the patients at our local cancer center who are actively receiving treatment with palliative intent are satisfied with amount of time spent with physician and have received written

educational material. Despite these efforts, a majority of patients are still not clear on the treatment goal. Most patients chose personal discussion as the preferred method of education. Physicians on staff were informed of these results and currently emphasis treatment goals when discussing future plans with the patients.

Quality & Safety Summit Abstract Submission Form

Presenter
Rebecca Hayes, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Joseph Evans, MD

Department
Pediatrics

Key Participant 2

Name
Jennifer Gerlach, MD

Department
Pediatrics

Key Participant 3

Name
Jessie Shields, MD

Department
Pediatrics

Abstract

Title
Physicians' Antibiotic Prescribing Rates for Respiratory Tract Infections In A Private and Urgent Care Setting

Objective
Studies have shown that inappropriate use of antibiotics has contributed to antibacterial resistance, adverse effects, and has placed an unnecessary financial burden on patients and the healthcare system. This problem is particularly prevalent in the pediatric population. The literature shows that approximately 27.4% of respiratory tract infections are bacterial and warrant antibiotics, however antibiotics are given twice as often as expected in outpatient visits. This quality improvement project aims to identify the rates of antibiotic prescribing in Marshall Pediatric's private clinics and the NowCare as well as introduce interventions to decrease inappropriate prescribing practices.

Methods
Charts were reviewed of pediatricians who did both private clinic and NowCare for sick visits (100 charts/setting for 12 physicians). Target words (cough, nasal congestion, fever, earache, sore throat) in the HPI prompted the recording of data. Antibiotic prescriptions and their appropriateness were documented. The first quality improvement intervention was the presentation of the data and education on antibiotic stewardship at the Department of Pediatrics weekly grand rounds which occurred October, 2016. The second quality improvement intervention will be the generation of "report cards" to individual physicians on their prescribing practices.

Results
There was no significant difference between the amount of antibiotic prescriptions given for respiratory tract infections in a private setting vs. NowCare (581 vs. 582). The overall prescribing rates were similar to national averages, which is twice the amount of antibiotics indicated for bacterial upper respiratory tract

infections. To date, we have implemented the first of our quality improvement interventions, the presentation of data and education to faculty at grand rounds.

Conclusion

Peer comparison and education with audit are techniques that have been shown to improve antibiotic prescribing practices in the literature. We have collected our baseline data and started the process of quality improvement cycles to decrease inappropriate antibiotic prescriptions.

Quality & Safety Summit Abstract Submission Form

Presenter
Daniel Kahn

Institution
MUSOM

Role
Medical Student

Team Info

Key Participant 1

Name
Milad Modaressi MD

Department
Marshall Orthopaedics

Key Participant 2

Name
Dr. Franklin Shuler MD PhD

Department
Marshall Orthopaedics

Key Participant 3

Name
Richard Boe MD

Department
Marshall Orthopaedics

Key Participant 4

Name
Daniel Kahn

Department
JCESOM

Abstract

Title
"Trauma Team Activation for Geriatric Trauma at Level II Trauma Center: Are the Elderly Under-triaged?"

Objective
Geriatric patients often sustain life-threatening injuries from minor trauma. A growing body of research suggests that these patients are often under-triaged in the emergency setting. The purpose of this research was to evaluate whether or not geriatric trauma patients are under-triaged at a community based level II trauma center.

Methods
1434 trauma patients over the age of 65 presenting from 2010-2015 were retrospectively reviewed from the Cabell Huntington Hospital trauma registry and analyzed for age, gender, arrival type, ED response, Glasgow Coma Scale (GCS), Injury Severity Score (ISS), injury cause, ICD-9 diagnosis codes, and mortality. Under-triage and over-triage rates were determined using the Cribari method (under-triage = ISS ≥ 16 without full trauma team activation [TTA]; over-triage = ISS ≤ 15 with full TTA).

Results
The under-triage rate was 9.5% (132/1393) with the majority of under-triaged patients having head trauma (n=423). There were 371 head trauma patients with a recorded GCS and analysis shows those with a GCS ≥ 13 had a 1.2% mortality risk (n=326; ISS 10.2), but that risk drastically increases to 60% with GCS ≤ 12 (n=45; ISS 21.5). Of the 45 patients with GCS ≤ 12, only 4% had priority 1 TTA using the current

protocol (2/45).

Conclusion

The American College of Surgeons-Committee of Trauma (ACS-COT) recommends an acceptable under-triage rate of < 5%. In order to improve geriatric care and reduce under-triage rates, we recommend that an age-based criteria be added to our TTA protocol at our community based Level II trauma center: priority 1 TTA for all patients 65 years or older sustaining head trauma with a GCS ≤ 12 or suspicion of intracranial hemorrhage.

Quality & Safety Summit Abstract Submission Form

Presenter
Eric Arguelles, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Warren Doyle, MD

Department
MUSOM

Key Participant 2

Name
Charles E. Meadows III, MD

Department
Internal Medicine

Key Participant 3

Name
Ellen A. Thompson, MD

Department
Cardiology

Key Participant 4

Name
Paulette S. Wehner, MD

Department
Cardiology

Abstract

Title
Utilization of radionuclide myocardial perfusion imaging for the evaluation of chest pain in a population of the state of West Virginia: assessment with the ACCF/AHA/ASE/ASNC/HFSA/HRS/SCAI/SCCT/SCMR/STS 2013 Multimodality Appropriate Use Criteria for the Detection and Risk Assessment of Stable Ischemic Heart Disease.

Objective
We sought to evaluate physicians' use of CRI according to the updated AUC in order to determine utilization patterns of myocardial perfusion imaging for the evaluation of non acute chest pain/angina equivalent in a outpatient cohort of patients in Huntington, WV. We expected to prove that percentage of appropriate RMPIs in our sample population approximates the national average.

Methods
This was a retrospective study including RMPIs performed at Erma Ora Byrd Clinical Center (BCC) for the evaluation of non-acute chest pain on 1/1/2014 - 3/31/2014. BCC is located in Huntington, WV. Outpatient RMPIs for Marshall University clinicians and private practitioners are performed there. We reviewed 167 RMPIs. Pertinent data were collected. Pretest probability of CAD was calculated for each individual which was then used to determine study appropriateness.

Results
Patients' age was 61±13 years, 53 % were women. Forty-five percent had ASCVD, 71% HTN, 31% DM,

52% HLP and 22% tobacco use. Regadenoson was the stressor in 67.7%, the rest used treadmill exercise. Sixty-six percent were cardiologist-ordered (Table 1). Rates of Appropriate, May-be-appropriate, Rarely-appropriate and unclassified studies were 91 %, 0 %, 5.4% and 3.6%, respectively. Appropriateness rate compared with literature reviewed (Tables 2 and 3). Female young patients with low pretest probability of CAD were more likely to have Rarely appropriate than Appropriate studies (87.5% vs. 49%, p=0.034; age 44.5±7.5 vs. 62.2±12.6, p=0.0001; respectively) coinciding with literature reviewed (Table 4). Cardiologist-ordered studies were not more likely Rarely appropriate than non-cardiologist-ordered (5.4% vs 3.65%, p=0.60306) contrasting with literature reviewed. Academical-ordered studies were not more likely Rarely appropriate than those from private counterparts (5.2% vs. 0%, p=0.42) coinciding with literature reviewed.

Conclusion

Appropriateness rate in our study compares to the national/international average. Most Rarely appropriate studies were observed in younger, female patients with low probability of CAD which highlights an area of improvement when selecting appropriate diagnostic tools in this particular population. Physician's specialty/academical status did not influence appropriateness in our study. Additional research is needed in the general population since our patients come from an outpatient setting which limits sample representativeness.

Quality & Safety Summit Abstract Submission Form

Presenter
Thomas Emmer, MD; Chad Knight, MD, Alex Caughran, MD, Jace Smith, MD; James Reagan, MD; Adam Kopiec, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name

Department

Abstract

Title
Reducing the Incedence of Excessive CT Scans in Patients with Traumatic Hip Dislocations: a Collaborative Effort between the Departments of General and Orthopaedic Surgery

Objective
All trauma patients with traumatic hip dislocations require a post-reduction CT scan to fully evaluate the pelvis and check for concentric reduction of the hip joint. This is standard of care. Hip dislocation can usually be diagnosed based on physical exam and confirmed with a portable X-ray of the pelvis. In stable trauma patients, CT scan is an important diagnostic modality. Given this, the time taken to get the stable patient safely to the scanner has become an important indicator in trauma. Typically, patients involved in high-energy traumas that would result in hip dislocations undergo a panscan which includes complete views of the pelvis. If patients with a traumatic hip dislocation undergo a panscan prior to reduction of the injury they require a second CT scan to evaluate the pelvis after reduction. This increases radiation exposure to the patient as well as raising the financial cost of their care which can translate to increases in billing for the patient or the potential for the healthcare institution to provide a service for which they will not be reimbursed. The goal of our project is to reduce the incidence of stable patients requiring a second post-reduction CT scan because their dislocated hip was not reduced prior to their initial trauma CT scan.

Methods
IRB approval for chart review was obtained. The query to the CHH trauma database was submitted to identify patients with a diagnosis of traumatic hip dislocation. These patients' charts and imaging studies were reviewed to determine the incidence of repeat CT scans required because the dislocated hip was not reduced prior to the patients' initial trauma CT scan. We also collected patient demographics. This data constitutes our pre-intervention statistics. We then plan on providing a workshop for all general/trauma surgery residents (and attending physicians if they choose) focused on diagnosis of hip dislocation based on physical exam and portable pelvis X-ray as well as safe methods for reducing the injury in the trauma bay prior to transport of the patient to the CT scanner. Effectiveness of the workshop will be evaluated with pre and post workshop surveys. Currently, at Cabell Huntington Hospital the trauma team has a paper order form for trauma patients which can be quickly checked and orders entered by the unit clerk. On this form a CT scan of the abdomen and pelvis is included. A post-reduction CT scan of the pelvis will be added to this form as an order option for patients who were found to have a hip dislocation and who underwent reduction in the trauma bay prior to initial CT scans. Using this order form as well as future imaging studies we will then prospectively follow future trauma patients with traumatic hip dislocations to determine if our intervention had any effect on decreasing the incidence of repeat CT scans.

Results
Data collection is still in progress. We have identified 136 pts from all of the records from the CHH trauma database with a diagnosis of traumatic hip dislocation. Charts and imaging studies from these patients are currently being retrospectively reviewed to determine our pre-intervention incidence of repeat CT scans as well as patient demographics. Following our intervention we will then follow future traumatic hip dislocation patients prospectively using our new order set as well as data from these patients' charts and imaging studies to assess the impact of our intervention on decreasing the incidence of future repeat CT scans.

Conclusion
All patients with traumatic hip dislocations require post-reduction CT scans. This is standard of care. Because traumatic hip dislocations are high-energy injuries, these patients typically require CT scans as part of their trauma workup. Failure to reduce the dislocated hip prior these trauma scans necessitates a second CT scan following reduction. This second CT scan causes increased radiation exposure to the patient as well as increased healthcare costs. It is our hope that through our planned intervention we can reduce the number repeat post-reduction CT scans in stable trauma patients with traumatic hip dislocations.

Quality & Safety Summit Abstract Submission Form

Presenter
Maali Milhem, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Nesreen BenHamed MD

Department
Department of Endocrinology

Key Participant 2

Name
Henry Driscoll MD

Department
Department of Endocrinology

Key Participant 3

Name
Rodhan Khthir MD.

Department
Department of Endocrinology

Abstract

Title
Improving Glycemic Control in Hospitalized Patients. A Quality Improvement Project

Objective

- Optimize glycemic control in hospitalized patients.
- Minimize the morbidity/mortality related to hypo- and hyperglycemic events.
- Establish a user-friendly protocol for primary service physicians to initiate safe insulin therapy in accordance with the current guidelines for inpatient diabetes management.
- Establish hospital-wide standardized sliding scale insulin (SSI) or correction factor used in the hospital.

Methods

- Blood glucose readings for three consecutive months in four medical- surgical floors in St Mary's hospital were analyzed using six-sigma methodology, which showed poor performance with high defect rate.
- The rate of hypo- and hyperglycemic events was calculated in these floors for future comparison after intervention.
- 32 hypoglycemic events (defined as blood glucose = or < 69mg/dl) and 31 hyperglycemic events (defined as blood glucose >240mg/dl) were reviewed to identify common errors or contributing factors for the occurrence of such events.
- The root causes for hypo- and hyperglycemic events in these specific floors were identified.
- Based on the major modifiable causes that were found, and using Pareto principle; two actions were taken in account to prevent these causes. First, we standardized SSI on all floors using an order set on the hospital electronic medical records. Second, an inpatient diabetic management protocol was

created for primary providers. The protocol parameters relied on four main factors: diabetes type, initial blood glucose level, nutritional status and body weight. The protocol was created according to the current diabetes inpatient management guidelines aiming to reduce the rate of hyperglycemic events, by increasing the use of basal-bolus insulin regimen when indicated.

➢ The rates of hypo- and hyperglycemic events in the same floors will be calculated after intervention to see if there is significant reduction.

Results

➢ The main factors contributing to hypoglycemic events were as the following; ordering inappropriate SSI in 34.3%, impaired renal function (chronic kidney disease including end-stage renal disease) in 31.2% , maintaining same insulin home dose in 28.1%, using oral hypoglycemic agent(s) while patient is hospitalized in 18.7%. Other contributing factors such as medications reconciliation error account for only 9.3%, same for the hypoglycemia caused by acute kidney injury. 6.3% due to patient being NPO (nothing by mouth) without adjustment in their diabetes medications. Only 3.1% of hypoglycemic events were related to medication administration error and 3.1% due to liver disease. In 9.3 % causes were unable to be identified.

➢ On the other hand, contributing factors for hyperglycemic events were as follows: using basal insulin without the addition of bolus insulin when it is indicated in 54.8 %, not starting basal insulin when it is indicated or starting inadequate dose in 22.5%, hyperglycemia secondary to glucocorticoid use in 19.3%, and inadequate bolus insulin dose in 12.9%. Only 3.2% of events caused by inadequate correction factor dose.

Conclusion

Maintaining optimal glycemic control during hospital admission should be a universal goal for all health care providers. Prevention is a key in ensuring patient safety, improving outcome, and minimizing hospital stay. Identifying risk factors for hypo-and hyperglycemia, implementing diabetic care protocols, and avoiding using sliding scale insulin as a mono-therapy are vitals in improving in-hospital glycemic control.

Quality & Safety Summit Abstract Submission Form

Presenter
Sayan, Ardalan MD, Gill, Thomas MD Lycans, Dana MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Ardalan Sayan

Department
Orthopaedics

Key Participant 2

Name
Thomas Gill

Department
Orthopaedics

Key Participant 3

Name
Dana Lycans

Department
Orthopaedics

Abstract

Title
A Standardized Order Set for Acute Management of Open Fractures

Objective
Open fractures pose significant treatment challenges for the treating physicians. Compared to closed fractures, they have a significantly higher risk of infection, nonunion, and wound healing complications. They also place non-vaccinated patient at increased risk of contracting tetanus. As timing to antibiotic administration as well as proper selection of antibiotics has been shown to significantly lower the rate of infection in open fractures, this project seeks to improve and simplify our institutions approach to antibiotic administration for open fractures. We believe this will help decrease delays in administration of antibiotics as well as help aid our treating physicians in proper antibiotic selection for these challenging injuries. This in turn will improve patient safety, quality of care, and improve outcomes for patients with open fractures.

Methods
A literature review of multiple databases was conducted in 2016. This literature review was used to guide doseage recommendations, antibiotic type, and length of administration. It was also used to compile into the order set, indications and selection of tetanus prophylaxis and tetanus intravenous immune globulin. This data was compiled into an order set that can be used by our healthcare providers to treat patients with open fractures with the proper antibiotic, dose and length of administration.

Results
Results:
This project resulted in a standardized order set that can be used by our healthcare providers to guide antibiotic and tetanus administration in open fractures. This order set guides proper antibiotic class selection, proper dosing requirements as well as a length of administration. Incorporated with this order set were also tetanus and NPO orders as cues to the initial treating physician to check the status and enforce

administration of these orders.

Conclusion

Discussion:

Open fractures are associated with higher risk of infection, nonunion, and wound healing complications. Proper administration of antibiotics and earlier time to antibiotic administration have been shown to decrease the risk of infection. By implementing a standardized order set, patient care and safety are improved through earlier administration of antibiotics and proper antibiotic selection. By incorporating tetanus prophylaxis into this order set we can mitigate missed tetanus doses for those patients that require it. Lastly, time to operative debridement in decreasing infection risk is a controversial topic. Lastly, an NPO order will guide as a cue to the treating physician that this fractures do represent an orthopedic emergency and these patients should be kept NPO in anticipation for operative intervention.

Quality & Safety Summit Abstract Submission Form

Presenter
Munes Fares MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Jennifer Biber M.D.

Department
Pediatrics

Key Participant 2

Name
Susan Flesher M.D.

Department
Pediatrics

Key Participant 3

Name
Joe Evans M.D.

Department
Pediatrics

Key Participant 4

Name
Casey Patick M.D.

Department
Pediatrics

Key Participant 5

Name
Melanie Akers, MSN, RN, NE-BC

Department
Pediatrics

Abstract

Title
Revamping Mortality and Morbidity Conference to Improve Quality of Health Care.

Objective
To evaluate the success in revamping and restructuring the morbidity and mortality (M&M) conferences in Cabell Huntington Hospital to be systems-oriented, free of individual-blame culture, to involve multidisciplinary participation, and to have more impact on safety and quality of health care. The project also aims to assess the awareness of medical incident reporting, and improve the utility of an already implemented incident reporting system in Cabell Huntington Hospital.

Methods
The procedures conducted through the study will include performing pre/post paper and online surveys of the conference's audience, and various run charts will be calculated to measure the effects of implementing the new structure of the conference. The project will start with a pilot study to improve the pediatric mortality and morbidity conference. It will focus on the following measures:
1. Quantity and diversity of the M&M conferences attendance.

2. Mean number of the cases discussed in M&M conferences.
3. Types of discussed cases/adverse events/errors in M&M conferences.
4. Number of cases discussed using a new-implemented case review tool (Learn from Defect Tool).
5. Number of suggested quality improvement interventions during the M&M conferences.
6. Number of implemented quality improvement interventions.
7. Attitudes of attendees toward the old and new structure and function of the M&M conferences.
8. Awareness and utility of an already implemented incident reporting system in Cabell Huntington Hospital.

Results

An initial survey was sent to faculty members, residents, nursing staff, pharmacists, and respiratory therapists in the pediatric department at Cabell Huntington Hospital. Prelim results will be presented on the QI Summit day.

Conclusion

We theorize that M&M conferences in Cabell Huntington Hospital can be revamped and renewed to serve as very efficient tools in improving safety and quality of health care.

Quality & Safety Summit Abstract Submission Form

Presenter
Audrey Hicks, DO

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Kevin White, MD

Department
Ob/Gyn

Key Participant 2

Name
Arifa Khokar, MD

Department
Ob/Gyn

Key Participant 3

Name
Lindsey Hatcher, MD

Department
Ob/Gyn

Key Participant 4

Name
David Chaffin, MD

Department
Ob/Gyn

Abstract

Title
Mother-Baby Severe Blood Pressures: Improving Management

Objective
Severe range blood pressures defined as a systolic greater than 160mmHg or a diastolic greater than 110mmHg constitutes an obstetric emergency and demands treatment immediately. Currently, there is wide variation in the techniques used to obtain these blood pressures, communication with providers, and management of severe blood pressures. This contributes to several severe blood pressures going unreported to providers and thus untreated.

Methods
A blood pressure log shall be placed on all mobile workstations and be available for staff to use. Treatment protocol shall be posted in resident workstations.

Results
Data shall be obtained pre and post-intervention to determine effectiveness.

Conclusion
We aim to reduce variation in blood pressure technique and treatment as well as reduce the number of severe BPs not reported to providers by 80%.

Quality & Safety Summit Abstract Submission Form

Presenter
Kathryn Sullivan, RN, BSN

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name
Kathryn Sullivan

Department
2 West

Abstract

Title
Improving Back & Spine Patient Discharge Times

Objective
To discharge Back & Spine Neurosurgery patients within sixty minutes of discharge order entry.

Methods
Educate patients and families on the need to have a ride available within 60 minutes of hospital. Educate patients on when they should be discharge to prepare ride to be available.
Educate nurses on the need to evaluate patients preference on using Meds to Beds. If patient intends to use this program, nurses should send Rx to pharmacy prior to discharge order being put in so medications can be available to the patient quickly after discharge order.
Educate physicians on not putting in discharge orders with conditions such as; discharge after urination, discharge after morning pain medications, discharge after 1pm, etc. Remind physicians that discharge times begin as soon as the order is put in.

Results
On average Back & Spine patient discharge times over the last 6 months has been 141 minutes, more than double the goal.

Conclusion
Back & Spine discharge times will improve and in turn patient satisfaction in relation to the discharge process will improve as well.

Quality & Safety Summit Abstract Submission Form

Presenter
Joseph E. Klaus

Institution
MUSOM

Role
Medical Student

Team Info

Key Participant 1

Name
Milad Modaressi, MD

Department
Orthopaedic Surgery

Key Participant 2

Name
Rodrigo Aguilar Campos, MD

Department
Orthopaedic Surgery

Key Participant 3

Name
Ardalan Sayan, MD

Department
Orthopaedic Surgery

Key Participant 4

Name
Nasreen BenHamed, MD

Department
Endocrinology

Key Participant 5

Name
Franklin D. Shuler, MD, PhD

Department
Orthopaedic Surgery

Abstract

Title
Analyzing the pharmacologic management of patients after osteoporotic hip fractures

Objective
Due to the growing elderly population, fragility hip fractures have become an increasingly common healthcare burden. The lifetime risk of osteoporotic fractures in men and women age 50 or older is 25% and 50%, respectively. Osteoporotic hip fractures are a common source of morbidity and mortality in the geriatric population, but their pharmacologic management is not well-studied from a quality improvement standpoint. Hip fractures are associated with a significant increase in health care service utilization. Rates of acute hospitalization are 72.4% higher in the six months after a hip fracture. Hip fractures are also associated with a significant increase in all forms of postacute care, including postacute hospitalizations, home health care hours, and hours spent in physical and occupational therapy. Patients who were originally community-dwelling have an increased likelihood of living in a nursing home after hip fracture. There is also substantial evidence that prior osteoporotic hip fracture results in an increased risk of subsequent fracture. The greatest risk appears to be soon after fracture, particularly in the first year.

According to National Osteoporosis Foundation recommendations, any patient age 50 or older who suffers a low-velocity hip or vertebral fracture can be clinically diagnosed with osteoporosis and should therefore be treated pharmacologically. It is crucial to treat these patients pharmacologically in order to medically optimize them for functional recovery. Further, FDA-approved medications for osteoporosis have been shown to reduce the risk of subsequent osteoporotic fractures. It is also important to initiate pharmacotherapy early due to increased risk of subsequent fracture within one year. Despite the current recommendations, pharmacologic treatment of osteoporotic hip fractures is often overlooked.

At Cabell Huntington Hospital, patients age 65 or older who sustain a hip fracture are asked if they would like to be enrolled in the Bone Health Program. Upon enrollment, an endocrinologist consults them as an inpatient and evaluates them for clinical osteoporosis. They then make recommendations for their management as an outpatient. Based on current data, it is our hypothesis that this vulnerable population is being undertreated. Our objective is to determine the percentage of patients older than 65 who receive pharmacologic treatment of osteoporosis within six months after a low-velocity hip fracture. Further, we hope to determine possible causes of this disparity and propose solutions to improve management and patient outcomes.

Methods

Medical records for patients age 65 or older who sustained hip fracture during June 2013 - March 2015 were collected from Allscripts and reviewed. Patients who received any form of pharmacologic treatment within six months after their fractured were identified. Medications included in calculations were bisphosphonates (alendronate, ibandronate, risedronate, zoledronic acid), parathyroid hormone (teriperatide), or a RANK ligand inhibitor (denosumab). Vitamin D and calcium supplementation were not included in the calculations of pharmacologic treatment. Descriptive analysis was performed to extract demographics of our cohort. The International Osteoporosis Foundation's Fracture Risk Assessment Tool (FRAX) was used to calculate each patient's 10-year risk of hip and major osteoporotic fracture. The FRAX tool integrates each patient's independent risk factors to determine their 10-year risk. These risk factors include country of origin, age, gender, BMI, previous fracture, parental history of hip fracture, current smoking, use of glucocorticoids, rheumatoid arthritis, secondary osteoporosis, alcohol consumption, and bone mineral density (BMD) (when available). All categorical variables were compared using Pearson's $\chi 2$ test, while continuous variables were compared by t-test. All analyses were performed using SAS version 9.3 (SAS Institute, Cary, North Carolina). All p-values were based on 2-sided tests, and were considered statistically significant when $p < 0.05$.

Results

Among the 193 patients who met the inclusion criteria, 25.91% (n=50) received pharmacologic treatment within six months after fracture versus 74.09% (n=143) who did not receive any type of pharmacologic therapy after the fracture. Mean age was 81 years old in both groups, mean BMI was 25 in both groups. The majority of patients in the study were female (>70%). There was no significant difference in pharmacologic management when the patients were stratified according to age group (60-69; 70-79; 80-89; and 90-99 years of age). FRAX analysis done on the two groups (pharmacologic treatment and no treatment) shows that a significantly higher number of patients in both groups are advised to be on pharmacologic treatment (major osteoporotic fracture >20%, hip fracture >3%).

Conclusion

Based on our analysis, it is clear that this vulnerable population in being undertreated pharmacologically. Based on preliminary data and research, we can hypothesize that the following limitations have contributed to this deficit in treatment:

1. The current standard of care is to analyze BMD using DXA prior to pharmacologic treatment. DXA is then repeated after 1-2 years to analyze the effectiveness of pharmacologic treatment. Only 36 out of 193 (18.65%) patients received a DXA scan within six months after fracture. There is limited access to DXA scanners in WV.

2. Many patients demonstrated poor follow-up with endocrinology after discharge. It is important to establish a strong relationship with endocrinology during the hospital stay or to send specific recommendations to the patient's PCP if they do not wish to follow up with endocrinology.
3. Certain patients had contraindications to osteoporosis medications (i.e. history of GERD with bisphosphonates).
4. Some patients had difficulty getting insurance to cover their medications.

Proposed solutions:

1. Patients age 50 or older with osteoporotic hip fracture qualify for pharmacologic therapy without need for BMD assessment by DXA scan. We should implement a system that does not require patients to have a DXA scan before treatment. We should also seek out alternate modalities to assess BMD that are more readily available to our patient population.
2. Implement a system that improves communication between inpatient providers and the patient's PCP. Based on preliminary data, patients appear to have difficulty following up with endocrinology. Therefore, the patient's PCP should be notified. Specific directions to treat these patients for osteoporosis need to be sent to each patient's PCP.

Quality & Safety Summit Abstract Submission Form

Presenter
Ibrahim Shahoub

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Ibrahim Shahoub

Department
Pulmonary

Key Participant 2

Name
Yousef R Shweihat

Department
Pulmonary

Abstract

Title
Implementing Prone Protocol in ARDS.

Objective
Background
Acute respiratory distress syndrome (ARDS) is a common, serious condition of critically ill patients and a major cause of death in ICU.
Prone positioning has been shown to improve oxygenation and decrease mortality in patients with moderate /severe ARDS with refractory hypoxemia. The therapy should be instituted early in the course of ARDS with the goal of 18 to 20 hours daily.
Healthcare professionals who are knowledgeable on proper techniques and protocols for prone positioning can implement the therapy in a safe and effective manner.
Prone should be favored (if no contraindication exist) over any other salvage ARDS therapy (HFOV, APRV, ECMO, Nitric oxide), as it is coat effective modalities to improve oxygenation and reduce mortality.

Indications
If in any doubt, nurse should discuss with physician:
1- PF ratio (PaO2/ FiO2) < 150
2- refractory hypoxemia using ARDS network settings (Fio2 >70 and peep > 12)
3- inability to maintain plateau pressure < 30
4- inability to keep PH >7.15 with tidal volume of 6ml/kg per ARDS protocol
5- Right ventricular failure with severe hypoxemia

Contra-indications
If in doubt about any condition that is not listed in the contraindication list, please verify with attending physician first before initiating protocol

1- Hemodynamic instability
2- Uncontrolled active arrhythmia.
3- facial trauma or surgery
4- pelvic fracture, or external fixation

5- intracranial HTN,
6- unstable spine
7- frequent convulsions
8- cardiac arrest within the last 48 hours
9- pregnancy 2nd and third trimester
10- post cardiac surgery
11- post ophthalmic surgery
12- abdominal compartment syndrome
13- fresh surgical tracheostomy (within 24 hours)
14- active hemoptysis / active alveolar hemorrhage
15- Severe obesity, BMI > 45

Methods

Method

Manual prone in the ICU is a collaborative team work with a physician, two nurses and respiratory therapy, team meet to review indication and contraindication, review video link, ask for any questions or concern. The following section provided details with pre and post prone duties for the nursing staff and respiratory therapy:

Nursing duties prior to prone
1- review indications/ contra-indications
2- place ND tube, preferably but not necessarily post pyloric
3- physician to order prokinetic Agent (Reglan or erythromycin)
4- hold tube feeds 1-2 hours prior to prone
5- make sure all dressings / central lines/ lines are up-to-date prior to prone
6- perform eye care / lubrication prior to prone
7- assess sedation level, preferably RASS score -3 to -5 or paralysis
8- Assemble team of at least 5 personnel. One on head, 2 on each side.
9- make sure there will not be any tension on the IV lines.
10- review the technique (video) with team and assign duties
11- alert team of any chest tube
12- make sure there is crash cart in room

Respiratory therapy duties prior to prone:
1- Ambu bag present in room, along with suction
2- ABG prior to prone should be obtained
3- equipment for intubation should be available in case of loss of airway
4- Assure endotracheal tube stability
5- Suction secretions
6- pre-oxygenate with 100% FiO2 for 5-10 minutes prior to prone
7- RT should be responsible for protecting ET tube
8- review technique (video) with rest of the team

Nursing duties after Prone:
1. Monitor vitals immediately and if stable q15 minutes for the first hour
2. Exchange all monitors to the shoulders and back
3. Ensure all lines and tubes are still in place
4. Check mouth for secretions and feeds
5. Start feeds after 1 hour if no feeds in mouth or in 3 hours if feeds suctioned
6. Make sure bed is in reverse telendinberg 20-25 degrees (bed should remain flat)
7. Maintain prone for 18 hours
8. Inform physician of any new complication

9. Rotate to each side using bed inflation every 2 hours
10. Use cushions on chest and pelvis especially for obese patients. No cushions for abdomen

Respiratory therapy duties after prone:
1. Ensure ET tube and vent settings are ok
2. After 5 minutes, if stable, decrease to FIO2 level prior to prone
3. Get ABG in one hour after prone
4. Decide if patient responded to prone or not (PF ratio increased by 20)
5. if not responder, discuss with physician (consider back to supine)
6. If responder, repeat ABG in 6 hours
7. If not responder at 6 hours discuss with physician (consider back to supine)
8. If responder repeat ABG at 16 hours of prone
9. Maintain the same level of care (nebs, suction)
10. Continue management of mode of ventilation per ARDS network trial unless patient on different mode per treating physician

Complications
- Be prepared!
1. Hypoxia on Fio2 of 100% for > 5 minutes.
2. Cardiorespiratory arrest
3. Bradycardia < 30 beats for > 60 seconds
4. Life threatening low blood pressure
5. Dislocation of the ET tube/ tracheostomy tube
6. Obstruction of the ET tube
7. Hemoptysis

If cardiac arrest occurs, place patient in supine immediately and follow ACLS protocol.
If ET tube gets lost, place in supine position and bag patient and re-intubate
For other complications, inform physician immediately and if no improvement with medications or regular interventions (e.g. atropine, pressers) consider going back to supine position.

Results
Responders:
PF ratio increases more than 20 or PaO2 increases > 10
From pre prone parameters.
IF not responder, hold on protocol and consider other modes of therapy.

IF responder, continue prone for 16-18 hours AND the following:
- After 16- 18 hours of being on prone, place back to supine position
- The same precautions should apply when return the patient supine.
- Check for pressure ulcers and pressure points
- Repeat ABG after 4 hours of being back to the supine position
- If PF ratio < 150, go back to prone positioning and follow protocol from the beginning.
- If PF ratio >150, continue on supine positioning and repeat ABG as needed or when desaturation occurs.

See FLOWCHART for step-by-step performance of prone protocol
- Order for prone
- Review indication
- Review contraindications
  Make sure there are no contraindication

Use other salvage therapy if there are any contraindication
Review video
Assemble team
Follow duties above
Prone patient
Assess for complications, put back to supine if serious
-ABG in one hour
- Assess for response
- Non-responder, consider going back to supine
- Responder, repeat ABG in 6 hours
If still responder, continue prone for 18 hours
- In 18 hours, return to supine position and repeat ABG in 4 hours
if PF ration < 150 restart protocol and re-prone
if PF ration > 150 monitor and usual care

Conclusion

Conclusion

Even with protective lung ventilation measure recommend by ARDS network. ARDS still a major cause of morbidity and mortality in the critical care sitting.
Prone position for moderate and severe ARDS with at least 18 hours decreases 28-day and 90- day mortality.
By implementing prone protocol in Cabell Huntington Hospital Electronic Medical Record system (Cerner), we aim to make it practical and accessible to physician, nursing staff and respiratory therapist.
Future plan:
Data gathering about this protocol usage and success rate in comparison to other ICUs where prone protocol not applied yet for the same category of ARDS patient.

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Quality & Safety Summit Abstract Submission Form

Presenter
Haris Kalatoudis

Institution
CHH

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Haris Kalatoudis

Department
Pulmonary

Key Participant 2

Name
Michael Banks

Department
Internal Medicine

Key Participant 3

Name
Dr. Zeid

Department
Pulmonary

Abstract

Title
Sedation Assessment of Patients in a Tri-State University Hospital: A Quality Improvement Study

Objective
The following quality improvement study seeks to decrease the use of benzodiazepines for sedation of ventilator dependent patients in the intensive care unit.Sedation is defined by the administration of pharmacological agents designed primarily to induce a calming or sleep effect in patients. The purpose of sedation is to ensure comfort throughout mechanical ventilation. Studies have revealed that the use of benzodiazepine in sedation often results in increased risk of prolonged mechanical ventilation, delirium, Ventilator associated infections to patients and can increase ICU length of stay. This study will determine whether increased education among physicians and nurses will result in overall decrease in the use of this medication.

Methods
We will retrospectively analyze medication doses and sedation regimen of patients on mechanical ventilation for two months. After which, education to both physicians and nurses regarding the use of benzodiazepine and their unwanted side effects will be provided in the form of a CHEST video and printed material. A post-video questionnaire will be administered to determine the value of the video and material. An observational study will then be conducted for a two month period to evaluate benzodiazepine use in patients on mechanical ventilation. At the end of this study, the same questionnaire will be administered to determine the effectiveness of the video and handout.

Results
Statistical analysis computer generated programs will be used in analyzing the collected data. Data collection is currently underway for the initial retrospective portion of this study.

Conclusion

The benefits of the study will aid in patient comfort while decreasing adverse effects and reducing the amount of time spent on mechanical ventilation. As a result, the outcome will be a much shorter length of stay and decreased cost.

Quality & Safety Summit Abstract Submission Form

Presenter
Suleiman Ali, MD, MPH

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Nancy Munn, MD

Department
Pulmonary medicine

Abstract

Title
Improving the care of patients with tracheostomy

Objective
In sentinel event, one of our patients was discharged home with tracheostomy in place after weeks inpatient stay. He and his family did not receive appropriate supplies or education. As a result the patient had to be re admitted a few days later due to tracheostomy related complications. This triggered nursing staff effort to educate the nurse on how to care for tracheostomy patient. However the discharge process continued to be challenging. In our survey of the nurses prior to this effort, most did not feel comfortable discharging such patients home, many were not even aware of the sentinel event. We set out to make the process of discharging patients with tracheostomy safer for patients and their families and easier for the staff.

Methods
We conducted pre intervention nursing questionnaire evaluating the knowledge and comfort of our nursing staff in regards to discharging tracheostomy patients home. The questionnaire contained 4 simple yes/no questions regarding knowledge of supplies needed for safe discharge, source of supplies, education of the family, and resources available for nurses to access. Please see attached questionnaire for exact questions. We compiled a basic checklist of supplies needed for safe discharge and how to obtain them coupled with educational materials to give to the family and contact person to call for help and questions. We went around the hospital wards and discussed the material with the nursing staff involved with discharging patients. We gave copies of the material to them. Copies were also left at the lead nurse office on each floor. Finally we conducted post intervention questionnaire to evaluate the success of the intervention.

Results
On pre-intervention survey 21 questions were answered “No” versus on 3 answered “Yes”. This translates to 12.5% overall knowledge of safe discharge practices for patients with tracheostomy and indicates significant lack of comfort/knowledge regarding this process. After the intervention all 24 questions were answer “Yes” indicating significant improvement to 100% knowledge.

Conclusion
Ideally, we would have liked to measure the incidence of unsafe discharge home of tracheostomy patients resulting bounce back or complications prior to intervention and post intervention. However this is not feasible given the very low number of patients who fit this profile. Nursing knowledge/comfort with the appropriate safe discharge was used as a surrogate.

Although it is likely that the nursing staff will lose the knowledge acquired in the intervention due to lack of use, the creation of checklist with printed family education materials retained at lead nurse offices of each floor will give the staff a reference to go back to and ensure the discharge process for those patients is safe and appropriate.

Quality & Safety Summit Abstract Submission Form

Presenter
Hazim Bukamur

Institution
CHH

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Hazim Bukamur

Department
pulmonary

Key Participant 2

Name
Ehmad Alkhankan

Department
IM

Key Participant 3

Name
Haris Kalatoudis

Department
Pulmonary

Key Participant 4

Name
Dr. Zeid

Department
pulmonary

Key Participant 5

Name
Hani Krad

Department
IM

Abstract

Title
Application of guideline based VTE risk stratification: A review of the ED compliance with protocols for using clinical risk stratification tools and D-dimer assays in the evaluation of a patient with suspected VTE.

Objective
Historically, the D-dimer assay has been a utilized for evaluating low risk patients for the appropriateness of receiving an imaging study for the evaluation of a possible pulmonary embolism. The high sensitivity of the D-dimer assay for pulmonary embolism makes the test an indispensable tool in the emergency department for aiding in the risk stratification of a possible pulmonary embolus. However its low specificity, particularly in patient populations with multiple medical comorbidities, can make a positive result difficult to interpret.
For this reason, evidence based protocols were established to guide in the utilization of D-dimer and CT-angiography, with the goal of minimizing patient exposure to imaging studies while maximizing the ability of the provider to detect patients with pulmonary emboli. In previous studies, adherence to these protocols has been demonstrated to provide a cost-effective means to risk stratify patients who need further diagnostic evaluation with imaging and those who can be reliably excluded from having a pulmonary

embolism. Non-adherence with these recommendations can result in the unnecessary imaging procedures as well as inappropriate ordering of D-dimer assays in scenarios where the test is not useful. However, without protocol driven care plans, it is difficult to ascertain an institution's success in the utilization of these protocols.

Methods

our study group plans to conduct a retrospective review to evaluate the compliance with protocols outlining the appropriate use of the D-dimer assay, and its corollary test the CT-angiogram, in the emergency department. In order to achieve this, patients' charts will be reviewed for evidence of clinical risk stratification by ED physician. Both the Geneva and Well's criteria (modified or original) will be considered acceptable risk stratification strategies. For those in whom no risk stratification is evident, the team will calculate the modified Well's score and determine if a D-dimer was appropriately ordered. In those cases where it was appropriately utilized, the team will review whether the ordering physician acted on the findings of the test as per the guidelines established in the literature.The data will then be analyzed to assess our institution's adherence to established protocols. A follow up educational lecture will be provided to the emergency department providers. A prospective observational study will then be needed to asses for improvement in compliance

Results

Data is currently being collected for the retrospective portion of this study and should be ready for reporting by the time the QI summit is held.

Conclusion

Adherence to the protocols mentioned above is currently suboptimal resulting in increased exposure of patients to imaging studies and contrast as well as increasing the cost of care. In addition, there may be inappropriate initial use of the D-dimer assay which may increase cost while adding little to patient risk stratification.

Quality & Safety Summit Abstract Submission Form

Presenter
Jessica Compton

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name
Jessica Compton

Department
2 East Post Surgical

Key Participant 2

Name
Amy Bullington

Department
2 East Post Surgical

Abstract

Title
Reducation of CLABSI Rate

Objective
Reduce CLABSI Rate to achieve NHSN Nation Benchmarks

Methods
Implemented evidence based guidelines to reduce infection rate
Educated staff caring for patients
daily auditing and follow up

Results
Beginning CLABSI Rate- 2.4
Current Rate- 1.3

Conclusion
Implementation and hardwiring of evidence based guidelines showed a reduction in the amount of CLABSIs.

Quality & Safety Summit Abstract Submission Form

Presenter
Naveed Syed Iqbal MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Naveed Syed Iqbal MD

Department
Cardiovascular Medicine

Key Participant 2

Name
Rameez Sayyed MD

Department
Interventional Cardiology

Abstract

Title
Utilization of Diagnostic Coronary Angiography for Imaging for the Evaluation of Chest pain at Cabell Huntington Hospital

Objective
We seek to evaluate our use of diagnostic coronary angiography according to the updated Appropriate Use Criteria in order to determine utilization patterns of invasive imaging for the evaluation of chest pain in the community of Huntington, WV.

Methods
Data Collection: This will be a retrospective study where we intend to review the medical records of all the coronary studies performed from January 1, 2015 through December 31, 2015 at Cabell Huntington Hospital (CHH) for the evaluation of those individuals with chest pain suggestive of cardiac origin.

Results
Preliminary findings suggest at least a 97% of patients referred for coronary angiography were in the appropriate and may be appropriate groups. Only 3 % were from rarely appropriate groups.

Conclusion
Cardiac catheterization plays a central role in the care of patients with cardiovascular disease, and guidance around the rationale and evidence based use of the procedure is the goal of the current study at Cabell Huntington Hospital. Preliminary data suggests that Cabell Huntington Hospital is utilizing this criteria.

Quality & Safety Summit Abstract Submission Form

Presenter
A. Allison Roy, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Rachel Edwards, MD

Department
Ob/gyn

Key Participant 2

Name
Andrew Martin, MD

Department
Ob/gyn

Key Participant 3

Name
Courtney Crain, MD

Department
Ob/gyn

Key Participant 4

Name
Amanda Pauley, MD

Department
Ob/gyn

Abstract

Title
Evaluating and Improving a Trauma in Pregnancy Protocol

Objective
The goal of this project is to evaluate the effectiveness and usefulness of an already established trauma in pregnancy protocol. The aim is to update the protocol as well as establish a clear line of communication to alert obstetricians of pregnant trauma patients.

Methods
Surveys were distributed to both general surgery residents as well as Cabell Huntington Hospital ER nursing staff to evaluate the comfort level of staff with trauma patients versus pregnant trauma patients. Questions included comfort level with trauma patients, true or false statements regarding appropriate evaluation of a pregnant trauma, and comfort level regarding knowledge of how to contact obstetricians for an emergency. Survey responses were compared on a numerical scale.

Results
Those surveyed indicated that they are more comfortable with non-pregnant trauma patients than pregnant trauma patients. Those surveyed also were unaware of differences required for treating a pregnant trauma patient. Those surveyed were generally not comfortable with knowing how to contact an obstetrician for an emergency.

Conclusion

The current protocol for pregnant trauma patients only includes contacting the obstetric resident on call. The protocol could be improved by directly addressing not only how to call the obstetric resident, but also how to evaluate and treat pregnant trauma patients. ER staff including nurses and general surgery residents indicated that they are less comfortable with pregnant trauma patient care and also that they were not comfortable with knowing how to contact an obstetrician. Those surveyed also answered questions regarding evaluation of pregnant traumas incorrectly. This survey indicates that a protocol that includes how to contact obstetricians on call as well as how to evaluate a pregnant trauma would be beneficial to staff who are directly involved in pregnant traumas. A protocol for pregnant traumas is currently being implemented. The survey will be re-distributed after initiation of the new protocol to evaluate the protocol's effectiveness.

Quality & Safety Summit Abstract Submission Form

Presenter
Michael Banks, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Elizabeth Saunders, MD

Department
Internal medicine

Key Participant 2

Name
Teshome Gebrmichael, MD

Department
Internal medicine

Key Participant 3

Name
Binyam Gebremedhin, MD

Department
Internal medicine

Key Participant 4

Name
Hareshwar Visweshwar, MD

Department
Internal medicine

Abstract

Title
Medication Reconciliation; a Patient Perspective, a Quality Improvement Study

Objective
The purpose of this quality improvement study was to evaluate and improve patient knowledge regarding medications. By doing so, inconsistencies can be eliminated or reduced throughout the continuum of care. Often, when patients are asked about their medication regimen, they are unable to accurately recall all of their medications. When physicians attempt to complete medication reconciliation, it can problematic due to conflicting information between ALLscipts and the patient's account of their medications. Also, contributing to the problem is the lack of, or omission of medication reconciliation by the primary care physician from routine visits, as well as a problem when medications are added by providers outside our practice that never make it to our EMR.

Methods
Stage 1) A total of 40 patients will be enrolled in stage 1. Patients in a clinic setting who were on 5 or more medications were given a pre-survey evaluating patient knowledge of their medications including the medication name, dosage and indications for use. Patient's who had a medication list with them were allowed to use it for reference. Patients were then given a printed list from the clinic and were asked to compare the list with the medications that they had at home. Patients were asked to call if there were any discrepancies so that changes could be made. The patient's were advised to carry the list with them and encouraged to learn the medications that they take.

Stage 2) They will have follow up at 3, 6, 9, and 12 months to access 1) They have a better understanding of the medications they are on or, 2) They continue to carry the medication list that was given. At each interval they will be advised again to learn the medications they are on, and to carry a list of their medications all the time.
Stage 3) Is to implement practice wide the printing of the medication profile, the encouragement of patients to learn their medications, and to have patients carry a list of their medications.

Results
Stage 1 is currently on-going. Preliminary results (out of 8 patients) indicate the pre-survey only 1 patient had a medication list. One patient could recall their medications and the remaining patients could recall either none or only a few of their medications.

Conclusion
With health care provider and patient collaborating, and giving the patient more responsibility we will be in a distinct position to improve medication compliance, decreased medication errors, have better transition of care from outpatient to inpatient as well as from new medications from outside providers, and overall making a more patient oriented approach to their own healthcare.

Quality & Safety Summit Abstract Submission Form

Presenter
Ryan Landis MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Ryan Landis

Department
Surgery

Key Participant 2

Name
Farzad Amiri

Department
Surgery

Abstract

Title
Surgical Site Infections in the Appalachian Population: appearances are deceiving…

Objective
Surgical Site Infections (SSIs) are a significant source of morbidity and mortality for the surgical patient. According to the CDC, nearly 31% of all healthcare associated infections were SSIs. In 2011, there was an estimated 157,500 surgical site infections associated with inpatient surgeries (1). Diabetes, peri-operative glucose control, smoking, total operative time, Body Mass Index (BMI) and ASA scores have been shown to be contributing factors predicting an overall increased risk for Surgical Site Infections. Glucose levels during the perioperative period (0-6 hours, 0-48 hours and 48-96 hours) were significantly higher in the patients who developed an SSI than those who did not (2). Elevated Body Mass Index (BMI) is a known factor to have a higher incidence of SSI in patients with BMI>30 irrespective of the type of prophylactic antibiotic used (3). Smoking has been proven to be detrimental to wound healing and was found to be significantly associated with SSIs, wound disruptions, and return to the operating room. Little has been described in the literature regarding the Appalachian population and which patients in Appalachia are at risk for developing a SSI. Our hospital, a tertiary referral center, has had 96 Surgical site infections in the General Surgery department over the last two years

Methods
A Retrospective review of 95 patient's hospital records, clinical notes, operative reports, and electronic medical records were performed. Age, sex, Surgeon, Years of practice of the surgeon, operating room location, Wound Class, ASA class, Organism cultured, BMI, Tobacco use, presence of Diabetes Mellitus, Elective vs. Emergent surgical cases, total Operative time, Ambient Operating Room temperature, Patient's intra-operative temperature and perioperative glucose control were analyzed.

Results
Interestingly, the Appalachian patients did not correlate with the previously published data for patients with an increased risk of SSI. The patients in our institution were non-smokers (15/53), non-diabetics (15/56), younger (mean 51.98,std dev 21.11), and intraoperative glucose control was adequate with a mean of 148.

Conclusion

Average Temperature in the OR:
Mean-68.54 Std Dev-13.33
CDC recommends 68-73F
Easy to control
Need to promote awareness
Average Humidity:
Mean-37.79 Std Dev-14.25
CDC recommends 30-60%
Very borderline
Once again easy to control
Wound class:
Mean-2.05
Clean contaminated wounds most common
Would expect Higher wound classes
Hypothermia:
Mean- 96.4 Std Dev-1.48
CDC defines as less than 96.8 F
Losing battle
Need to discuss with anesthesia use of increasing OR temperature
Utilizing Passive Insulation i.e. Bair huggers
Warming IVF
Warming irrigation
Glucose control:
Appears adequate
Most patients did not have frequent reevaluation during long cases
Number of people in OR:
Mean 10 people
Need to work with OR staffing to reduce breaks/shift changes etc
ASA:
Mean 2.77 Std Dev 1.07
As expected sicker patients have less risk of SSI

Quality & Safety Summit Abstract Submission Form

Presenter
Laura Florence, RNC

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name
Johnda Ray, RN

Department
MBU, CHH

Abstract

Title
Code Purple

Objective
To prevent delays and standardize response to a Postpartum Hemorrhage.

Methods
Based on ACOG's Safety Bundle for Postpartum Hemorrhage:
Improve Readiness, Recognition and Response (through developed protocols, ordersets and mock events)
Conduct post event debriefings to identify learning opportunities and process improvements

Results
Development of a standardized hospital response, Code Purple. Similar to a rapid response, this focuses on a postpartum hemorrhage patient where specific members of a team respond- i.e. physician, nurse, anesthesia, lab. Equipped with standard protocols and an orderset they can initiate earlier directed management.

Conclusion
Development of the Code Purple response has helped to standardize the response and care of a postpartum hemorrhage patient.

Quality & Safety Summit Abstract Submission Form

Presenter
Brian Mankin, RN and Larri D. Terrell, RN

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name

Department
PICU and Pediatrics

Abstract

Title

Objective

Methods

Results

Conclusion

Quality & Safety Summit Abstract Submission Form

Presenter
Brian Mankin, RN and Larri D. Terrell, RN

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name
Brian Mankin, RN

Department
Pediatric Intensive Care Unit, Hoop's Family Children's Hospital @ CHH

Key Participant 2

Name
Larri D. Terrell, RN

Department
Pediatric Unit, Hoop's Family Childrens Hospital @ CHH

Abstract

Title
Medication Scanning Complaince

Objective
Safe Medication Administration

Methods
Collection of monthly data of scanning compliance for nursing staff.

Rewarding monthly top performers and rewarding quaterly top performer with Team Recognition monthly team meeting and positive reinforcement with gift cards and team members personal favorite candy bars.

Those that have subperformance have personal reinforcement of correct procedures that vary from education, conversation, up to individual action plans for improvement

Results
Hospital goal of 90% compliance on a monthly basis

several team members below compliance goal with great improvement of team member performance results ranging from Individual performances ranging from 1.67% to 100 %

Quarterly Team performance 85.37 % to present 95.81%

Conclusion
quality improvement of safe medication administration for our patients

Quality & Safety Summit Abstract Submission Form

Presenter
Dawn Jobe

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name
Dawn Jobe

Department
MICU

Key Participant 2

Name
Paula Spears

Department
SICU

Key Participant 3

Name
Sarah Sweeney

Department
BICU

Abstract

Title
The use of CAM-ICU to detect delirium in the critical care

Objective
to assess, prevent and recognize delirium in the critical care

Methods
assess for altered level of consciousness, inattention, and disorganized thinking

Results
better recognition of ICU delirium and early treatment

Conclusion
nurses are 100% in utilizing CAM-ICU tool to recognize early signs and symptoms of delirium

Quality & Safety Summit Abstract Submission Form

Presenter
Zachary Hunter, MS-III

Institution
MUSOM

Role
Medical Student

Team Info

Key Participant 1

Name
Milad Modarresi, MD

Department
Orthopaedics

Key Participant 2

Name
Rodrigo Aguilar C, MD

Department
Orthopaedics

Key Participant 3

Name
Felix Cheung, MD

Department
Orthopaedics

Key Participant 4

Name
Franklin Shuler, MD

Department
Orthopaedics

Abstract

Title
Patient Satisfaction for Orthopaedic Department in Cabell Huntington Hospital

Objective
Hospital Consumer Assessment of Healthcare Providers and System (HCAHPS) has provided a standardized survey method in order to evaluate the patient's satisfaction on the care they had. Overall patient satisfaction is clearly a multidimensional concept. Factors affecting patients rating of a specific visit encounter can have confounding factors that have nothing to do with the medical encounter itself. These could include factors like their education status, overall health, nursing staff and physician encounter, financial status. It is interesting to note that one of the most identified variables that could have a major effect on patients rating was found to be patient's expectation of their results and treatment1,2. This paper tried to identify and establish main reasons to some patient's level of satisfaction of their visit to Cabell Huntington Hospital orthopaedic surgery department.

Methods
Data was collected from surveys handed in 3 consecutive months; June, July and August of 2013. Sixteen questions were selected from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) that were appraised to be relevant for the use in orthopaedic department. Total of 1,138 patients answered the survey.

Results

Preliminary analysis of our data proved that all the questions answered by patients proved to have a significant effect on how they rated their overall visit. After stepwise multivariable regression analysis, variables which had the most impact on rating the overall visit were in order of: nurses explained things well, telephone help was effective, doctors listened carefully, front desk treated patient with respect, patients understood responsibilities for managing their own health, patient's rating overall mental/emotional health, recommend to family/friends.
Further, it was found questions three (Did nurses explain things well?) and six (Did doctors listen to you carefully?) had the most correlation with question sixteen (Overall satisfaction). This could mean that there is a direct and significant correlation between how nurses described things, as well as how attending physicians were to patients, and general satisfaction of patients with their office visit.

Conclusion
Based on our analyzed data, the major factors that are most influential in patient's satisfaction are the interaction they experience with the healthcare providers. This includes nurses and physicians. Thus it is recommended to remind and encourage attentive, friendly, and informative interaction with patients. This could be addressed in monthly meetings or by email notification to all the staff. It would be ideal to ask physicians in a questionnaire about possible factors that could affect their level of attentiveness to their patients and a strategy be placed to resolve them.

Quality & Safety Summit Abstract Submission Form

Presenter
Jessica Horton RRT, NPS

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name
JR Nida

Department
Respiratory

Key Participant 2

Name
The entire department

Department
Respiratory

Abstract

Title
Scanning Percentages

Objective
To help prevent medication delivery errors by improving patient and medication scanning compliance by the Respiratory staff, thereby promoting patient safety.

Methods
1. Incentives: Gift cards given to the employee with the best monthly scanning percentage.
2. Re-education: Education provided to show the importance of scanning compliance and promote conversation on any issues that may prevent or impede compliance.
3. Report sharing: Consistently posting monthly reports showing the scanning percentages for everyone in the department.

Results
Improved and sustained individual and overall scanning percentages for both medication and patient scanning.

Conclusion
Re-education has shown to help improve issues that were hindering compliance, while providing incentive to the therapists has helped to improve compliance to acceptable levels. Maintenance of the improved scanning percentages required consistency in posting the monthly reports in order to promote accountability and a healthy sense of competitiveness within the department.

Quality & Safety Summit Abstract Submission Form

Presenter
Angelina Sprewell, DO

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Angelina Sprewell, DO

Department
Pediatrics

Abstract

Title
Improving Resident Attendance at Neonatal Resuscitation

Objective
To improve resident attendance at neonatal resuscitation.

Methods
A sign was placed at the code pink elevator to remind code pink nurses to bring a resident along for each neonatal resuscitation.

Results
pending

Conclusion
pending

Quality & Safety Summit Abstract Submission Form

Presenter
Ahmed Elsayed, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Raj Singh

Department
Internal Medicine

Key Participant 2

Name
Henry Heisey

Department
Internal Medicine

Key Participant 3

Name
Ahmed Elsayed, MD

Department
Internal Medicine

Key Participant 4

Name
Maria Tirona

Department
Internal Medicine

Abstract

Title
Cost-Effectiveness of Lower Doses of Filgrastim in Achieving an Adequate Immune Response in Cancer Patients

Objective
Two commonly encountered complications of chemotherapy are neutropenia and consequent infection. Filgrastim, an analog of G-CSF, is commonly used to prevent infection in immunocompromised cancer patients by stimulating production of neutrophils by the bone marrow. Generally, most oncologists prescribe 5 mcG/kg of Filgrastim, but at our institution we utilize 300 mcG/mL of Filgrastim regardless of the patient's weight. Thus, we are interested in observing whether a lower dose of Filgrastim is as successful at both increasing neutrophil counts and consequently reducing complication rates in patients with higher weights (> 60 kg) as compared to those with lower BMIs.

Methods
A retrospective chart review identified 91 total patients treated at our institution with 300 mcG/mL of Filgrastim over 150 total encounters. Patients with hematologic malignancies were excluded. Thirty patients had weights less than or equal to 60 kg, and 61 patients had weights > 60 kg. Primary outcomes included whether there was a rise in WBC and ANC following Filgrastim, whether patients experienced febrile neutropenia or infections, and whether patients had a delay of chemotherapy or required dose reductions. Univariate logistic regressions (or Fisher's exact test when logistic regression was not feasible) were utilized to examine potential correlations between outcomes of interest, weight > 60 kg and other

patient characteristics, as well as chemotherapy agents utilized and cancer site.

Results
Following administration of Filgrastim, 98% and 95.33% of encounters had documented rises in WBC and ANC, respectively. Average increases in WBC and ANC counts were 5222 (range: -1300 to 34200) and 4363.49 (range: -1290 to 32000), respectively. Within a week of Filgrastim administration, 6% percent of encounters had infections, 6% had delays in chemotherapy, 4% had hospitalizations secondary to neutropenic fever, and 24.66% had dose reductions. Notably, weight > 60 kg was not associated with a poorer response in either WBC ($p = 0.222$) or ANC ($p = 0.872$) counts, and no other variables examined were correlated with poor response. Similarly, no variables were associated with an increased risk of either treatment delay or neutropenic fever. Bevacizumab administration was found to be associated with dose reductions ($p = 0.037$) and carboplatin with infection risk ($p = 0.006$). Weight > 60 kg was most correlated with an increased risk of infection but was not found to be statistically significant following Fisher's exact test ($p = 0.0575$).

Conclusion
Based on our findings, patients with weights over 60 kg experience similar immune responses and complication rates as those receiving the recommended 5 mcG/kg dose. As such, a 300 mcG/mL may be appropriate regardless of patient weight given similar outcomes.

Quality & Safety Summit Abstract Submission Form

Presenter
Obadah Aqtash MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Hisham Awad MD

Department
Internal medicine resident

Key Participant 2

Name
Chris Fitzpatrick PharmD

Department
Pharmacy resident

Key Participant 3

Name
Derek Evans Pharm D

Department
Infectious Disease Clinical Pharmacist

Key Participant 4

Name
Kara Willenburg MD

Department
Infectious Disease

Key Participant 5

Name

Department

Abstract

Title
Inappropriate Testing for Clostridium Difficile Infection (CDI) for Hospitalized Patients, a closer look

Objective
Clostridium Difficile (C-Diff) infection is a known cause of mortality and morbidity in hospitals, it adds nearly 4.8 billion dollars a year to the health care burden [1]. Hospitalized patients are usually exposed to a multitude of factors that can increase their risk of developing C-diff. Testing for this organism is governed by guidelines highlighted in the Infectious Diseases Society of America (IDSA). Only patients with clinically significant diarrhea benefit from testing as a positive test can represent colonization or active disease. Our objective is to minimize unnecessary testing for C-Diff by providing health care clinicians with the latest evidence based guidelines in managing patients' diarrhea. We also aim to outline the financial benefits that result from minimizing inappropriate testing.

Methods
Single center prospective study.

A clinically significant diarrhea was defined by the IDSA guideline for Clostridium difficile diarrhea as having at least three watery bowel movements within 24 hours. Unless this was clearly documented in the patient's file, a bedside patient interview was held for verification. Complete patient profile review was performed for all patients who were hospitalized for greater than or equal to seven days and tested for C-diff. Our aim was to detect any potential medications or interventions that could lead to developing diarrhea; Including antibiotics and proton pump inhibitor (PPI) use within 7 days prior to development of diarrhea, a bowel regimen for constipation or tube feeding within 48 hours of onset of diarrhea. Those factors were documented separately in a Microsoft Excel spreadsheet.

Results

Our preliminary results are based on the data we gathered between the 8th and 31 of October. A total of 45 C-Diff DNA amplified tests were performed, of those 45 cases, only 14 cases (31%) met the guidelines for collection while 31 cases (69%) did not meet these guidelines. Of the 14 cases that met the guidelines, only 4 (28%) cases came back positive for C-Diff, which is equal to 8% of the total sample. Of the 31 cases that didn't meet the guidelines, 10 cases didn't undergo any testing as patients were unable to provide a stool sample, the other 21 cases were tested for C-diff and all were found to be negative. In the 23 days during which the trial was conducted, we estimated the financial burden of the negative tests that did not meet the guidelines was around $6000. Highlighting that this number doesn't include the cost of sample containers, transport, testing kits, prophylactic antibiotics, and isolation rooms/equipment's.

Conclusion

Testing for C-Diff infection in patients with no clinically significant diarrhea has an extremely low yield. Additionally, testing those patients has a significant negative financial impact, as well as a negative psychological impact that results from being placed in isolation rooms. In addition, there is risk of side effects with the unnecessary use of prophylactic antibiotics. It was not shown by our study but there is risk that colonized patients will be inappropriately treated and will lead to a false rate of C-diff diarrhea in a facility. After all the data is collected, a formal in-service for the nursing staff will be completed by one of our pharmacy residents. The in-service will provide education on C-diff infections and give recommendations according to the IDSA for when a patient should be tested for C-diff to help eliminate inappropriate testing. After the in-service is provided, data will continue to be collected and compared to data collected prior to in-service intervention. The hope is that the education will better assist the nursing staff on when to suspect a CDI.

Quality & Safety Summit Abstract Submission Form

Presenter
Khaled Al-Farawi, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Khaled Al-Farawi

Department
Pediatrics

Key Participant 2

Name
Lauren Burgunder

Department
Pediatrics

Key Participant 3

Name
Deborah Preston

Department
Pediatrics

Key Participant 4

Name
Amanda Pauley

Department
OBGYN

Key Participant 5

Name
Joseph Evans

Department
Pediatrics

Abstract

Title
Quality improvement project to change the current practice of umbilical cord clamping after delivery

Objective
To change the current practice of umbilical cord clamping in Cabell Huntington Hospital to match the new recommended clamping delay by Neonatal Resuscitation Program (NRP).

Methods
Our methodology first include observation of current cord clamping practices. First intervention will be through carrying educational sessions with the OB department including the attending and resident. Subsequently we will have a member of the obstetrical section discuss the plan with the entire delivery room team about the advantages of delayed cord clamping.
Rules will be assigned with the help of the obstetric attending to team members; most specifically the second nurse who will remind the team and will set up the timer provided by our department.
This timer will alarm in 30 seconds to allow the delivering physician to know when to clamp the umbilical cord, and to ensure sustainability, umbilical cord clamping time will be recorded in delivery room record.

Results
Our preliminary observation showed an immediate cord clamping practices (less than 20 seconds). Meeting with the OB staff was held. The use of the 30 seconds timer after deliveries will be implemented in December, 2016. Medical students that are involved in the project will be attending deliveries to document the effect of this new intervention on cord clamping practice.

Conclusion
The benefits of delayed cord clamping are more robust in preterm infant including decreasing mortality, higher blood pressure, less need for blood transfusion, lower risk for IVH and NEC.
More recently, delayed cord clamping in term infant have been shown to decrease the incidence of Iron deficiency anemia and may improve neurodevelopmental outcomes in children.
We believe our project will carry no more than the minimal risk present, our project and the intervention proposed carries no diagnostic or treatment purposes rather than improving the current standard of practice.

Based of first PDSA cycle results, we will work on further intervention

Quality & Safety Summit Abstract Submission Form

Presenter
Yara E. Tovar

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Dr Driscoll

Department
Endocrinology

Abstract

Title
Mealtime insulin: the challenge of improving outcome through coordinated care

Objective
Management of diabetes and hyperglycemia is an important quality care indicator in the hospital setting. The management of glycemic control is complex, it involves glucose monitoring, insulin administration, appropriate timing of meal delivery and evaluation of nutritional intake. All of these steps are crucial in the safe and effective care of patients. Recently the American Hospital Association provided the top 10 evidence based interventions to address adverse drug events; this list included coordination of meals and insulin as top priority.
It is necessary that mealtime intake, insulin administration, and glucose monitoring be tightly coordinated. A few studies have evaluated this process and have shown that the frame required for rapid-acting insulin is not being met. Interventions done to improve consistency in coordination synchronizing insulin administration with meal tray arrival showed an increase percentage of rapid-acting insulin doses given within the designated time interval from 46% to 71 % prior to lunch and 38% to 64% prior to evening meal. Engle et al redesigned workflow of the dietary and nursing departments and with changes the percentage of patients who receive their insulin within 30 minutes of a glucose check improved from 35 % to 73% within 21 months. An academic teaching hospital adopted interventions to standardize clinical processes and showed patients receiving insulin within 30 minutes of blood glucose monitoring increased from 39% to 97%.
These challenges emphasize the need of synchronized processes in insulin administration, glucose monitoring and nutritional intake.
Findings show opportunities to synchronize insulin administration, meal delivery and meal intake. Lack of coordination can contribute to adverse drug events and poor glycemic control. Improving or developing optimal processes is crucial for glucose control.
In our hospital, as of 6/29/16, meal time insulin has been scheduled after meal. Insulin will be administered per physician order only if patient has eaten greater than 25% of their meal.
The purpose of this project is to improve mealtime insulin timing and evaluate if changes are being implemented and how it affected glycemic control in hospitalized patients.

Methods
After an initial 3-month observation period a questionnaire will be given to nurses who have patients with diabetes and have insulin scheduled before meals. The questionnaire will include following questions:1.
How many minutes before meal was glucose checked?
2. How much did patient eat?
a. < 25%

b. 25% to 50%
c. > 50%
3. When was meal insulin given?
a. 15 minutes before meal
b. with meals
c. right after patient finished his/her meal
d. >30 min after meal
4. What is the biggest challenge documenting time glucose was checked, insulin given and meal intake?

Results
The data will be collected in following months and based on results more recommendations will be made.

Conclusion
A limitation encounter so far is that a significant amount of patients are given insulin sliding scale instead of premeal insulin to cover mealtime glucose.

Quality & Safety Summit Abstract Submission Form

Presenter
Fathia Alfakeri, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Fathia Alfakeri

Department
MUSOM Internal medicine

Key Participant 2

Name
Ahlim Alsanani

Department
MUSOM Internal Medicine.

Key Participant 3

Name
Shada Attraplsi

Department
MUSOM Internal Medicine

Key Participant 4

Name
Fikirte Feleke

Department
MUSOM internal Medicine

Key Participant 5

Name
Emnet Wassie

Department
MUSOM Internal Medicine

Abstract

Title
Performance Assessment and Quality Improvement Project for Diabetic Foot Exam among Internal Medicine Residents

Objective
According to the American Diabetic Association, the estimated total economic cost of diagnosed diabetes in 2012 is $245 billion, a 41% increase from the previous estimate of $174 billion (in 2007 dollars). An estimated 24 million people in the US have diabetes, and the number is expected to double by the year 2030. A person with diabetes spends $11,744 annually on health care costs compared to $5,095 for a person without diabetes.

According to the Amputee Coalition of America, diabetes related amputations cost approximately $3 billion per year or $ 38,077 per amputation procedure. Lower extremity
Amputations (LEAs) and ulcerations are major causes of morbidity, and a potent predictor of all-cause and cardiovascular mortality in patients with diabetes

As of the fact that pay for performance functions under the principle that health care providers deliver the right care to the right patient under the right circumstances in order to meet national benchmarks for outcomes, the Practice Assessment and Quality Improvement projects became a requirement for the completion of residency training, and obtaining American Board of Internal Medicine.

We introduce a module for ambulatory care QI project that is currently ongoing to assess all Internal Medicine residents' performance and outcome in taking care of all diabetic patients in terms of performing a comprehensive diabetic foot exam, including and more specifically directed to assess the use and application of the 10g monofilament testing for detection of diabetic neuropathy. The monofilament examination is a valid and clinically feasible biomarker for diabetic neuropathy with 57.9% sensitivity and 100% specificity.

The overall goal of our Bottom-Up (Resident Initiated) QI model is to improve the care of diabetic patients by evaluating our performance in core topics in diabetes care, , therefore implementing a reliable clinical process that will help us achieve the desired output. The objective of our project is to achieve 100% performance compliance of the comprehensive diabetic foot exam among the internal medicine residents in the outpatient setting.

Methods

Our project is built up on three consecutive phases:

Phase 1: is concerned with assessing the current situation with regard to our residents' performance of the diabetic foot exam. This phase is of two stages: In the first stage, we undertook a descriptive study among all internal medicine second and third year categorical residents to assess their knowledge about the importance and the applicability of the diabetic foot exam in early diagnosis of diabetic neuropathy and prevention of diabetes related amputations, and to assess their own perception of the exam self-performance. This stage was completed by delivering a written survey questionnaire to all PGY-2 and PGY-3 categorical residents. Stage 2 was collecting data for 143 diabetic patients by 28 categorical residents during the last 2 years of their ambulatory care rotations. Every resident was asked to gather information about his own diabetic patients in terms of performing foot inspection, Dorsalis Pedis pulse palpation, performing 10g monofilament testing, counselling patients about diabetic foot care, and referral to a podiatry. All patients with type 2 diabetes were considered eligible, irrespective of age, duration of diabetes, presence or absence of foot ulcer or type of treatment

Phase 2: is the "Intervention phase" , during this phase we will introduce the module to improve our outcome by giving quarterly video lectures to bring residents' attention to the importance of the diabetic foot exam, how to perform the monofilament testing and how to interpret the results. We will also provide a template to be inserted in the physician's note called "60-second diabetic foot screen". Completion of this template by the healthcare provider will be made conditional in order to sing the assessment note every 6 months. As the availability of the monofilament apparatus was one of the obstacles to why the test was not performed in a timely manner, we are also planning to provide every resident with the monofilament apparatus to be used solely by the resident for everyday use. Additionally, educational flayers and posters will be made available in places where every day clinic takes place.

Phase 3: is the "Revaluation phase", is to be conducted every 6 months after the intervention has been implemented to assess the ongoing performance, method and tools are to be determined at that time spot.

Following completion of the above mentioned three phases, and according to the outcome, we are planning to implement and maintain the changes using the Plan-Do-Check-Act (PDCA) cycle as described by W. Edwards Deming. The idea of this cycle is that a plan is executed, tested, and action is taken based on the outcomes. The PDCA cycle is continuous because interventions that are not producing anticipated results will promote the opportunity to begin the cycle once again.

Results

As of this time, the first phase has been completed. We used a written survey questioner to assess the residents' knowledge of the importance of the test and their perception to their own performance. The survey is made up of 17 questions that assess residents' understanding of the epidemiology of neuropathy and foot ulceration, their awareness of the most common cause of foot ulceration, key components for foot ulcer risk assessment. It also assesses how often do residents think foot exam has to be performed. We also assessed their perception of the spectrum of the usefulness of the monofilament testing in detecting peripheral neuropathy, how to perform the test and how to interpret the results. Results (as illustrated in Appendix A) revealed that among the 28 residents participated only 25.93% are aware of the contributing risk factors to diabetic foot ulcer, 100% of them have the understanding that careful diabetic foot exam is the key components for foot ulcer risk assessment, only 17.13% know that according to the guidelines, diabetic foot exam should be performed every 6 months. Residents perceived their performance to the diabetic foot exam without reviewing their patients' charts as the following: 88.46% of the residents think that they are compliant with foot inspection, 92.31% of them reported always assessing peripheral pulses, while only 42.31% chose being compliant with testing for loss of protection sensation with 10g monofilament, and only 34.62% perceived their performance as being compliant with testing vibration, pinprick, ankle reflexes and perception threshold, less than 50% of the residents answered correctly for the questions that assess the appropriate methods, steps and scoring of the monofilament testing.

Results of stage 2 were obtained by the use of the descriptive statistic to interpret data collected by the residents themselves through patient chart reviews for the last 2 years of their ambulatory care period, 28 residents had participated, and a pool of 143 Diabetic patients was obtained. Complete list of results is illustrated in Appendix B, for instance about 65% of our 143 patients have never had a monofilament testing during the last two years, 28.6% had it performed once, and only 6.5% had the test performed two times or more. Out of our 28 residents, only 8 (5.5%) residents had used the mono filament testing as a tool for early diagnosis of diabetic neuropathy.

Conclusion

Discussion:

Our initial goal is to improve our residents' performance in taking better care of their diabetic patients especially from the perspective of performing a comprehensive diabetic foot exam including a monofilament testing. Our objective is to achieve 100% compliance with our residents use and applicability of the diabetic foot exam utilizing the usefulness of the 10g monofilament testing. As we are only half way through our project, the only available data to discuss for the time being are about how and how often our residents are performing the exam. Our results indicate that a large percentage of our patients are not getting the required diabetic foot care, results revealed that only two aspects of foot exam were routinely done by the residents, namely foot inspection and DP pulse palpation. Neither monofilament testing, nor diabetic foot education was adequately performed. Residents' awareness of the diabetic neuropathy and the importance of the early diagnosis, with proper treatment and/or podiatry referral is sub-optimal and under the expected level of performance that necessitates implementing an improvement project.

Conclusion:

Diabetic neuropathy, diabetic foot ulcerations and the subsequent amputations in patients with diabetes are a common complication. Health care providers are in a distinctive position to get involved by performing a routine comprehensive preventive foot at least once every 6 month, with at least every encounter visual foot assessment in order to prevent further deterioration. Our project is still ongoing, with our goal to achieve 100% compliance in the next 1 year.

Quality & Safety Summit Abstract Submission Form

Presenter
Charles Bishop MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Charles Bishop MD

Department
Orthopaedics

Abstract

Title
Orthopaedic Trauma Surgery DVT Prophylaxis Guidelines

Objective
The prevention and treatment of venous thromboembolism remains a crucial topic in patients with orthopaedic trauma. Optimal prevention remains a controversial in the orthopaedic literature and tends to vary between institutions and organizations. The goal of this review is to standardize the prophylactic regimen at our institution with goal to establish safe guidelines and decrease morbidity from these events and related complications.

Methods
Using the most recent recommendations by the American College of Chest Physicians a standardized guideline for optimal prevention of DVT will be set forth.

Results
Using the most recent recommendations by the American College of Chest Physicians a standardized guideline for optimal prevention of DVT will be created.

Conclusion
By creating a standardized set of evidence-based guidelines for the prevention of DVT after orthopaedic trauma we can expect a decrease in morbidity from these events and related complications.

Quality & Safety Summit Abstract Submission Form

Presenter
Ahmed Amro, M.D.

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Ahmed Amro

Department
IM

Key Participant 2

Name
Alaa Gabi

Department
Cardiology

Key Participant 3

Name
Obada Aqtash

Department
IM

Key Participant 4

Name
Wassem Ahmed

Department
MUSOM

Key Participant 5

Name
Madhulika Urella

Department
MUSOM

Key Participant 6

Name
David Francke

Department
Cardiology

Key Participant 7

Name
Sutoidem Akpanudo

Department
IM

Key Participant 8

Name
Rameez Sayyed

Department
Cardiology

Abstract

Title

Objective

Methods

Results

Conclusion

Quality & Safety Summit Abstract Submission Form

Presenter
Jerrod Justice, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Jerrod Justice, MD

Department
Resident - OB/GYN

Key Participant 2

Name
Kristin Sinning, MD

Department
Resident - OB/GYN

Key Participant 3

Name
Stuart May, MD

Department
Resident - OB/GYN

Key Participant 4

Name
Melissa Rowe, MD

Department
Resident - OB/GYN

Key Participant 5

Name
Jared Brownfield, MD

Department
Faculty Advisor - OB/GYN

Abstract

Title
Acute Dyspnea in Pregnancy - A plan to more readily identify the safest department for initial evaluation

Objective
Dyspnea is very common in pregnancy. With pulmonary embolism (PE) being the sixth leading cause of maternal mortality during pregnancy, a high index of suspicion, effective triage, and proper management are imperative for improving maternal survival. However, the differentiation of dyspnea due to acute cardiopulmonary etiologies from dyspnea associated with normal physiologic changes of pregnancy can be challenging for healthcare providers. This can lead to delays in diagnostics and treatment. As an example, we present a case that exemplifies this struggle: a recent pregnant patient was not appropriately triaged to the Emergency Department, and thus, her diagnosis of bilateral pneumonia and ICU admission were delayed.

Methods
Traditional scoring systems used for predicting probability of PE, such as the Wells Score, have not been validated in pregnancy, making risk stratification difficult. Determining whether mothers with dyspnea

should be initially evaluated in LDR Triage or the Emergency Department can cause confusion among providers, leading to unnecessary and potentially life-threatening delays in management. However, certain qualities and descriptors patients use to explain their dyspnea have been used to provide clues toward various etiologies. In such, specific clusters of phrases have been associated to distinct diagnoses. By implementing a dyspnea classification questionnaire, we hope to more efficiently place patients in the safest department upon arrival.

Results
The dyspnea classification questionnaire has not yet been implicated.

Conclusion
We predict implementing a dyspnea classification questionnaire will more efficiently place patients in the safest department (OB triage vs Emergency Department). We predict this decrease time to diagnosis and treatment for pregnant patients with dyspnea will help improve survivability in those with PE or other acute cardiopulmonary disease processes.

Quality & Safety Summit Abstract Submission Form

Presenter
Johnson Walker, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Johnson Walker, MD

Department
Surgery

Key Participant 2

Name
Chadwick Knight, MD

Department
Surgery

Key Participant 3

Name
KellyAnn Vandendool, MD

Department
Surgery

Key Participant 4

Name
David Denning, MD

Department
Surgery

Abstract

Title
The Implementation of a Trauma Response Protocol and Its Effect on Patient Care -- An Ongoing Quality Improvement Project to Enhance the Efficiency and Accuracy of the Evaluation and Resuscitation of a Trauma Patient

Objective
Major trauma centers across the country have developed detailed protocols for which departments and healthcare providers should respond to a trauma activation in the Emergency Department. Without clear roles for each member of the trauma team, trauma activations can be chaotic and inefficient. Our team, in an effort to improve the efficiency and accuracy of the evaluation and resuscitation of a trauma patient, has delineated these roles for our facility. We hypothesize that clear delineation of team member roles and strict adherence to an established trauma activation response protocol will lead to more efficient evaluation, and subsequently more expeditious CT scanning, of the trauma patient.

Methods
We calculated door-to-CT scan time for all Priority I (P1) and Priority II (P2) trauma activations over a 6 month period in the last year. The newly established trauma protocol was posted in each trauma bay, so providers had a visual aid as to who was allowed in the room and where they should stand. We conducted in-service education sessions with the ED staff and physicians, as well as the Surgery department and the auxiliary staff. After a one month “learning curve” period to acclimate, we initiated the trauma response protocol and recorded door-to-CT scan time for all Priority I and Priority II trauma activations for the 6

months following implementation. Data were collected, averaged monthly and tested for significance against pre-implementation data.

Results

The trauma activation response protocol outlines the appropriate chain of communication, as well as the specific role and physical position of each respondent. Every task that is required in the resuscitation of a trauma patient can be accomplished by these four bedside providers, with help from the auxiliary team members, as directed by the Senior Surgery resident. Without extra people in the trauma bay, the evaluation of these patients can be without delay.

The data from the post-implementation period show a statistically significant decrease in the overall average door-to-CT scan for all activation levels, both individually and combined. The establishment of the responsibilities of respondents, as well as the removal of extra persons from the room, has led to much more timely evaluation and disposition.

The trauma literature has long accepted the twenty-minute mark as an acceptable time-to-CT scanning. We continue to aim for this goal as a facility. Monthly breakdowns of the data show marked improvement in our facility's door-to-CT scan time during the first few months of the protocol's initiation; however, this time has been found to be increasing over the past few months. This will require re-education and re-emphasis on the importance of this benchmark. Trauma services have purchased digital wall timers for each trauma bay to further encourage and remind the Trauma team to expedite their evaluations and resuscitation.

Our next step will be to examine patient outcomes in trauma activations. Do more rapid CT scans help diagnose and accelerate the management of potentially life-threatening trauma-related conditions? Are morbidity and mortality effected by more expeditious transit to the CT scanner?

Conclusion

The implementation of a comprehensive trauma activation response protocol, including a chain of communication, detailed roles, and physical positioning, has led to a significant reduction in the overall time-to-CT scanning in all alerted trauma patients. Continued education is needed with the Trauma team and ER staff periodically to re-emphasize the importance of adherence to the protocol and to discuss research results. Further studies are warranted to examine the relationship between time-to-CT scanning and ER disposition to trauma patient outcomes, including morbidity and mortality.

Quality & Safety Summit Abstract Submission Form

Presenter
Incidental Radiographic Findings in Trauma at Cabell Huntington Hospital: Assessment of Adequate Discharge Summaries Documentation and Follow-Up

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Thao Wolbert

Department
Surgery

Key Participant 2

Name
Yinan Wei

Department
Surgery

Key Participant 3

Name
Andrew Venardi

Department
Surgery

Key Participant 4

Name
Alex Brenner

Department
Surgery

Key Participant 5

Name
Yasir Ahmad

Department
Surgery

Key Participant 6

Name
Brandon Flores

Department
Surgery

Key Participant 7

Name
Brian Czarkowski

Department
Surgery

Abstract

Title
Incidental Radiographic Findings in Trauma at Cabell Huntington Hospital: Assessment of Adequate Discharge Summaries Documentation and Follow-Up

Objective
Trauma remains a major cause of morbidity and mortality in the US. Diagnostic radiology, especially CT

scans remain a crucial part of workup for trauma patients. CT scans are sensitive to identify traumatic injuries as well as incidental findings (IFs) that are not related to the traumatic episode(1). Recently, there is increasing concern regarding addressing these findings in discharge summaries (DS) and follow-up recommendations for trauma patients at Cabell Huntington Hospital. This could result in progression of diseases or a delay in diagnosis. A concise DS is crucial for maintaining continuity of care and health surveillance, in order to promote early detection and treatment (2). Errors and insufficient recommendations regarding Ifs requiring further work-up may potentially harm the patient's health.

This study is conducted to identify the prevalence of IFs in a population of trauma patients that presented to Cabell Huntington Hospital and the consequent handling of these findings in the DS and follow-up appointments.

Methods

All patients presented to Cabell Huntington Hospital as trauma activation & consultation from the period of 07/01/2016 to 11/1/2016 were identified retrospectively from the daily patient hand-out lists. These patients were under medical care of surgical residents including residents conducting this study. Medical records of all identified patients in trauma services during this period were reviewed. Patients who received a CT scan of head, chest, or abdomen/pelvis will be included in the study. All imaging CT reports were reviewed for IFs that require further workup. DS were reviewed for documenting these findings and for managing follow-up appointments. Typically, we do not include incidental radiographic findings that would not require any further intervention or workup. These were benign renal cysts, benign ovarian cysts, chronic changes, diverticular diseases, hernias, chronic granulomatous diseases, or known medical conditions that were mentioned in H&P.

Results

There are 177 trauma patients qualified for the study. Most of the patients were in their 4th to 6th decade of life, with the ages ranging from 3 to 98 yo. IFs were noted in 27 patients (15% of all studied trauma patients). Most patients underwent multiple CT scans at the time of presentation as part of initial trauma evaluation, thus there are 3 patients that had multiple IFs found in multiple scans. In our study, CT chest yielded the most IFs, whereas CT head/neck had the least number of findings. There were more IFs than trauma injuries found in CT abdomen/pelvic. DS were available for 26 patients, except one patient that was not admitted. Of these DS, only 15% had adequate documentation of IFs and were referred to outpatient follow-up.

There were no DS mentioning thyroid nodule nor follow-up referral. Lung nodule is the most overall common incidental finding in this study, which accounts for 11 out of all 27 incidental findings. However, only 10% of these patients had the proper notification mentioned in their DS and had referral to MU Pulmonary Clinic.

Adrenal mass was the most common incidental finding in the CT scan of abdomen/pelvic (4 out of all 12 incidental findings). Only 17% of patients had appropriate DS & follow-up investigation

Conclusion

As the use of whole-body CT increases, the prevalence of IFs has also become more common. Our study has been consistent with other studies that showed IFs are significantly more common in patients >40 yo(2).These findings may vary in importance, but all should be communicated to the patients, and some require referral. Dedicated attention to IFs in the trauma setting will continue to be a significant challenge for the trauma team, not only in Cabell Huntington hospital but nationwide (3). Currently, there is a substantial lack of patient notification, of adequate mentioning in DS, and of workup referral. Developing a model for thorough DS and instructing incoming and current interns regarding their contents and appropriate management of IFs are necessary. Awareness of this issue needs to be addressed to current residents across all residencies. Collaborative efforts between radiologists, trauma, emergency physicians and PCPs will be the center of our solutions to the problem. Furthermore, implementation of a designated IF coordinator might solve this potential medical-legal problem. The coordinator is dedicated to capture IFs, in promoting notification, in providing organized follow-up planning.

For the pts in this study that did not have appropriate follow-up, we will notify these pts either by phone

or registered mail and actively make follow-up referrals. To improve future quality, we will document pertinent IFs in H&P as well as DS & discuss IFs with the patient early upon admission. We will make all efforts to keep this recognized patient-care and medical-legal dilemma from recurring, and to ensure overall improving quality of patient's care.

Quality & Safety Summit Abstract Submission Form

Presenter
Matt Krantz MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Matt Krantz MD

Department
Surgery

Key Participant 2

Name
Farzad Amiri, MD

Department
Surgery

Key Participant 3

Name
Farid Mozaffari, MD

Department
Surgery

Key Participant 4

Name
David A. Denning MD

Department
Surgery

Abstract

Title
Central Line Associated Blood Stream Infections: Reducing Total Central Line Days in the Trauma ICU

Objective
Central line associated blood stream infections (CLABSI) are an important source of nosocomial infection. The national CLABSI rate is estimated to be 1.14-1.65 per 1000 central line days. A significant component to reducing CLABSI is decreasing the total amount of days central lines are used. This study aims to delineate the length of time central lines are used in our trauma ICU and risk factors for longer central line use. The second phase of the study will be implementation of a plan to decrease total central line days.

Methods
We conducted a retrospective analysis of our trauma population admitted to the ICU with a central line from 10/1/2013 to 9/30/2014. Inclusion criteria included central lines placed in patients >18 years of age, trauma activation (P1 and P2), admission to the intensive care unit. Exclusion criteria included age <18, patients expiring within 30 days of admission, and patients with sepsis or bacteremia prior to central line placement. We compared the average age, average hospital length of stay, average ICU stay, number of days intubated, and average number of central line days between the highest quartile of central line days and lowest three quartiles.

Results
128 patients met inclusion criteria. No CLABSI were identified. Average length of central line was 9.8d (SD

8.0). There was no significant difference in age (46.5 SD 16.5 v 47 SD20.65). The hospital length of stay (24.8 SD 9.4 v 11.3 SD8.0), ICU length of stay (15.8 SD10.0 v 7.3SD6.4), Ventilator days (10.8 SD 6.6 v 4.8 SD 3.4) and central line days (20.1 SD 8 v 5.9 SD 3.2) were all significantly higher in the top quartile

Conclusion

Our goal is to decrease total central line days in our trauma population. This study delineates which patients are at high risk of prolonged central line use and therefore higher risk of CLABSI. Those patients in the top quartile for central line days also had significantly higher hospital LoS, ICU LoS, and ventilator days. Any improvement to central line days must therefore be focused on this subgroup.

A surprising finding was the lack of CLABSI in 1260 central line days. According to national averages, 1-2 CLABSI would be predicted. This may relate to the high frequency of subclavian central lines placed - 74% of all central lines were placed in the subclavian vein.

The second phase of our project will be the institution of a program to decrease the total number of central line days. This will include daily documentation of number of central line days and need for central line days. Based on the above data, the subgroup at most risk is those with prolonged ICU stay and ventilator time. By decreasing the number of central line days we expect to decrease the number of CLABSI in the trauma ICU.

Quality & Safety Summit Abstract Submission Form

Presenter
Perioperative Services

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name
Jonathon Pritt, MHA

Department
Perioperative Services

Key Participant 2

Name
Tammy Brooks

Department
Perioperative Services

Abstract

Title
Patient Experience in Perioperative Services

Objective
To improve our patient's experience in Perioperative Service, and to exceed our patients expectation.

Methods
We will be using Press Ganey Surveys to collect data in our satisfaction scores. There is a Patient Experience Committee in place that focuses on this data just for Perioperative Services.

Results
Beginning of 2015-2016 Annual Year- Mean Score: 89.6 (National Rank- 6, Regional Rank- 2)
End of 2015-2016 Annual Year- Mean Score: 92.2 (National Rank- 23, Regional Rank- 10)
We have improve scores with a mean score increase (2.7), national rank increase (17), and regional rank (8).

Conclusion
Our department is continuously looking for improvements regarding our patient's experience. Next steps are to focus on next year's annual action plan, create a subcommittee to follow through on projects, and focus more on employee engagement.

Quality & Safety Summit Abstract Submission Form

Presenter
John Thornburg BSN, RN

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name

Department
Neuroscience Unit (4N)

Abstract

Title
Central Line Tampering Initative

Objective
Reduce the number of Central Line Associated Blood Stream Infections (CLABSI) within the IV drug abuse patient population during hospitalization associated with line tampering by the patient or agent of the patient.

Methods
Identify blood stream infections that did not count toward the CLABSI due to line tampering in the adult inpatient population.

Results
Positive.

Conclusion
Initiative successful.

Quality & Safety Summit Abstract Submission Form

Presenter
Erin Johnson RNC, BSN

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name
Emily Stacy RN, MSN

Department
Mother/baby Unit

Abstract

Title
Skin-to-skin Newborn Care: Best Practice for Maternal Satisfaction

Objective
Aim: To improve the national average of breastfeeding mothers that exclusively breastfeed their babies for six months to one year. To improve maternal satisfaction through a practice change and preventing the separation of the mother from her newborn after delivery to increase maternal breastfeeding efficacy.

Methods
For many years, the standard nursing practice has been to take the baby away from the mother to be cleaned, dried, warmed and assessed. Evidence has been shown that skin-to-skin contact immediately following birth is best practice and it promotes a faster and easier transition from fetal to newborn life. To initiate skin-to-skin contact, the newborn is placed within minutes after birth, naked with a cap on their heads onto their mother's bare chest with a warm blanket across the baby's back. Skin-to-skin provides long and short-term benefits for the mother and newborn. Mothers who have their newborns skin-to-skin after birth tend to breastfeed for a longer period of time; have improved maternal bonding behaviors, and less anxiety. The standard of practice at this time is to separate the mother and infant after an hour of skin-to-skin care and take the baby to the nursery. The new practice will be to provide best practice by providing continuous and uninterrupted skin-to-skin contact from the labor/delivery area to the mother/baby unit. Nursing assessments and interventions can be performed while the newborn is in skin-to-skin contact or delayed.

Results
At this time skin-to-skin contact is being initiated on Labor/Delivery by nursing staff and Ob physicians with positive results with new mothers. Breastfeeding is being initiated and assistance is being provided by the Labor/Delivery nursing staff. The next step for improving maternal satisfaction and increasing the length of mother's who exclusively breastfeed their newborns will be to have the baby remain skin-to-skin contact from Labor/Delivery to the mother's room on the Mother/Baby Unit to prevent separation

Conclusion
We aim to improve mother and newborn bonding in the maternal child area. The process beings with the need to improve the separation of the mother from the newborn after birth and ends with the mother and newborn remaining together after birth. By working on the process, we expect to increase patient satisfaction, improve patient safety with timeliness and effective communication, and improve mother/baby bonding. It is important to work on this now because we have identified the need to improve patients, families and care professional's satisfaction, reduce stress, improve patient care and efficiency, and

prevention of near misses and errors.

Quality & Safety Summit Abstract Submission Form

Presenter
Thompson, E MD; Baronowsky, A MD; Duran, R MD; Vo, B MD; Barry, R MD; Cho, J MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Rafael Duran

Department
Surgery

Key Participant 2

Name
Jae Hee Cho

Department
Surgery

Key Participant 3

Name
Bradly Vo

Department
Surgery

Key Participant 4

Name
Rahman Barry

Department
Surgery

Key Participant 5

Name
Alex Baronowsky

Department
Surgery

Key Participant 6

Name
Errington Thompson

Department
Surgery

Abstract

Title
Accurate Weight Measurements in Critically Ill PatientsThompson, E MD; Baronowsky, A MD; Duran, R MD; Vo, B MD; Barry, R MD; Cho, J MD

Objective
Accurate daily weights are a crucial part of critical care medicine. Daily weights play a role in fluid management, medication dosing, and parenteral/enteral feeding management, as a few examples. It has come to the attention of these authors that daily weights are often unchanging in the medical record from admission weights for patients in the ICU. This has been observed in patients that have undergone aggressive fluid resuscitation, have acute or chronic congestive heart failure, and chronic renal disease. We are proposing a Quality Improvement strategy to obtain accurate daily weights on ICU patients. This initial study will consist of an initial effort by the Surgery resident and medical student team to obtain a daily

weight on ambulatory ICU patients, using the same standing scale, daily for 7 days. The result of this will be compared to the recorded daily weights of other ambulatory ICU patients documented in the EMR. If these results differ with significance, an in service will be implemented for the ICU staff on how to obtain accurate weights on ICU patients. If an in service is performed, the same study will be repeated and the results of both studies compared to assess for improvement.

Methods

MEASURING TOOLS:
Standing scale
Patient chair scale
Wheelchair scale
Bedridden patient
Hydraulic lift hoist scale
Under bed hydraulic scale
Digital in-bed scale

MEDICAL CONDITIONs:
CHF, Renal failure, malnutrition, electrolyte abd
Trauma resuscitation.
Accurate weights are important in these commonly seen conditions in a surgical ICU

Results

INTERVENTION:
Following the 1 week period of daily weighing of ambulatory ICU patient, if a significant discrepancy is identified we would proceed for an in training for ICU staff in regards to importance of accurate weights as well as to how to adequately operate the tools available to us in our ICU.

Conclusion

FUTURE PLAN:
Following a successful in training we would proceed at some period w/l the next 1 year to again compare weight measurements to check for adequate correlation and in that sense measure the success of our intervention

Quality & Safety Summit Abstract Submission Form

Presenter
Lora Beth Fetty M.D.

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Elizabeth Saunders, M.D.

Department
MU Internal Medicine department

Key Participant 2

Name
Shannon Browning, M.D. , Pharm D

Department
MU Internal Medicine department

Key Participant 3

Name
Angela Chaffins, R.N., BSN

Department
MU Internal Medicine Department

Abstract

Title
Improving the Management of Chronic Health Conditions through the Implementation of a Chronic Care Management Program

Objective
As of 2012, 117 million Americans had one or more chronic health conditions and twenty-five percent of adults had two or more chronic health conditions. By the year 2020 the number is expected to grow to 157 million. In 2010, eighty-six percent of all health care spending was for individuals with one or more chronic medical conditions and this is expected to significantly increase over the next few years as well. Care coordination that focuses on the management of patients with multiple chronic medical conditions improves health care quality and reduces health care costs. Studies have shown that interventions based on chronic care model components improve outcome measures for disease states and reduce health care costs or lower the use of health care services. Beginning January 1, 2015, Medicare began reimbursing for Chronic Care Management (billed as the CPT code 99490), for non-face-to-face care coordination of individuals with multiple chronic conditions. The Department of Internal Medicine at our institution implemented a new Chronic Care management Program in January 2016. The department has successfully enrolled and maintained patients in the program, increased billing opportunities, and improved overall individualized health care.

Methods
The Internal Medicine Department at Marshall University implemented a new Chronic Care Management Program in January 2016. The targeted patient population was individuals with two or more chronic conditions that, under the care of the coordinator, would receive individualized comprehensive care plans. These monthly plans focus on two or more chronic conditions for 20-minutes of non-face-to-face time per calendar month, as outlined by the Centers for Medicare and Medicaid Services. Patients were enrolled in the Chronic Care Management Program after the patient care coordinator obtained informed consent. The

number of Internal Medicine patients enrolled and the number of Chronic Care Management codes billed were tracked for each month of intervention.

Results
The Department of Medicine has successfully implemented a Chronic Care Management Program that enrolled and monitored patients monthly, delivering an improved overall individualized health care plan for our participating patients. We have also successfully increased the billing opportunities for Chronic Care Management and thus reimbursement for the department. We are currently processing data to see if the implementation of the program has reduced hospitalizations or acute care visits.

Conclusion
The Department of Internal Medicine continues to use the new Chronic Care Management Program which has improved the tracking of our patients with multiple chronic medical conditions and overall healthcare quality. Through the implementation of the Chronic Care Management Program, we also increased billing opportunities for Chronic Care Management and thus reimbursement for the department.

Quality & Safety Summit Abstract Submission Form

Presenter
Jennifer Ball RN

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name
Jennifer Ball

Department
Float Pool

Key Participant 2

Name
John Thornburg

Department
4 North

Key Participant 3

Name
Michele McMaster

Department
Peds/PICU

Key Participant 4

Name
Dawn Jobe

Department
MICU

Abstract

Title
Decreasing in-patient use of restraints

Objective
To identify and implement ways to decrease the usage of restraints in the in-patient population.

Methods
Real time auditing to ensure diversion methods are employed, consistent monitoring for readiness to release as well as documented changes in patient behavior.

Results
With increase awareness we can decrease the usage of restraints within our patient population. By looking at the percentage of restrained patient compared to our census instead of just raw restrained days gives us a more accurate way to measure overall usage.

Conclusion
Constant real time monitoring and education can decrease the usage of restraints in our patients.

Quality & Safety Summit Abstract Submission Form

Presenter
Igor Wanko MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Igor Wanko MD

Department
Surgery

Key Participant 2

Name
Keitaro Nakamoto MD

Department
Surgery

Abstract

Title
Reducing Inappropriate Gastric Acid Suppressive Medication Use in Our Hospital

Objective
A large number of patients that are admitted to our hospital are reflexively ordered to be on a PPI or H2 blocker for “GI prophylaxis” or to prevent stress induced peptic ulcers (Stress ulcers).
PPI and H2 blockers can cause serious complications including C. diff associated disease (CDAD) and pneumonia.
Indications have to be considered carefully before ordering a patient for gastric acid suppressive medication to prevent its inappropriate use.

Methods
Plan to implement a checkbox when ordering a PPI or H2 blocker on all inpatients as well as an educational blurb
Providers are not able to order until they have checked a valid indication

Follow up on percentage of admitted patients receiving acid suppression and the change in incidence of pneumonia and c diff infections

Results
The inappropriate use of gastric acid suppressive medication in patients admitted to our hospital can lead to increase costs, increased risk of C. diff associated disease, and increased risk of pneumonia.
By providing a checkbox as well as an educational blurb when ordering PPI/H2 blockers we aim to reduce inappropriate use of these medications and thereby decrease the costs and complications these medications can cause.

Conclusion
By providing a checkbox as well as an educational blurb when ordering PPI/H2 blockers we aim to reduce inappropriate use of these medications and thereby decrease the costs and complications these medications can cause.

Quality & Safety Summit Abstract Submission Form

Presenter
Cynthia Jefferson, BSN, RNC-OB Maternal Transport Nurse

Institution
CHH

Role
Maternal Transport Nurse

Team Info

Key Participant 1

Name
Cynthia Jefferson

Department
Labor and delivery

Abstract

Title
Improving Perinatal Outcomes Through Use of a Designated Maternal Transport Team

Objective
Reduce maternal and neonatal morbidity and mortality

Methods
Use of a designated maternal transport team to safely transport high-risk obstetrical patients to Cabell Huntington hospital.
Comparison bar graph on Maternal Child Health Indicators for Cabell County, WV, United States, and Healthy People 2020 baseline and goals

Results
Benefits of a Dedicated Maternal Transport Team:
Improved interfacility care of high-risk obstetric patients
Increased neonatal survival rates
Decreased risk of long-term maternal and neonatal morbidity
Avoids separation of mother and infant in immediate postpartum period
Supports family-centered care

Conclusion
“Improving the well-being of mothers, infants, and children is an important goal for the United States. Their well-being determines the health of the next generation and can help predict future public health challenges for families, communities, and the healthcare system.” (Healthypeople.gov, 2011).

Quality & Safety Summit Abstract Submission Form

Presenter
Frederick Schnatz, DO

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Christopher Jones, MD

Department
MU Cardiology

Abstract

Title
Improved Utilization of Transthroacic Echocardiography

Objective
To examine the pitfalls of inappropriate echo orders and improve utilization

Methods
In this study we reviewed all adult inpatient and outpatient transthoracic echocardiogram (TTE) orders placed at Cabell Huntington Hospital during September 2016. We evaluated all orders and documented basic patient demographics, procedure indication, the service requesting the study as well as consulting specialties. We maintained the indications provided in the dropdown menu available when ordering a TTE in the electronic medical record system as the approved indications for TTE.

Results
In the first 7 days there were a total of 41 inpatient adult transthoracic echocardiograms with orders for review. Overall, 51% (n=41) had no indication for the test included with the order. Review of the different services with more than 3 data points revealed that echos ordered without indications were 58% by the internal medicine teaching service (n=12), 78% by the family medicine teaching service (n=9), 46% by the hospitalist service (n=13) and 0% for the cardiology service (n=5).

Conclusion
We found that there were a disproportionate number of TTE ordered without an approved indication. Of the aforementioned inappropriate TTE orders the majority of them had no associated indication. The lack of a provided indication for TTE required the sonographer to choose an indication from the approved list using their best judgment in assuming what the ordering provider was looking for and leading the reading physician to be unsure if a providers question was appropriately answered. The goal of this study is encourage physicians to use the approved list of indications when ordering a TTE as well as to bolster communication between ordering physicians and reading physicians when there is concern that echocardiography is needed but may not fall under an approved indication. We hope that improved physician to physician communication and adhering to appropriate indications will decrease overutilization, decrease reading time and provide more effective patient care.

Quality & Safety Summit Abstract Submission Form

Presenter
C. Luke Damron, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
C. Luke Damron, MD

Department
Pediatrics

Key Participant 2

Name
Jennifer Biber, MD

Department
Pediatrics

Key Participant 3

Name
Jared Galloway

Department
MUSOM

Abstract

Title
Effect of Asthma Care Protocol on Asthma Severity Score and Length of Stay in PICU

Objective
To reduce length of hospital stay and standardize treatment for acute asthma exacerbation by creating an Asthma Care Path for the pediatric intensive care unit.

Methods
Our study will look retrospectively at a minimum of 51 patients age 2-18yo with ICD codes of asthma, status asthmaticus, or asthma exacerbation requiring admission to the PICU prior to institution of the protocol and 2 years after institution of the protocol with a goal of 100 patients prior to and 100 patients after institution of the protocol. Data will be used to calculate the severity of the patient's exacerbation using Pediatric Risk of Mortality Score (PRISM); analysis of adjunct medications used including magnesium sulfate, aminophyline, and greater than 2 mg/kg glucocorticoids; need for terbutaline; another pre-existing condition; and respiratory support including nasal cannula, high flow nasal cannula, BiPAP, and intubation and mechanical ventilation. Additionally, we will look at length of time on continuous flow albuterol prior to spacing to q2hr; length of stay in PICU; antibiotic therapy; respiratory therapy, nursing, resident, and attending satisfaction with protocol; and deviations from protocol. We will exclude patients with underlying chronic lung or cardiac disease; sickle cell disease; cystic fibrosis; patients outside 2-18 years old; patients on < 1 hr continuous albuterol or who have not had steroids within 1 hour.

An anonymous survey will be provided to respiratory therapists, nurses, residents, and attending physicians asking if the protocol was used, if they received training on the protocol, level of satisfaction with the protocol, and suggestions for improvement.

Results

Albuterol and glucocorticoids are the cornerstones of treatment of asthma exacerbations in the inpatient setting. Many institutions are transitioning from a system of weaning based on physician assessment and individual preference to a protocol which follows set guidelines and can be followed by respiratory therapy, nursing, residents, and physician. Data shows that institution of an asthma care pathway shortens hospital length of stay and facilitates weaning in patients with acute asthma exacerbation. This leads to lower costs for families, less time missed from school and work, and fewer opportunities for nosocomial infections.

Conclusion

Other institutions have instituted asthma care pathways with positive results, and we intend to assess such a protocol in our institution, which would also promote continuity of care with the asthma care path in place on the general pediatrics floor.

Quality & Safety Summit Abstract Submission Form

Presenter
Thao Wolbert, MD; Andrew Venardi, MD; Alex Brenner, MD; Brandon Flores, MD; Brian Crazkowski, MD; Yinan Wei, MD; Yasir Ahmad, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Thao Wolbert, MD

Department
MU Surgery

Key Participant 2

Name
Andrew Venardi, MD

Department
MU Surgery

Key Participant 3

Name
Alex Brenner, MD

Department
MU surgery

Key Participant 4

Name
Brandon Flores, MD;

Department
MU surgery

Key Participant 5

Name
Brian Crazkowski, MD

Department
MU Surgery

Key Participant 6

Name
Yinan Wei, MD

Department
MU surgery

Key Participant 7

Name
Yasir Ahmad, MD

Department
MU surgery

Abstract

Title
Incidental Radiographic Findings in Trauma at Cabell Huntington Hospital: Assessment of Adequate Discharge Summary Documentation and Follow-Up

Objective
Trauma remains a major cause of morbidity and mortality in the US. Diagnostic radiology, especially CT

scans remain a crucial part of workup for trauma patients. CT scans are sensitive to identify traumatic injuries as well as incidental findings (IFs) that are not related to the traumatic episode. This study is conducted to identify the prevalence of IFs in a population of trauma patients that presented to Cabell Huntington Hospital and the consequent handling of these findings in discharge summaries (DS) and follow-up appointments.

Methods
All patients presented to Cabell Huntington Hospital as trauma activation & consultation from the period of 07/01/2016 to 11/1/2016 were identified retrospectively. Medical records of all identified patients in trauma services during this period were reviewed. Patients who received a CT scan of head, chest, or abdomen/pelvis will be included in the study. All imaging CT reports were reviewed for only IFs that require further workup. Discharge summaries were reviewed for documenting these findings and for managing follow-up appointments.

Results
There are 177 trauma patients qualified for the study, with the ages ranging from 3 to 98 yo. IFs were noted in 27 patients (15% of all studied trauma patients). CT chest yielded the most IFs, whereas CT head/neck had the least number of findings. There were more IFs than trauma injuries found in CT abdomen/pelvic. DS were available for 26 patients, except one patient that was not admitted. Of these DS, only 15% had adequate documentation of IFs and were referred to outpatient follow-up. Our study showed IFs are significantly more common in patients >40 yo.

Conclusion
Currently, there is a substantial lack of patient notification, of adequate mentioning in DS, and of workup referral. For the patients in this study that did not have appropriate follow-up, we will notify these patients and actively make follow-up referrals. To improve future quality, pertinent IFs will be addressed in H&P as well as DS & IFs will be discussed with the patient early upon admission. Also, developing a model for thorough DS and instructing incoming and current interns regarding their contents and appropriate management of IFs are necessary. Furthermore, implementation of a designated IF coordinator who is dedicated to manage IFs might solve this dilemma.

Quality & Safety Summit Abstract Submission Form

Presenter
Beth Perrine, RN

Institution
CHH

Role
CHH Employee

Team Info

Key Participant 1

Name
John King, RN

Department
IR

Key Participant 2

Name
Holly Blatt, RT

Department

Abstract

Title
Informed Consent

Objective
To provide uniform knowledge and a consistent process for verifying the ability to give informed consent, determination of incapacitation, and assignment of a healthcare surrogate if needed.

Methods
Provide facility-wide education, including residents and attending physicians, concerning informed consent, determination of incapacitation, and assignment of a healthcare surrogate using hospital policies, TJC and CMS standards as evidence-based education. Additionally, we will be proposing a change to the order-entry process for IR procedures that will include an order flow entry process addressing these topics and will require "YES" answers to proceed with order entry. Lastly, we will be proposing a change to the "Pre-OP Checklist" that is completed by nursing staff prior to patients leaving for procedures that will require staff to address these topics.

Results
These are proposed changes, and we have no results to date. We believe these changes will result in a decrease in delayed procedures due to lack of informed consent, thus producing an increase in staff and patient satisfaction. We are estimating in our current state that 3 out of every 5 inpatient procedures that are ordered result in difficulty obtaining informed consent due to lack of education and knowledge related to these topics. IR staff spend an enormous amount of time addressing these issues that should be in order before a procedure is requested. We are hopeful these changes will result in increased patient flow and allow reallocation of resources to patient care.

Conclusion
Time spent in IR addressing informed consent, incapacitation, and surrogacy is enormous. We are assuming that other procedural departments are having the same issue as IR, and we are proposing changes be made to educate and prompt staff and physicians to address these issues before orders are placed. The most relayed information from staff and physician concerning these topics is lack of knowledge and education concerning these topics, and oversight. Our Improvement Project aims to

address both of these indicators.

Quality & Safety Summit Abstract Submission Form

Presenter
Roma Srivastava MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Hassaan Jafri MD

Department
Internal Medicine

Key Participant 2

Name
Ali Mehmood Raufi MD,FACP

Department
Hematology/Medical Oncology

Key Participant 3

Name
Todd Gress MD,

Department
Internal Medicine

Key Participant 4

Name
Maria Tria Tirona MD

Department
Hematology/Medical Oncology

Abstract

Title
Retrospective study to assess the clinical outcome of treatment delays in breast cancer patients.

Objective
To determine the relationship between diagnosis and time to first treatment on overall survival in breast cancer patients treated at Edward Comprehensive Cancer Center from 2006 to 2016.

Methods
Seven hundred and twenty charts of breast cancer patients were retrospectively reviewed. Time interval between diagnosis and initial treatment modality was determined and set at 30 day increments, (0-30 days, 31 to 60 days, and 61 to 90 days and greater than 90 days).Time from diagnosis to surgery (TTS) and surgery to adjuvant chemotherapy (TTC) were also calculated. Delayed TTC was defined as 91 or more days from surgery to the first dose of adjuvant chemotherapy. Stage wise, 277/720 patients were in stage1, 263 in stage II, 71 in stage III and 40 in stage IV. Statistical analysis was done and Kaplan Meier curves generated to assess the overall survival.

Results
Median age at diagnosis was 60 years. Eighty two percent (595/720) and thirty five percent (255/720) of patients were started on treatment within 31-60 days and within 30 days of diagnosis, respectively. There was a declining trend in survival when TTC was more than 60 days compared to TTC < 60 days. TTC> 90 days was noted in 5.4 % patients whereas >120 days delay was observed in 2.9% patients undergoing

adjuvant chemotherapy. A similar trend was noted when TTS was > 60 days when adjusted for age, stage and hormone status. Patients who received initial treatment (any modality) more than 90 days since diagnosis had the worst survival outcome (hazard ratio of 2.5, 95% CI 1.315 to 4.91, p value =0.005), whereas patients treated more than 60 days since diagnosis showed numerical trend towards declining survival ,which was not statistically significant.

Conclusion

In this retrospective study, poor survival outcome was associated with delay in initiation of anticancer treatment of more than 90 days since diagnosis.

However, it is encouraging to note that 82% of breast cancer patients were started on treatment within 60 days of diagnosis. Our center meets the Commission on Cancer (CoC) breast cancer quality measure specifications .However; we will review the possible causes of delay in treatment initiation and provide recommendations to minimize them to further improve our patient's survival outcome results.

Quality & Safety Summit Abstract Submission Form

Presenter
Ashwini Mallad

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Hisham Hirzallah

Department
Internal Medicine

Key Participant 2

Name
Dipali Nemeda

Department
Neurology

Key Participant 3

Name
Justin Nolte

Department
Neurology

Abstract

Title
Blood pressure trend in Intracerebral Hemorrhage patients and scope for improvement

Objective
In Intracerebral hemorrhage (ICH) patients, achieving target blood pressure is crucial to prevent morbidity and morbidity. American Heart Association (AHA) 2010 guidelines recommends to achieve target goal blood pressure 160/90 mmHg as soon as the patient is presented to Emergency Room. Newer studies reported that early aggressive control of blood pressure to 140/90 mmHg may have favorable outcome in morbidity measured with modified Rankin Scale (mRS) at 90 days after discharge .Emerging studies have shown that it is not only important to achieve the target goal blood pressure but achieving the steady state in blood pressure measurement from the time of onset of event up to 7 days has shown to prevent worse outcomes. This is called Blood Pressure Variability (BPV) and it is measured as Standard Deviation (SD)

Methods
In lieu of recent a Morbidity and Mortality case presentation with inadequate blood pressure control in ICH patient, we retrospectively collected Hypertensive ICH patient's data from medical record from January 2016 to September 2016. Data collected include age, sex, max SBP, Associated comorbid conditions like Hypertension, Diabetes Mellitus, Coronary artery disease, bleeding diathesis, use of anticoagulation, etc. We assessed blood pressure measurements every one hour in first 24 hours since admission, every four hours in 24- 48hrs and then every four hours from day 3 to day 7. We also looked at imaging and mRS at discharge.

Results
The study group was composed of 13 (54%) men and 11 (46%) women. Age of the patients ranged from 46 to 86 years, with a mean ± SD of 68 ± 14 years. Mean maximum SBPs was 192 mm Hg with SD of 30 mm Hg. 9 (37.5%) patient had GCS below 8 and required intubation. Out of 24, 17 (71%) patients had

mean variability ± SD of 4 ± 3.4 in terms of number of times their SBP more than 160 mm Hg within 24 hrs. 9 (37.5%) out of 24 patients had increased of hemorrhage size on subsequent CT after initial CT. This may be due to inadequate BP control within 24 hours. 22 (92%) of patients had associated co-morbid condition like Hypertension, Diabetes mellitus, Coronary artery disease.
Out of 24 patients we reviewed, 4 died or discharged within 24-48 hours therefore we could not get SBP measurement for those patient for number of times their SBP >160 mm Hg with peak from 24hrs to 48 hrs and later.
Baseline BP variables were unrelated to clinical outcome in terms of MRS scale due to very low sample size. Out of 20, 6 (30%) patients died (MRS scale of 6), 3 (15%) patients had severe disability (MRS scale of 5), 2(10%) patients had moderately severe disability (MRS scale of 4), 4 (20%) of patients had Moderate disability (MRS scale of 3) and rest 5 (25%) of them had slight to no significant disability at all (MRS scale 2 and below). Rest of the variables we did not find any significant difference.
The results for logistic regression, Pearson, Spearman correlation and chi square test were not significant for outcome due to small sample size. However, we saw the trend that there is inadequate blood pressure control (>160 mm Hg) in first 24 hrs. Hence, we decided to come up with measures to improve quality of patient care.

Conclusion

It is very crucial to aggressively manage blood pressure and limit the blood pressure variability in ICH patients to decrease the morbidity and mortality in patients.
We plan to collect data on blood pressure management after implementation of this protocol and assess effectiveness of our strategies.

Quality & Safety Summit Abstract Submission Form

Presenter
Ashwini Mallad

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Mina Shenouda

Department
internal Medicine

Key Participant 2

Name
Hisham Hirzallah

Department
Internal Medicine

Key Participant 3

Name
Sutoidem Akpanudo

Department
Internal Medicine

Abstract

Title
Active problem Follow-up Method (AFM): A transition of care method in the outpatient settings

Objective
The transition of care in inpatient settings has been well studied in the literature. Many of the methods showed improved clinical outcomes with a practical and efficient transition of care. However, there is limited data in the literature looking at the clinical outcomes of patient care with the transition of care in outpatient settings. Hence, we propose to implement a system called Active problems- Follow up method (AFM), and then assess whether it improves patient care outcomes during transition period of taking over third year residents' patients by the first year residents.
It is a simple process where a physician leaving the facility would be required to create a new electronic note and name it as an AFM note which will include two main components; an active medical problem about the patient and a list of tasks to be followed up by the upcoming physician. These will help the new intern to take up the responsibility of patient care more efficiently and effectively. This method is based on the Year End Sign-out process by German et al. The AFM is practical and easy to apply in a wide variety of out-patient settings. In this study, we want to establish this practice and evaluate this approach to determine if it does improve outcomes of the patient care.

Methods
Study design:
The study will be conducted in two phases; pre and post implementation of AFM. The transition from June 2016 to July 2016 will act as a control group and from June 2017 to July 2017 will be the study group with the implementation of the AFM. The patient care outcomes will be measured and compared between the two groups.
For 2016, June to July transition, patients who have regularly followed up with their PCPs will be screened and considered as eligible study participants. The last 1 or 2 PCP (3rd yr residents), last consult notes will

be compared with new PCP notes and data will be reviewed to see if how many tasks were missed and if any, did that led to any serious adverse event leading to hospitalization. The hospitalization during that period will be assessed by going through the respective hospital database, and the cause of hospitalization will be analyzed if it is related to the defect in the transition of care in the outpatient setting or other.
A similar method will be applied during the year 2017 transition after the implementation of AFM by educating the residents. Similarly here last PCP note/AFM note and last consult note will be compared with the new PCP note and the data will be compared and analyzed for any missed events. The cross reference of the last PCP/ consult note will help us to more accurately measure the outcomes, and at the same time, it will allow us to validate the AFM, to see if physicians are transcribing all necessary details into the AFM notes.
The perception of the 3rd year residents will also be gathered by a questionnaire method to understand the perception of the physicians who are using the AFM, data related to challenges in the process, the feasibility of the AFM and the time required will be gathered. This part will further help us to understand their perspective of the AFM which will be valuable to reconsider any new changes in the future.

Study population:
Patients receiving their care at Byrd Clinic by 3rd-year residents and whose care is being transitioned to the new incoming intern (1st-year residents).

Inclusion criteria:
Established patient with three or more follow-ups with their PCP
Established patient follow-up visit should be less than 6-7 months interval (medically complicated)
New patients with follow up in less than 6 months during the transition

Exclusion criteria
The established patients who had less than 3 visits with the PCP
The established patient with follow-up interval more than 7 months (less medically complicated)
New patients with follow-up interval more than 6 months.

Results
Results:
A) The following data will be measured to assess the patient care related outcomes:
1. Number of follow-up tasks missed from PCP/AFM notes
2. Number of follow-up tasks missed from consult notes
3. Number of hospitalizations at St Mary's and Cabell hospitals due to missed follow-ups tasks.

B) The last outcome of the study which is unrelated to patient care is to measure the perception of the AFM in the 3rd year graduating residents.

Conclusion
This study will allow us to implement and test a structured method of transition of care in the outpatient settings, and to analyze the perception of residents who will use this system. It will allow us to see if there is any difference in pre and post implementation of the method and it will allow us to understand if it is important to have a structural method of transition of care in the outpatient setting. If results were significant, this method is easy follow and is sustainable hence can be easily practiced for better patient care.

Quality & Safety Summit Abstract Submission Form

Presenter
Ashley Zawodniak, DO

Institution
MUSOM

Role
Faculty Member

Team Info

Key Participant 1

Name
Majdi Al Dliw, MD

Department
Pulmonology

Key Participant 2

Name
Mohammed Megri, MD

Department
Internal Medicine

Key Participant 3

Name
Denise Gabel-Comeau, MHA

Department
Cabell Huntington Hospital Director, Quality and Performance Improvement

Key Participant 4

Name
Clyde Ritchie, RN, BSN

Department
Nursing

Key Participant 5

Name
Janet Wolcott, PharmD

Department
Pharmacy

Abstract

Title
Improving Sepsis Outcomes Through Early Recognition & Coordinated Assessment

Objective
Worldwide sepsis is one of the most common deadly diseases in all countries and claims the lives of approximately 1,000 persons every hour. Symptom recognition, diagnosis and initiation of treatment within the first hour of presentation has been associated with an 80% survival rate. Failure to diagnose and provide treatment until the 6th hour, survival plummets to 30%.[1] Rapid recognition of sepsis and treatment within the first hour of presentation is the most beneficial intervention to decrease patient mortality. Implementation of evidenced based treatment through care bundles result in a 25% relative risk reduction in mortality rate.[2]

Methods
On October 1, 2015 Centers for Medicare & Medicaid Services (CMS) began requiring hospitals to collect data for Core Measure SEP-1: Early Management Bundle, Severe Sepsis/Septic Shock. According to

CMS, the purpose of the Severe Sepsis and Septic Shock Early Management Bundle measure is to facilitate the efficient, effective, and timely delivery of high quality sepsis care. By providing timely, patient-centered care this measure can result in reduced use of resources and lower rates of complications.

In 2015 Cabell Huntington Hospital (CHH) reported an overall sepsis mortality rate of 28.63% which is 7.29% above the national average. Implementation of the Sepsis Bundle occurred in 24% of patients at CHH from October 2015 – December 2015. Statewide, West Virginia's sepsis bundle implementation was 37% and nationally the rate of implementation was 34%.

Results
Data being collected. Preliminary results analyzed using the PDSA model. Anticipate initiating pilot in the Emergency Department. Planning currently being conducted in collaboration with Emergency Department administration.

Conclusion
Early recognition and treatment are necessary to improve sepsis outcomes. Continued PDSA throughout pilot utilizing multidisciplinary team approach will have a positive impact on sepsis outcomes at Cabell Huntington Hospital.

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Presenter
Christina Hensley MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Christina Hensley

Department
Pediatrics

Key Participant 2

Name
Susan Flesher

Department
Pediatrics

Abstract

Title
Evaluating the Use of High Fidelity Simulators During Mock Code Pink Scenarios in Trying to Improve Both Confidence in Pediatric Residents.

Objective
The purpose of this quality improvement project is to determine the effect of simulation of code pink scenarios with high fidelity simulator on self-reported confidence in pediatric residents. The goal of simulation is to replicate patient care scenarios in a realistic environment in order to receive both feedback and assessment. According to Dull et al, the purpose of simulation is to educate through “active, repeated clinical experiences, giving and receiving immediate feedback, teaching leadership skills, and leveraging the controlled setting for predictable learning objectives, all while maintaining a safe learning environment.” The simulators also allow trainees to perform various procedures depending on the model, for example the newborn baby model allows intubations, urinary catheter insertion, umbilical arterial catheter and umbilical venous catheter insertion, IV insertion, and intraosseous line insertion. We believe that the use of these high fidelity simulators will improve confidence of pediatric residents with code pink scenarios and all procedures they may contain.

Methods
Pediatric residents participated in a mock code pink session with high fidelity simulator. Each session had a small group of residents, with multiple scenarios presented. Each resident took turns in various roles during the mock code, including: leader/airway, chest compressions, umbilical line placement, etc. The scenarios included training not only for how to execute the procedures during the code, but also how to set up all equipment. Scenarios allowed each resident to use neo-T, suction, intubate, perform chest compressions, place umbilical lines, give epinephrine/bolus. Residents took a confidence survey prior to the mock code pink session, and the same survey was repeated following to session to evaluate for any change in confidence in each component of the code pink.

Results
Currently still collecting data on this project.

Conclusion

Expect that results will show that the use of the high fidelity simulator improves the confidence of residents during code pink procedures and scenarios.

Quality & Safety Summit Abstract Submission Form

Presenter
Haytham Aljoudi, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Mehier Elhamdani, MD

Department
Cardiovascular Department

Key Participant 2

Name
Farley Neasman, MD

Department
Cardiiovascular

Abstract

Title
Effect of Using Coronary Diagram on Patients and Families Understanding the Heart Cath findings and plan of management

Objective
The purpose of this project is to assess the effect of coronary artery diagrams following cardiac catheterization on patient understanding and overall satisfaction, as well as on physician perception of patient understanding.

Methods
Following cardiac catheterization, pts will receive a follow-up phone call survey from an SMMC staff member (nursing / fellows) to assess the patients' cardiac catheterization experience – this will constitute the control group. Following the completion of the control period, the attending cardiologists and fellows who participated in the post-cath discussions with patients and their families will fill out a survey evaluating presumed patient understanding. After the preset number has been reached, the cardiology fellows and attending physicians participating in cardiac catheterization will use the attached coronary diagrams when discussing the results with patients and their families. Again phone surveys will be conducted to assess the effect of the diagram on patient satisfaction, perception of communication, and perception of the overall cardiac catheterization experience. Additionally, surveys will be completed by the participating fellows and attending physicians after the initiation of the coronary diagrams to asses any changes in physician perceptions of effective communication.

Results
While Doctor patient communication has significantly improved with a movement away from paternalistic medicine and towards patient centered care, there still remains much to be desired. Patients are frequently encountered who express equivocal understanding of their own medical history, and thus, have yet to take ownership of their care. WV is ranked 43rd among the United States with 82.8% of residents attaining a high school degree, 50th with regards to bachelor's degrees with 17.3%, and 48th in advanced degrees with 6.7%.

Conclusion

Using coronary illustrations when explaining cardiac catheterization may significantly improve patient understanding and overall satisfaction, especially in light of a lower than average level of education.

Quality & Safety Summit Abstract Submission Form

Presenter
Murad Kheetan, MD

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Kara Willenberg, MD

Department
Internal Medicine

Key Participant 2

Name
Hisham Hirzallah, MD

Department
Internal Medicine

Key Participant 3

Name
Kimiknu Mentore

Department
MUSOM

Abstract

Title
IRRATIONALLY ELEVATED HIV VIRAL LOAD IN COMPLIANT PATIENTS; RESISTANCE OR LAB ERROR. QUALITY IMPROVEMENT FOR LABORATORY TESTING PROCESSES.

Objective
In January 2016 Infectious Disease Attending Kara Willenburg and her team noticed aberrantly high HIV RNA loads, an important test to monitor the effectiveness of ART, both for the initial therapeutic response and sustained responses, for compliant patients who were on stable antiretroviral therapy. Their concerns were brought to the attention of the Administrative Director of the Cabell Huntington Hospital (CHH) Laboratory that processed the samples for send out final determination to LabCorp. On September 29, 2016 the CHH lab took measures to presumptively correct the error. Our objective for this project is to identify a deficiency in CHH laboratories, both at the main hospital and clinical centers, ability to identify errors, correct errors and be proactive in avoiding errors in the ever-changing world of evidence-based medicine. We used the specific example of HIV viral loads (VL) in one clinic to exemplify theses deficiencies and to suggest alterations to protocol and supplementary education.

In November 2015 Dr. Kara Willenberg began identifying patients of the Marshall Health Infectious Disease clinic for whom HIV viral load values deviated from clinically expected results. Ten patients have been retrospectively identified who were compliant with medication and on a stable regime of antiretroviral therapy but during routine HIV VL testing were found to have aberrantly high counts. Between November 18, 2015 and March 30, 2016, these patients were sent have their blood drawn at LabCorp based on the clinical suspicion of their treating physician of laboratory error. This included the patient burden of collecting a new laboratory order, travel to a LabCorp facility and the cost of a repeat sampling.

Methods
We found that of the ten patients with clinically suspicious aberrant HIV VL all ten had significantly different VL when sampling was done at LabCorp where the testing was ultimately done. No therapy changes were

enacted between any of the two sets of sampling. In four patients viral sensitivity panels were sent to LabCorp, because according to the Guidelines For Use of Antiretroviral Agents in HIV-1-infected Adults and Adolescents published by the NIH, if patient's VL were previously declining or were undetectable and a new increase, despite compliance to therapy, occurs first action is to check viral sensitivity to current antiretroviral regime. Virologic failure is defined as the recurrence of viremia to more than 200 copies per mL on two consecutive measurements.

This led us to believe we had identified a significant error. We then familiarized ourselves with how the HIV VL sampling occurred from patient arm to printed result. We found that a laboratory test (blood tests and others) is a multistep complex process that starts with a clinical question and lab order to results reporting and interpretation and finally actions taken relying on it. In CHH's lab samples are sent out to the diagnostic lab (LabCorp) where Cobas® AmpliPrep/Cobas® TaqMan® HIV-1 Test, Version 2.0 Assay is used. Blood samples were collected in Plasma Preparation Tube (PPT) at the Byrd center Lab, Centrifuged at 1,100 g for 15 minutes, transferred to CHH lab within 1-3h. At the CHH Lab, samples are transferred to a screw-cap tubes and frozen immediately at

-20°C for storage. Specimens are transported, frozen, to LabCorp for Diagnosis. LabCorp specimen collection guide, which CHH's lab follows, allowed the use of either PPT tube or ethylenediaminetetraacetic acid (EDTA) tubes with some restrictions on handling the sample with PPT. We found that blood samples for HIV-1 RNA quantification can also be collected in tubes with EDTA as an anticoagulant. Standard EDTA tubes require transfer of the plasma to a secondary tube within 6 h after sample collection to reduce the risk of RNA degradation. PPT tube contains dried sprayed K2EDTA and a gel separator material that was previously thought to allow longer handling time while on room air.

A literature search showed agitation and handling of the PPT tube in a manner other than described by the manufacturer can result in aberrant VL results. Handling the sample in PTT tubes as described by the manufacturer are:

1. Whole blood is stored uncentrifuged in PPT for no longer than 6h at ambient temperature.
2. Plasma is stored in PPT for no longer than 1day at ambient temperature or 5 days at 4oC.
3. PPT is re-centrifuged at 600x g for 5 minutes in the receiving laboratory prior to aliquoting, testing, or further storage.

A proposed explanation for elevated levels of HIV-1 RNA was the transportation after the centrifugation of PPTs of the cell-associated HIV-1 in the plasma phase could result in cells getting stuck in gel cap or leaked from the cellular part due to agitation or inverting the tube.

Results

In our attempt to identify the possible lab error that had consistently occurring, a sample of ten patients with clinically unexpected and aberrant VL results were identified and a second confirmatory blood sample from each of them was sent to an outsourcing lab for readings comparison. Sampling at a CHH lab facility and the LabCorp facility were within an average of 13.7 days, not enough time for VL to change based on physiological or pathological methods. Readings came back from LapCorp were more consistent with the clinical expectation of disease course of these patients.

On September 29, 2016 CHH's Laboratory Director sent a memo to all employees directing the use of the EDTA tube to collect HIV viral quantification.

Conclusion

Based on our findings of patients with verified results of HIV VL quantification and our analysis of the processing error we found ourselves asking why it took almost a year for the CHH laboratory to recognize the error and enact change. We determined that there was systemic lack of mechanisms in place for Healthcare Providers to report suspected lab errors, as well as insufficient continuing education of Laboratory staff.

Though an increasing number of laboratories worldwide are adopting risk management strategies such as FMEA, FRACAS, LEAN and Six Sigma since these techniques allow the identification of the most critical steps in the total testing process, and to reduce the patient-related risk of error. Some results that are erroneous and detected/suspected by the ordering physician, that may require performing a Root Cause Analysis and assembling a multidisciplinary team that can help improving the test process including

Medical Providers, Medical Directors, Administrative Staff and Residents.
Based on our findings we propose the consideration of the following policies:
1. Identify how/who to notify when an error is suspected.
2. Document all steps taken to correct the error;
3. Provide the ordering physician with the corrected report;
4. Retain the original report and the corrected report for future reference
5. Perform a Root Cause Analysis if systemic issues are involved; if serious enough, perform an Incident Management study.
6. Inclusion of this event as part of Quality Assessment; include follow up to ensure that the corrective actions taken were effective.
In summary, we identified a laboratory error that had an impact on clinical management, increased patient burden and took a unsatisfactory period of time to resolve. Moving forward we would like to continue to track patients of the Marshall Health Infectious Disease clinic with HIV VL quantifications to ensure that no future aberrant values are found. Secondarily, we would like to work with the CHH Laboratory to improve their systems of reporting and transparent and timely response to possible errors.

Quality & Safety Summit Abstract Submission Form

Presenter
Ahmed Amro

Institution
MUSOM

Role
Resident or Fellow

Team Info

Key Participant 1

Name
Ahmed Amro

Department
IM

Key Participant 2

Name
Alaa Gabi

Department
Cardiology

Key Participant 3

Name
Obada Aqtash

Department
IM

Key Participant 4

Name
Madhulika Urella

Department
Research fellow

Key Participant 5

Name
Waseem Ahmed

Department
Research fellow

Key Participant 6

Name
David Francke

Department
Cardiology

Key Participant 7

Name
Sutoidem Akpanudo

Department
IM

Key Participant 8

Name
Rameez Sayyed

Department
Cardiology

Abstract

Title
The Frequency of Inappropriate Use of Prasugrel in Patients Post percutaneous coronary intervention

(PCI). Single Center Study

Objective
Prasugrel is a thienopyridine that was approved in 2009 for use in patients with acute coronary syndromes undergoing percutaneous coronary intervention (PCI). It offers more consistent, faster platelet inhibition and has superior anti-ischemic efficacy at the cost of a higher risk of bleeding complications compared with clopidogrel. However the use of prasugrel at discharge following PCI has resulted in inappropriate use of prasugrel in patients who have absolute or relative contraindications. So we conducted this research to assess the frequency of inappropriately used prasugrel and to find an appropriate way that will eventually help in reducing that.

Methods
In this retrospective study we assessed the patterns of prasugrel use among 937 patients who underwent percutaneous coronary intervention and were discharged alive from July 2014 to July 2015 at a university tertiary medical center in West Virginia, USA. We defined the Potential inappropriate use of prasugrel as use in patients who had a history of cerebrovascular disease (CVA), weighed <60 kg, or were aged ≥75 years old.

Results
Prasugrel was prescribed to 12.9% (n=121) of patients who underwent PCI on hospital discharge. Among patients prescribed prasugrel, 42.1% (n=51/121) presented with acute coronary syndrome (NSTE-ACS or STEMI), While 57.8% (n=70/121) of patients received prasugrel for indications other than acute coronary syndromes. One or more known contraindications to the drug were present in 19.8% of patients discharged on this medication. Of those who were discharged inappropriately on prasugrel 5% had history of CVA, 11.5% were aged ≥75 year old and 3.3% weighed less than 60kg.
At the end of the study we evaluated the pre-procedure/catheterization note which usually done prior to the catheterization by the cardiology fellow or by the interventionist. We found that the age and weight are not mentioned there, so we added 3 boxes in addition to the already existed CVA box. These three boxes are age, weight and a box saying no Prasugrel. So if the patient has any of these boxes marked then the no prasugrel box will be marked and the patient will not be discharged on prasugrel.

Conclusion
Prasugrel use in patients with known contraindications is not uncommon, but according to our study it's been used inappropriately more frequently in our hospital when compared to literature data. Finally adding the (no prasugrel) box to the pre-catheterization note will eventually lead to less inappropriately prescribed Prasugrel.