INTRAVENTOUS ACETAMINOPHEN AFTER ORTHOPEDIC SURGERY: MEDICATION-USE EVALUATION J. Cruz;

PURPOSE:
METHODS:
RESULTS:
CONCLUSIONS:

IMPLEMENTATION AND EVALUATION OF A STANDARDIZED PERIOPERATIVE MANAGEMENT PROTOCOL IN THE ADULT HEMATOLOGY ANTICOAGULATION MANAGEMENT SERVICE: A CONTINUATION STUDY D. Lum;

PURPOSE: In North America 250,000 patients on vitamin K antagonists require surgical or invasive procedures each year. Temporary interruption of oral anticoagulation and perioperative bridging therapy with low molecular weight heparin are recommended by the American College of Chest Physicians (ACCP) for select patients. The risks of post-procedural bleeding and thromboembolism off anticoagulation pose challenges with perioperative management of anticoagulation. The objectives of this study are to evaluate adherence to the guidelines for perioperative management of anticoagulation for patients of the Adult Hematology Anticoagulation Management Service, determine the reasons for non-adherence to the guidelines, and identify bleeding or thrombotic events during perioperative management of anticoagulation.

METHODS: This is a retrospective study involving all patients who were managed by the Adult Hematology Anticoagulation Management Service and underwent a procedure from May 2009 to March 2014. Standardized guidelines for perioperative management of anticoagulation were developed in 2008 and then revised in 2012 based primarily on the 2012 ACCP guideline for Perioperative Management of Antithrombotic Therapy, as well as other available literature. For all patients undergoing a procedure, bridging plan flow sheets and dosing calendars were completed and then documented in the patient’s chart by providers. For patients undergoing a procedure that does not require bridging, information indicating the reason for not bridging was documented on the bridging plan flow sheet. Adherence to the Adult Hematology Anticoagulation Management Service guidelines, the incidence of thromboembolic events and bleeding during perioperative management, and adverse events were recorded.

RESULTS: Results will be presented.

CONCLUSIONS: Conclusion will be presented.

EVALUATION OF THE EFFECTS OF 24-HOURS OF INTRAVENTOUS ACETAMINOPHEN ON THE OUTCOMES OF CARDIAC SURGERY PATIENTS S. Livings;

PURPOSE: At Baystate Medical Center (BMC), intravenous (IV) acetaminophen (APAP) was approved for use starting in October of 2012 for treatment of postoperative pain in the cardiac surgery population aged 65 years or older taking nothing by mouth. There are three small European studies evaluating the effectiveness of IV APAP for patients undergoing cardiac surgery. One study looking at opioid administration as the primary endpoint demonstrated a trend toward decreased opioid requirements but this trend was only statistically significant in a post-hoc analysis evaluating the first 24 hours following surgery. The two additional studies evaluated pain control but they report conflicting results. This retrospective cohort study will evaluate the safety and effectiveness of IV APAP as an adjuvant analgesic in the elderly cardiac surgery population at BMC.

METHODS: All patients 65 years of age or older admitted to BMC who underwent sternotomy to perform cardiac surgery involving any combination of non-salvage CABG, valve replacement or valve repair between October 16, 2012 to September 30, 2013 were included. A total of 328 patients met inclusion criteria. One patient was excluded due to death in the first 24 hours postoperative. The treatment group included 190 patients who received IV APAP in addition to standard of care opioids. The control group included 137 patients who received the standard of care – oral APAP and opioids.

RESULTS: Primary outcomes are time on the ventilator, critical care unit and critical care unit plus intermediate care unit length of stay and IV morphine equivalents. Secondary outcomes are pain scores, degree of sedation, sedative requirements, delirium, post-operative ileus, respiratory depression and liver toxicity. Appropriate statistical tests will be used to analyze data and results will be presented.

CONCLUSIONS: The results of this study will be used to determine the future role of IV APAP in the cardiac surgery population as a whole at BMC. The results will also provide information for other institutions evaluating the role IV APAP will have in the treatment of cardiac surgery patients at their hospitals given the significant expense of IV APAP when compared to oral and rectal formulations.

EFFECT OF DEXMEDETOMIDINE ON POSTOPERATIVE TACHYARRHYTHMIAS AFTER CARDIAC SURGERY D. Glick;

PURPOSE: Postoperative tachyarrhythmias are one of the most common complications following cardiac surgery and are associated with increased length of intensive care unit and hospital stay, healthcare costs, and mortality. Dexmedetomidine, a central alpha2-agonist that is commonly used for sedation after cardiac surgery, may exhibit inhibitory effects on supraventricular and ventricular tachyarrhythmias due to its sympatholytic properties. The objective of this retrospective review is to evaluate the safety and effectiveness of IV APAP as an adjuvant analgesic in the elderly cardiac surgery population at BMC.

METHODS: Patients who were at least 18 years of age and underwent an isolated open aortic or mitral valve repair or replacement were included. Exclusion criteria were reoperation, preoperative heart failure requiring inotropes, left ventricular ejection fraction less than 20%, liver disease, diabetes mellitus, end-stage renal failure, chronic obstructive pulmonary disease on home oxygen therapy, severe systemic disease such as rheumatoid arthritis or sickle cell disease, and the use of a ventilator assist device or extracorporeal membrane oxygenation between postoperative days zero and seven. Data points collected were patient demographics, medication history, date of hospital and intensive care unit admission and discharge, surgery details including bypass and cross clamp times, total postoperative dexmedetomidine, postoperative hypotension or bradycardia, and occurrence of postoperative tachyarrhythmias. The primary outcome was new onset supraventricular or ventricular tachyarrhythmia between postoperative days zero and seven. Secondary outcomes included duration of mechanical ventilation, length of hospital and intensive care unit stay, in-hospital mortality, and postoperative complications.

RESULTS: The incidence of new onset tachyarrhythmias following isolated open aortic or mitral valve repair or replacement was lower in patients who received dexmedetomidine compared to those who did not receive dexmedetomidine. It is anticipated that this study will demonstrate a reduced incidence of postoperative tachyarrhythmias in patients who received dexmedetomidine for sedation after isolated open aortic or mitral valve repair or replacement.

CONCLUSIONS: It is anticipated that this study will demonstrate a reduced incidence of postoperative tachyarrhythmias in patients who received dexmedetomidine for sedation after isolated open aortic or mitral valve repair or replacement.
EFFECT OF ANTIMICROBIAL STEWARDSHIP PROGRAM ON APPROPRIATE ANTIBIOTIC PRESCRIBING AND CLINICAL OUTCOMES IN VETERANS WITH DIABETIC FOOT INFECTIONS. K. Li;

PURPOSE: Inappropriate antimicrobial prescribing use may lead to poor patient outcomes, increased antimicrobial resistance, and increased healthcare costs. The primary objective of this study is to determine the effect of implementing an interdisciplinary Antimicrobial Stewardship (AMS) program at the Martinsburg Veterans Affairs Medical Center (MVAMC) on the appropriateness of empiric and continuation of antibiotic prescribing based on practice guidelines. The secondary objectives of this study are to determine the effect of implementing the AMS program on 30-day readmission rates for recurrent diabetic foot infection and cost of antimicrobial agents per patient at MVAMC. We hypothesize that antibiotic prescribing will be more appropriate and adherent to practice guidelines after implementation of the AMS program.

METHODS: A retrospective chart review will be conducted comparing study endpoints from the one-year period before implementation to those from the six-month period after implementation of the AMS program. Patients to be included in this study are those diagnosed with diabetic foot infection, admitted between July 1, 2012 and December 31, 2013, and prescribed antibiotic treatment for the infection. “Appropriate” is defined as adherent with 2012 Infectious Diseases Society of America (IDSA) Clinical Practice Guidelines for the Diagnosis and Treatment of Diabetic Foot Infections. Results of this study will be analyzed using descriptive analysis, Fisher’s Exact test, and Mann-Whitney U test.

RESULTS: The number and percentage of appropriate antibiotic prescribing in the one-year period before implementation of the AMS program will be recorded and compared to that in the six-month period after implementation. Thirty-day readmission rates and cost of antimicrobial agents per patient will be recorded and compared between the two time periods as well. Results will be presented at the Eastern States Conference in May 2014.

CONCLUSIONS: It is anticipated that this study will justify the implementation of an interdisciplinary AMS programs at the MVAMC by demonstrating an improvement in adherence to evidence-based practice guidelines in prescribing antibiotics for the treatment of diabetic foot infections. Furthermore, this study aims to apply its findings to create a standardized order set for providers to guide them in their selection of antimicrobial treatment in the treatment of diabetic foot infections.

[58p]

THE USE OF PLATELET REACTIVITY UNITS AS A POSITIVE PREDICTOR FOR TRANSFUSION RATES PRIOR TO CARDIAC SURGERY. D. Dinh;

PURPOSE: Dual antiplatelet therapy (DAPT) in the form of aspirin and an oral P2Y12-inhibitor (clopidogrel, prasugrel, or ticagrelor) is essential for the prevention of complications in patients with acute coronary syndromes or patients with recently placed coronary stents. Although DAPT prevents stent reocclusion and thrombotic events from occurring, it is particularly problematic when a patient has to undergo any type of surgery. The manufacturer’s recommended duration to hold clopidogrel, prasugrel, and ticagrelor prior to any surgery is 5 days, 7 days, and 5 days, respectively. The purpose for the study is to evaluate the use of platelet reactivity units (PRU) as a predictor of transfusion rates prior to cardiac surgery for patients on chronic P2Y12-inhibitor therapy.

METHODS: This investigation will be a single-center, retrospective study comparing transfusion rates in patients who underwent coronary artery bypass graft surgery (CABG) who were admitted between December 1, 2011 to March 31, 2014. Patients will be assessed on PRU values prior to CABG, post-operative volume loss, and type of blood products transfused. Data will be analyzed utilizing t-tests to compare transfusion rates, type, and volume differences between samples.

RESULTS: Results will be presented at the Eastern States Conference.

CONCLUSIONS: Conclusions will be presented at the Eastern States Conference.

[59p]
impact of a pharmacist driven consultation on improving patient satisfaction and raising HCAHP scores. Therefore having a pharmacist present on the patient units will have a positive impact on patient care.

CONCLUSIONS: Pending.
EFFICACY OF QUETIAPINE IN THE TREATMENT OF DELIRIUM IN THE PEDIATRIC INTENSIVE CARE UNIT R. Witcher.

PURPOSE: In critically ill adult patients, quetiapine has been associated with a shorter time to first resolution of delirium and an increased disposition to home. The efficacy of quetiapine in critically ill children with delirium has not been evaluated, thus the purpose of this research is to determine the efficacy of quetiapine for the treatment of delirium in critically ill children.

METHODS: This is an IRB-approved, prospective, randomized, placebo-controlled clinical trial of quetiapine versus placebo in delirious patients one year to twenty-one years old who are admitted to the pediatric intensive care unit (PICU). Patients will be excluded if they are deeply sedated, pharmacologically paralyzed at randomization, used an antipsychotic agent within the previous 30 days, or have a baseline QTc greater than 500 msec. Baseline characteristics, sedative and analgesic use in the previous 24 hours, level of sedation, QTc, mechanical ventilation status will be collected. The primary outcomes are time to first resolution of delirium and total days with delirium. Secondary outcomes include percent of PICU days with delirium, cumulative amount of as needed first resolution of delirium and total days with delirium. Secondary outcomes include percent of PICU days with delirium, cumulative amount of as needed study drug per kilogram administered per day, maximum daily dose of study drug per kilogram, duration of study drug administration, duration of mechanical ventilation, and hospital and ICU length of stay. Safety outcomes include frequency of QTc prolongation, neuroleptic malignant syndrome, or extrapyramidal symptoms. Treatment will be initiated at 1.5 mg/kg/day administered in three divided doses. Patients will be prescribed an additional 0.5 mg/kg of study drug every eight hours “as needed” for uncontrolled delirium. Each morning, the prior day’s dosing will be reviewed. If the patient requires one “as needed” dose of study drug, the dose prior to the “as needed” dose will be increased by 0.5 mg/kg to a maximum of 6 mg/kg/day. Study drug administration continue until the treating physician feels the patient no longer requires treatment for delirium. If 10 days of treatment pass, ICU discharge occurs, or an adverse event requires discontinuation.

RESULTS: The time to first resolution of delirium and total days with delirium will be recorded, and results will be presented.

CONCLUSIONS: It is anticipated that the results will show that quetiapine is effective in treating critically ill pediatric patients with delirium.

A RETROSPECTIVE REVIEW OF HEART FAILURE PHARMACOTHERAPY UPON DISCHARGE AND ITS EFFECT ON HEALTH CARE UTILIZATION A. Kursey

PURPOSE: The articles that the 2013 ACC/AHA guidelines are based on generally studied the use of one drug versus placebo. Previous studies that investigated the aggregate use of guideline-recommended heart failure therapy on outcomes were unable to be found. Reviews of VA practices show that while appropriate use of beta-blockers and ACE-inhibitors in heart failure is relatively common, appropriate prescribing of the more complex aspects of pharmacologic therapy such as the use of aldosterone antagonists or digoxin is less frequent. The CHF QUERI (Quality Enhancement Research Initiative) has been established in an attempt to improve heart failure care in the VA network.

METHODS: The study is a retrospective chart review. Martinsburg VAMC patients who were listed on a VA report entitled “Heart Failure Discharged” with an index admission for heart failure from January 2011-June 2013 were studied. Patients’ health care utilization (readmission, unscheduled clinic visit, or ER visit within 30 days or death within 180 days of discharge), the heart failure medications they were prescribed upon discharge, and relevant lab values/vitals were reviewed and recorded in a Microsoft Excel spreadsheet. Each patient was then reviewed for suggested components of heart failure pharmacotherapy per 2013 ACC/AHA guidelines. The percent of therapy prescribed upon discharge versus all components of guideline-based appropriate therapy was calculated and compared to health care utilization using logistic regression. Prescribing practices were analyzed using descriptive statistics.

RESULTS: To be determined. Results will be presented in May 2014 at the Annual Eastern States Conference for Pharmacy Residents and Preceptors.

CONCLUSIONS: It is anticipated that this study will show a relationship between prescribed heart failure pharmacotherapy and the likelihood of readmission. It may also provide insight into areas of potential improvement for heart failure management at the facility.

EFFECT OF BALANCED BASAL/BOLUS INSULIN REGIMEN ON MANAGEMENT OF DIABETES IN VETERANS POPULATION A. Masood

PURPOSE: Objective: Over utilization of basal insulin can result in poor patient outcomes including weight gain, fluctuations in blood glucose, hypoglycemia, increased triglyceride levels, and worsening of blood glucose control. American Diabetes Association guidelines therefore suggest adding bolus insulin therapy to basal insulin once doses reach > 0.5 units/kg/day. The objective of this study is to evaluate the effect of a balanced basal/bolus insulin regimen [Clinical Pharmacy Specialists’ (CPS) intervention] on diabetes management in patients with type 2 diabetes mellitus (T2DM). It is hypothesized that patients will have improvement in their diabetes management after the CPS intervention.

METHODS: Methods: Retrospective chart review of T2DM patients managed by two CPS, who implemented the intervention of adjusting insulin therapy to have a ~50/50 basal/bolus regimen for patients on a high dose of basal insulin, will be conducted. Inclusion criteria for the study are type 2 diabetic patients who were using > 0.5 units/kg/day of basal insulin without bolus insulin or were not on 50/50 ± 10% basal/bolus regimen before CPS intervention. Exclusion criteria include patients on a 50/50 basal/bolus insulin regimen, patients on premixed or NPH insulin, pregnant females and patients intervened after September 30, 2013. The primary objective of this study is to evaluate the effects of CPS intervention on improvement of blood glucose control which will be measured by comparing the HbA1C before and after the CPS intervention. The secondary objective is to evaluate whether the CPS intervention will improve diabetes management which will be measured by comparing fasting blood glucose, triglyceride levels, weight, hypoglycemic episodes, and pre-prandial blood glucose fluctuations before and after the CPS intervention. The results of the study will be analyzed using descriptive analyses, paired t-test, and chi squared tests.

RESULTS: Results: It is anticipated that patients will achieve an improved blood glucose control and will also have an improvement in their diabetes management as measured by the secondary outcomes after CPS intervention. The data collected from this study will be recorded and the results will be presented at the residency Eastern States conference.

CONCLUSIONS: Conclusion: The results from this study will be the first step in the process to develop a protocol for appropriate use of basal insulin and will help improve diabetes management in the Veterans population with T2DM.
CONCLUSIONS: The incidence of anaerobic bacteremia has been increasing nationally, along with the incidence of drug resistant anaerobic species. The most common species isolated are Bacteroides and Clostridium. Resistance to metronidazole, carbapenems and β-lactam/β-lactamase inhibitor combinations is rarely reported. The purpose of this study is to determine the prevalence of Bacteroides spp that are resistant to β-lactam/β-lactamase inhibitor and carbapenem antibiotics and identify potential risk factors for the development of resistance to these agents.

METHODS: This is a retrospective case-control study that included adult patients with positive blood cultures for Bacteroides spp at The Johns Hopkins Hospital from January 1, 2010 to August 31, 2013. Patients were matched by year of positive culture in a 1 to 3 fashion. Patients that did not have susceptibility testing performed for amoxicillin-clavulanate, piperacillin-tazobactam or ertapenem were excluded. The primary outcome is to determine risk factors for the bacteremia with Bacteroides spp. that are intermediate or resistant to β-lactam/β-lactamase inhibitors and/or carbapenems.

RESULTS: Data collection is in progress with the following interim results available. A total of 159 isolates were identified during the study period. The most common species isolated were B. fragilis (44.6%), B. thetaiotaomicron (27%) and B. caccae (7.5%). There were 19 (11.9%) isolates that were resistant/intermediate to amoxicillin-clavulanate and 9 (5.6%) that were resistant/intermediate to piperacillin-tazobactam. Additionally, 9 (5.9%) isolates were resistant to ertapenem. There were 26 patients identified with isolates that were resistant or intermediate to amoxicillin-clavulanate, piperacillin-tazobactam and/or ertapenem. Mean age 58.3 (±15.3) years, 53.8% male, 65.4% Caucasian. The most common source was abdominal surgery for a majority of patients (73%) and 85% has prior exposure to β-lactam antibiotics.

CONCLUSIONS: To be determined.

EVALUATION OF ALCOHOL WITHDRAWAL MANAGEMENT IN PATIENTS ADMITTED TO THE TRAUMA SERVICE AT CARILION ROANOKE MEMORIAL HOSPITAL J. Schad;

PURPOSE: Approximately 50% of patients admitted for trauma in the United States screen positive for an alcohol problem. In June 2011, a chart audit of seven patients evaluated the alcohol withdrawal protocol usage by the trauma service at Carilion Roanoke Memorial Hospital (CRMH). The audit revealed that only 57% of the protocols were ordered appropriately. Also, one only of the seven patients had Clinical Institute Withdrawal Assessment of Alcohol Scale (CIWA-Ar) scores documented appropriately. Recommendations from this audit were to reeducate residents and nursing staff, and attempt to admit patients at risk for alcohol withdrawal to one unit. Currently, it is unclear the impact this small chart audit had on the management of alcohol withdrawal for patients admitted to the trauma service at CRMH. The aim of this quality assurance/quality improvement project is to evaluate the effectiveness of the current CRMH alcohol withdrawal protocol in patients admitted to the trauma service.

METHODS: An observational, retrospective chart review evaluated adult patients admitted to the trauma service at CRMH from July 2012 to June 2013 who were managed for alcohol withdrawal. Patients were identified using the Trauma Registry. The study subjects were divided into three cohorts: (a) patients who received the current CRMH AWP (b) patients who received management with modification to the CRMH AWP (c) patients not managed with the CRMH AWP. Descriptive statistics were used as appropriate to evaluate all other endpoints.

RESULTS: Twenty-three of the one hundred and forty patients that were screened from the trauma registry were enrolled, eight persons in cohort one and fourteen persons in cohort two. No patients met the criteria for cohort three. The median duration of withdrawal was 2.5 days (1.75,4.25[2.5]) for cohort one and 4.5 days (3.25,5[1.75]) for cohort two. None of the patients experienced delirium tremens in either cohort. A higher percent of patients (28%) in cohort two required the use of restraints compared to cohort one (12.5%). Patients in cohort two tended to have more scheduled benzodiazepines, ethanol, and antipsychotics prescribed. Overall, CIWA-Ar was only documented 100% appropriately in eight of the twenty-three patients.

CONCLUSIONS: Patients who were ordered the current CRMH AWP tended to have a slightly shorter duration of alcohol withdrawal compared to patients who were treated with a modified protocol. Education to the interdisciplinary trauma team about the use of CIWA-Ar and the current CRMH AWP may improve adherence to the protocol and patient outcomes.

THE EFFECT OF ANTIBIOTICS ON BONE BIOPSY CULTURES IN LOWER EXTREMITY AND VERTEBRAL OSTEOMYELITIS K. Canipe;

PURPOSE: Osteomyelitis is infection and inflammation of the bone or bone marrow. There are two different approaches to the management of patients diagnosed with osteomyelitis. One approach is to treat the patient immediately with empiric antibiotics. The other is to delay the initiation of antibiotics.

METHODS: We conducted a retrospective cohort study of patients who were admitted to the hospital from 6/30/2003 to 6/30/2013 with an ICD 9 code consistent with a bone tissue culture. Culture results were examined and compared between groups that received antibiotics prior to and after a culture was obtained to assess the impact on the yield of those cultures.

RESULTS: Of the 199 patients identified 55 (27.5%) patients received a bone tissue culture prior to receiving antibiotics and 144 (72.4%) patients received antibiotics prior to having a bone tissue culture. When comparing the two groups, 78% of patients who received antibiotics prior to having a bone tissue culture had a positive culture, compared to 78% in the group that received antibiotics after having a bone culture taken (P=0.60). Subgroup analysis of lower extremity osteomyelitis yielded similar results with 79.7% of patients having a positive culture in the group receiving antibiotics first compared to 85% in the group that had a bone tissue culture obtained first (p=0.61).

CONCLUSIONS: Based on the results of this study there appears to be no difference in the yield of bone tissue cultures among patients receiving antibiotics prior to a culture being obtained, compared to those that received antibiotics after a culture was obtained.
EFFICACY OF REDOSING ANTIBIOTICS FOR PROPHYLAXIS OF SURGICAL SITE INFECTIONS IN PROLONGED SURGERIES J. Endicott;

PURPOSE: Surgical site infections (SSI) are the second-leading cause of hospital-acquired infections and are associated with significant morbidity and substantial increases in health-care costs. Current guidelines for SSI prophylaxis indicate that intraoperative redosing of antibiotics should be utilized if the duration of the procedure exceeds two half-lives of the antibiotic used preoperatively or if there is excessive blood loss; however there is relatively little data regarding redosing and clinical outcomes. This will be a retrospective study to compare the incidence of SSI in patients who received intraoperative redosing of antibiotics in prolonged surgeries compared with those who did not. The primary outcome to be examined is the development of SSI as defined by the Center for Disease Control’s National Healthcare Safety Network (NHSN), which is prospectively surveyed in these patients by the FAHC Infection Prevention Department. The secondary objective is to examine other potential risk factors for development of SSI including: demographic variables, length of procedure, timing of preoperative antibiotics to time of incision and intraoperative antibiotics, intraoperative blood loss, antibiotic underdosing, surgical procedure, and hospital length of stay prior to procedure. This study received approval by the University of Vermont institutional review board.

METHODS: A retrospective review of patients admitted to FAHC who underwent one of the following procedures will be conducted: colon surgery, abdominal hysterectomy, cardiac surgery, coronary artery bypass grafting, spinal fusion, and hip or knee prosthesis. Patients will be included if they were 18 years or older at the time of procedure and if the procedure lasted 240 minutes or longer. Patients will be excluded if they were receiving therapeutic antibiotic therapy prior to procedure or if the infusion of preoperative antibiotics finished greater than 60 minutes prior to first incision.

RESULTS: Results available upon completion of data collection.

CONCLUSIONS: Results available upon completion of data collection.

EVALUATING PHARMACIST IMPACT ON CHRONIC DISEASE MANAGEMENT (EPIC DM) C. Omukogu;

PURPOSE: It is estimated that by the year 2025, the shortage of primary care physicians will total more than 50,000, while the need for primary care services continue to increase. This will provide an extraordinary opportunity for the pharmacy profession to offer solutions. Pharmacists have demonstrated their abilities to improve outcomes and reduce costs when provided the opportunity to offer their clinical expertise. The purpose of this study is to evaluate the impact of pharmacists, working collaboratively with physicians, to improve the control of type 2 diabetes (DM-2) and hypertension (HTN) under collaborative practice agreements.

METHODS: Patients’ charts will be reviewed from 1/1/2011 to 7/31/2013 and patients who are ≥18 years, referred by their primary care physician (PCP) for the first time, have ≥2 clinical pharmacy visits with diagnosis of DM-2 with baseline Hemoglobin A1c (HbA1c) ≥7% and/or HTN with blood pressure (BP) ≥140/90 or ≥130/80 if diabetic will be included in the study. Patients will be excluded if there are ≥2 HbA1c or BP per year. The primary outcomes are average reduction and percentage of patients at goal HbA1c

RESULTS: To be revealed during presentation.

CONCLUSIONS: The results of this research will define the needs and benefits of collaboration between physicians and clinical pharmacists to enhance patient outcomes for type 2 diabetes and hypertension in an outpatient primary care setting. Pharmacists may be able to bridge the steadily increasing shortage of primary care physicians by assisting in cost savings and improving patient care.
EFFICACY AND TOLERABILITY OF VARIOUS
BUPRENORPHINE/NALOXONE FORMULATIONS K. Banker;

PURPOSE:

METHODS:

RESULTS:

CONCLUSIONS:

IMPACT OF TRANEXAMIC ACID ON BLOOD LOSS IN TOTAL KNEE
ARTHROPLASTY AT A COMMUNITY TEACHING HOSPITAL K. Bach;

PURPOSE: Tranexamic acid is a lysine analog antifibrinolytic that inhibits clot degradation. A number of promising studies have shown the efficacy of tranexamic acid in orthopedic surgeries to reduce blood loss. However, its use has been restricted by the ESA APPRISE Oncology Program as ESAs have been shown FDA-approved to treat chemotherapy-associated anemia. Darbepoetin alfa usage is restricted by the ESA APPRISE Oncology Program as ESAs have been shown

ASSESSMENT OF TWICE-WEEKLY HIGH DOSE MICAFUNGIN
PROPHYLAXIS FOR PREVENTION OF FUNGAL INFECTION IN ADULT
HEMATOPOIETIC STEM CELL TRANSPLANT PATIENTS AT A SINGLE
CENTER. G. Edmiston;

PURPOSE: Patients receiving hematopoietic stem cell transplant (HSCT) at the National Institutes of Health (NIH) are at risk for infection from invasive fungal species, e.g., Candida and Aspergillus, due at least in part to pharmacologic immunosuppression during the period after transplantation, the potential disruption of innate immunity barriers in the skin and mucosal surfaces, and the use of corticosteroids. As a result, many of these patients receive antifungal prophylaxis to prevent invasive fungal infections in high-risk population. Fluconazole was originally the agent of choice for such prophylaxis, although its spectrum of activity does not cover Aspergillus species. Studies show that prophylaxis with micafungin in HSCT patients was effective, resulting in its FDA approval for prophylaxis against Candida infection in HSCT patients at a dose of 50 mg IV daily. In the outpatient setting, certain NIH HSCT patients have received micafungin prophylaxis at a different dose and administration schedule than the above FDA approved prophylaxis dosing, instead receiving micafungin on a two times every week schedule at a dose of 300 mg IV. This dose and administration schedule is also different from the treatment dose of micafungin, which is 100 mg IV daily. Thus far, the effectiveness of this alternative regimen has not been studied in this patient population. The objective of this retrospective chart review is intended to further define whether the two times each week high dose micafungin prophylaxis administered to the NIH HSCT patients effectively prevents invasive fungal infections over the past six years from January 1, 2008 to December 31, 2013. The project is an initial step towards analyzing the data from the NCI HSCT patients to determine whether proven, probable or suspected fungal infection occurred in this patient population, despite administration of this high dose micafungin prophylaxis. We also plan to document the presence or absence of a variety of known and suspected risk factors for invasive fungal infections, such as the type of immunosuppression used, administration of steroids, and presence and length of neutropenia.

METHODS: Prior to commencement, this study was submitted to the Institutional Review Board and received exempt status. Adult patients (age ≥ 18 years) who have undergone a hematopoietic stem cell transplant (HSCT) on NIH or NHLBI protocols and have received at least one dose of micafungin (300 mg IV two times each week) as an outpatient from January 1, 2008 to December 31, 2013 will be the patient population for this chart review. Patients less than 18 years of age, patients who received treatment with an anti-fungal medication within 72 hours prior to receiving micafungin prophylaxis, or patients who had any proven, probable or suspected fungal infection within 72 hours prior to receiving micafungin prophylaxis will be excluded. The NIH Clinical Center’s electronic medical records (e.g. CRIS) will be used to identify all HSCT patients meeting the eligibility criteria during the period from January 1, 2008 to December 31, 2013. The primary objective of the study will be to determine whether this dosing of micafungin was effective in preventing invasive fungal infections in these HSCT patients. Thus, the primary endpoint of this retrospective study will be “treatment success,” defined to be the absence of any proven, probable or suspected systemic fungal infection. Systemic fungal infection is considered “proven” by positive biopsy, culture, respiratory washing, or by laboratory test (e.g. βD glucan). Systemic fungal infection is considered to be “probable” if lower respiratory tract diagnostic studies revealed fungal elements in concert with consistent clinical and radiographic findings. Systemic fungal infection is considered “suspected” if temperatures greater than or equal to 38.0°C persisted for >96 hours during neutropenia (WBC < 500) despite broad-spectrum antibacterial therapy and/or initiation of empiric antifungal medication at a treatment dose. Secondary endpoints will include time to prophylaxis failure, type of immunosuppression during prophylaxis, use of corticosteroids during prophylaxis, length of neutropenia during prophylaxis, and any adverse effects attributable to micafungin prophylaxis. Patient identifying information will be removed upon chart review completion. De-identified patient data will be statistically analyzed for significance.

RESULTS:

CONCLUSIONS:

RETROSPECTIVE EVALUATION OF DARBEPOETIN ALFA IN CANCER
PATIENTS AT A LARGE ACADEMIC MEDICAL CENTER F. Cirrone;

PURPOSE: Darbepoetin alfa is a erythropoiesis stimulating agent (ESA) that is FDA-approved to treat chemotherapy-associated anemia. Darbepoetin alfa usage was statistically analyzed for significance.

RESULTS:

CONCLUSIONS:
been limited due to the concern of venous thromboembolism (VTE) development. The objective of this study was to assess the efficacy and safety of intravenous (IV) tranexamic acid on blood loss in total knee arthroplasty (TKA).

**METHODS:** Medical records of adult patients who underwent a primary unilateral TKA between May 2012 and April 2013 were reviewed. Patients were excluded from the study if they had a history of hypersensitivity to tranexamic acid, VTE, or bleeding disorder. The control group was composed of patients who underwent TKA without tranexamic acid prior to the addition of tranexamic acid to formulary (May 2012-October 2012). The study group consisted of patients who underwent TKA with tranexamic acid after the addition of tranexamic acid as a formulary product (November 2012-April 2013). The primary outcome is a change in hemoglobin from baseline to the second postoperative day. Secondary outcomes include percentage of patients requiring blood transfusions, number of packed red blood cells (pRBC) administered per patient, and number of patients who developed a VTE. Data will be analyzed using a two tailed t-test and chi square test to determine if a statistically significant difference (p

**RESULTS:** There were 38 patients in the tranexamic acid group and 47 patients in the control group. The mean difference for hemoglobin change from baseline to second postoperative day was 2.38 g/dl and 3.23 g/dl for the tranexamic acid and control group, respectively resulting in a statistically significant difference (p=0.000069). No patients in the tranexamic acid group required a blood transfusion; however, 12.8% (6) of the control group received a transfusion with an average of 2.2 units of pRBC administered. There was 1 case of DVT in the tranexamic acid group with 2 cases in the control group resulting in no statistical significant difference (p=0.69).

**CONCLUSIONS:** This study observed a smaller difference in hemoglobin levels between baseline and second postoperative day along with a reduced number of transfusions for the tranexamic acid group. In addition, there was no observed difference in VTE occurrence. In conclusion, tranexamic acid is effective and safe for use in TKA.

to decrease overall survival and increase the risk of tumor progression in some cancers. The goal of this study is to assess the adherence of NewYork- Presbyterian (NYP) to its prescribing policy for darbepoetin alfa in cancer patients and identify any cost-saving opportunities.

**METHODS:** This study was a retrospective chart review of adult patients age 18 years and older who received darbepoetin alfa during an inpatient hospitalization at NYP Weill Cornell Medical Center between January 2010 and June 2013. Information collected included: cancer diagnosis, darbepoetin alfa dose, day of discharge, date of chemotherapy administrations, lab values (hemoglobin, creatinine, etc.), and appropriateness of use. Appropriateness of use was defined by adherence to the NYP prescribing policy for ESAs in cancer patients—which accurately reflects the ESA APPRISE Oncology Program. The study protocol was approved by the NYP institutional review board.

**RESULTS:**

**CONCLUSIONS:**
SURVEY OF DISASTER PREPAREDNESS CURRICULA IN PHARMACY EDUCATION G. Fahim.

PURPOSE: Although the importance of pharmacists has been long recognized in disaster preparedness, there is scarce literature defining the role and capabilities of pharmacists to respond to natural or terrorist disasters. There are, however, programs for pharmacists to get involved on a local, regional, and national level once a disaster strikes. The purpose of this survey is to determine the inclusion of disaster medicine in the required course work of pharmacy students and to identify the content areas addressed. In addition, it is to assess if there is student awareness of opportunities to get involved as a future pharmacist.

METHODS: An electronic survey will be sent to Deans of all schools and colleges of pharmacy throughout the United States. The survey will include questions regarding the inclusion of disaster medicine/preparedness in the required school curricula and the content of instruction given by the last year of didactic lectures. In addition, the survey will also assess the inclusion of any auditing and education must be adopted.

SURVEY OF DISASTER PREPAREDNESS CURRICULA IN PHARMACY EDUCATION G. Fahim.

IMPROVING ADHERENCE TO THE CONTROLLED SUBSTANCES POLICY IN A LARGE TERTIARY CARE INSTITUTION R. Dajani.

PURPOSE: This hospital is a multi disciplinary tertiary care facility with services in surgical care, transplant, oncology, trauma, and medicine resulting in the use of a substantial amount of controlled substances for pain management. Tight control and accountability must therefore be implemented and followed in order to remain in compliance with the regulations and to serve our patients at the highest level of excellence. This study is to evaluate compliance with the legal regulatory requirements for handling of controlled substances, the identification and prevention of diversion, and the evaluation of documented pain scores.

METHODS: This study qualified for exemption from review by the institutional review board subject to 45 code of regulations 46.101(b). Two audit tools were developed to examine the handling of controlled substances based on the hospital’s policy and regulatory standards. The audit tool was specific for auditing all nursing units and the post anesthesia care unit (PACU). While, the second audit tool was specific for auditing procedural areas. The audits were conducted over a twelve-month period. The data collection process was a combined effort of both pharmacy and nursing through organized quarterly audits of all nursing units performed via the narcotic tracer method. Random audits were also conducted on consistently noncompliant nursing units and the PACU. The first audit tool examined prescribers’ orders, documentation of waste, compliance in carrying out the order as prescribed, administration of the controlled substance within sixty minutes of withdrawal from the automated dispensing system, and the documentation of pre and post pain assessments. The procedural areas evaluated included, the cardiac catheterization lab, the electrophysiology lab, and the endoscopy suite. The procedural area audits were conducted randomly. The categories included, written or computerized prescribers’ orders, appropriateness of orders, and documentation of waste. In the final month, two nursing units that exhibited the poorest percent compliance were selected to pilot an in-depth educational intervention. These units were a step-down cardiology unit and the medical intensive care unit (MICU). The same audit tool was used to assess compliance weekly. An obligatory in-service was conducted on week one, followed by three consecutive audits in the remaining three weeks.

RESULTS: The nursing unit audits showed the following average percentage compliance: Order Written 99%, Documented Waste 88%, Order Followed 74%, Administration within sixty minutes of withdrawal from the automated dispensing system 74%, Pre-Pain Assessment 67%, and Post-Pain Assessment 42%. The procedural area compliances were as follows: Order Written 90%, Appropriateness of Order 91%, and Documentation of Waste 94%. Overall, the results showed there was a need for improvement in compliance with federal regulations and hospital policies, particularly in the categories of documentation. The in-depth educational intervention conducted in the step-down cardiology unit showed improvement in compliance; the results were as follows: Order Written 100%, Documented Waste 100%, Order Followed 78%, Administration within sixty minutes of withdrawal from the automated dispensing system 92%, Pre-Pain Assessment 92%, and Post-Pain Assessment 61%. In contrast, the in-depth educational intervention conducted in the MICU did not show as much improvement due to several factors, the results were as follows: Order Written 83%, Documented Waste 61%, Order Followed 58%, Administration within sixty minutes of withdrawal from the automated dispensing system 61%, Pre-Pain Assessment 44%, and Post-Pain Assessment 67%.

CONCLUSIONS: Based on the results it’s evident that in a large tertiary care facility with high nurse turnover, regardless of the intervention utilized, in order to remain compliant with hospital and federal policies a continuous system of auditing and education must be adopted.

RASBURICASE AT NEW YORK-PRESBYTERIAN HOSPITAL: A RETROSPECTIVE MEDICATION USE EVALUATION C. Thomas.

PURPOSE: Rasburicase is a recombinant urate-oxidase enzyme that converts uric acid to allantoin (inactive metabolite). It has been used in both fixed and weight-based doses to treat hyperuricemia associated with malignancy. At NewYork-Presbyterian (NYP), use of rasburicase is restricted to the Adult and Pediatric Hematology and Oncology services. Based on published literature and possible cost savings, NYP made the decision to switch from weight-based to fixed dosing in 2012. The goal of this study is to determine how this drug is being used at NYP and to identify any further cost-savings opportunities.

METHODS: This study was a retrospective chart review of adult patients age 18 years and older who received rasburicase during an inpatient hospitalization at NYP Weill Cornell Medical Center between January 2012 and June 2013. Information collected included: patient age, sex, diagnosis, rasburicase dose, duration of use/repeated dosing, lab values (uric acid, creatinine, etc.), and ability to pay for medications. In order to address some of these issues, medication therapy management (MTM) is a group of services that optimize therapeutic outcomes for patients. Medication therapy management has demonstrated a positive impact on patient outcomes, including: reduced total healthcare costs, increased medication adherence, and improved clinical endpoints. In institutions where MTM is offered, pharmacists are the staggering leading providers of MTM services. Implementing a pharmacist-led MTM service at Holy Cross Hospital has a beneficial outlook by reducing direct and indirect medical costs for patients, increasing patient satisfaction scores, and decreasing readmission rates and adverse drug events.

METHODS: Members from the control group will be analyzed retrospectively. Members from the case group will be chosen based on the inclusion and exclusion criteria during the study period of December 2013 until May 2014. The case group will receive an initial medication therapy management session with a pharmacist prior to discharge. The pharmacist will review the patient’s medical chart prior to the initial MTM session for medical history and medication list. After discharge, there will be follow-up MTM sessions performed at the ambulatory clinic. Readmission rates and adverse drug event rates will be monitored for both groups 30 days post-discharge. Readmission rates are monitored by the Health Coach/Supervisor for the Transitional Care Program for the Uninsured.

RESULTS: The 30 day readmission rates for both groups will be calculated.

CONCLUSIONS: It is anticipated that readmission rates will be lower among the group that receives medication therapy management.
elective courses offered for disaster preparedness opportunities. The survey data will be collected then entered into a database for analysis using descriptive statistics. This study will be submitted to the Institutional Review Board for approval prior to data collection.

**RESULTS:** Results will be presented at meeting.

**CONCLUSIONS:** It is anticipated that pharmacy schools around the country do not offer adequate disaster preparedness education. Awareness of this matter should prompt pharmacy educators to emphasize and implement courses for appropriate training for pharmacy students.

appropriateness of use. For the purpose of this study appropriateness of use was defined by indication (hyperuricemia associated with malignancy) and dose (fixed vs weight-based). The study protocol was approved by the NYP institutional review board.

**RESULTS:**

**CONCLUSIONS:**
RESULTS: Helicobacter pylori infection, or Zollinger-Ellison syndrome).

risk of GI bleeding (history of GI bleed, peptic ulcer disease, erosive esophagitis,

METHODS: This is a prospective, observational study expected to enroll

approximately 100 ICU subjects. Subjects ≥ 18 years of age admitted to the neuro

ICU, surgical ICU, or medical ICU will be deemed eligible if mechanically

ventilated for greater than 48 hours and receiving treatment for suspected VAP

for greater than 3 days. Subjects receiving antibiotics for a secondary infection

with positive blood cultures for an organism other than the organism initially

implicated in VAP will be excluded. Subjects will be prospectively identified by

clinical pharmacists rounding with the ICU teams. The following data will be

collected daily until hospital discharge: age, admission and discharge date,

intubation date and location, primary diagnosis, comorbid conditions,

radiography, vital signs, pulmonary symptoms, ventilator settings, microbiologic

data, and antimicrobial and vasopressor use. In order to determine the sensitivity

and specificity of various VAP surveillance criteria, the ventilator-associated

event calculator on the CDC website will identify patients meeting the new

criterion, which will be compared to the date as identified by the old CDC

criterion as well as physicians. This study has been approved by the Institutional

Review Board.

RESULTS: Data collection is ongoing.

CONCLUSIONS:

[263p]

EVALUATION OF VENTILATOR-ASSOCIATED PNEUMONIA
SURVEILLANCE CRITERIA AND THE IMPACT ON ANTIMICROBIAL
PRESCRIBING PATTERNS D. Evans:

PURPOSE: Ventilator-associated pneumonia (VAP) is associated with significant

rates of morbidity and mortality in intensive care units. In the past, the diagnosis

of VAP has proven difficult as guidelines published by the CDC are based on

subjective observation of symptoms and interpretation of chest radiography. In

June 2013, the CDC published an updated ventilator-associated event surveillance

algorithm with purely objective criterion. The primary objective of this study is to

compare the sensitivity and specificity of the different VAP surveillance criteria

and physician diagnosis of VAP. Secondary objectives are to compare antibiotic

usage based on different VAP surveillance criteria and to compare antibiotic

usage, including descaling, between ICU units.

METHODS: This is a prospective, observational study expected to enroll

approximately 100 ICU subjects. Subjects ≥ 18 years of age admitted to the neuro

ICU, surgical ICU, or medical ICU will be deemed eligible if mechanically

ventilated for greater than 48 hours and receiving treatment for suspected VAP

for greater than 3 days. Subjects receiving antibiotics for a secondary infection

with positive blood cultures for an organism other than the organism initially

implicated in VAP will be excluded. Subjects will be prospectively identified by

clinical pharmacists rounding with the ICU teams. The following data will be

collected daily until hospital discharge: age, admission and discharge date,

intubation date and location, primary diagnosis, comorbid conditions,

radiography, vital signs, pulmonary symptoms, ventilator settings, microbiologic

data, and antimicrobial and vasopressor use. In order to determine the sensitivity

and specificity of various VAP surveillance criteria, the ventilator-associated

event calculator on the CDC website will identify patients meeting the new

criterion, which will be compared to the date as identified by the old CDC

criterion as well as physicians. This study has been approved by the Institutional

Review Board.

RESULTS: Data collection is ongoing.

CONCLUSIONS:

[275p]

PAIN MANAGEMENT AFTER LAPAROSCOPIC DONOR
NEPHRECTOMY N. Nesselhauf:

PURPOSE: Live donor renal transplantation accounts for approximately one third

of all renal transplants performed in the United States. Advances in surgery have

made kidney donation from a living donor possible through minimally invasive

laparoscopic donor nephrectomy. While donor patients undergoing laparoscopic
donor nephrectomy generally have quiet return to normal eating habits and daily
activities, they experience post-operative pain. Pain management is an essential
criterion of post-operative management of laparoscopic donor nephrectomy.

METHODS: Retrospective study of 274 adult living donors who underwent a

laparoscopic donor nephrectomy from July 2011 to Dec 2013. Patients were

excluded that underwent or converted to an open nephrectomy procedure, patients

with a hypersensitivity reaction to ketorolac or opioid angesics, and patients

with previously documented peptic ulcers and/or GI bleeding. Post-operative pain

management included intravenous ketorolac and as needed intravenous and by

mouth hydromorphone, hydrocodone, oxycodone, morphine, or fentanyl.

Analogic efficacy was evaluated by daily oral morphine equivalents of opioids

calculated for post-operative days 0-4. Patients were categorized by gender for

comparison. Secondary outcomes included change in renal function (absolute serum

creating and estimated glomerular filtration rate) at post-operative day 1-3,

and 6 months post laparoscopic donor nephrectomy.

RESULTS: With the exception of age, demographics were similar between the
two groups. Male donors received higher doses of intra-operative sedatives and

analogics. Female donors required significantly higher amounts of analgesia vs rules

on post-operative day 1, 33.3 vs 26.4, p = 0.03. A subgroup analysis of

females stratified by age (< 50 years and ≥ 50 years) indicates higher opioid usage

among younger female donors, 30 (18-652) vs 20 (10-34), p = 0.002. Renal

function declined, expectedly, from the pre- to post-donation period in all donors.

CONCLUSIONS: Analgesic requirements among female patients undergoing

laparoscopic donor nephrectomy were significantly higher on post-operative day 1.

This was driven by higher analgesic usage among younger female donors.

Clinicians should have heightened awareness for early post-operative pain among

female donors especially those < 50 years of age. Further study to understand why

this group required more is planned.

[290p]

RISK VERSUS BENEFIT OF ROUTINE GASTROINTESTINAL
PROPHYLAXIS WITH PROTON PUMP INHIBITORS IN KIDNEY
TRANSPLANT RECIPIENTS UNDERGOING EARLY CORTICOSTEROID
WITHDRAWAL A. Courson:

PURPOSE: Multiple factors contribute to gastrointestinal (GI) ulcers and

bleeding after kidney transplantation, including surgical stress, as well as the use of

corticosteroids and mycophenolate. Prophylactic acid suppressive therapy with

histamine 2 receptor antagonists (H2RA) or proton pump inhibitors (PPI) is

routinely used and continued long-term after transplant; although it is unclear if

this practice is indicated in patients undergoing early corticosteroid withdrawal.

Furthermore, PPI therapy has been associated with an increased risk of

Clostridium difficile infection, pneumonia and acute rejection. The purpose of this

study is to investigate the risks and benefits of long-term PPI use in kidney

transplant recipients undergoing early corticosteroid withdrawal.

METHODS: A retrospective cohort study of 286 adult patients who received a

kidney transplant between January 2010 and October 2012 was conducted.

Included patients were maintained on tacrolimus and mycophenolate mofetil or

sodium, and had corticosteroid withdrawal within five days of transplant. Patients

were excluded if they were on PPI therapy prior to transplant, H2RA therapy

prior to or after transplant, and/or had baseline co-morbidities that increase the

risk of GI bleeding (history of GI bleed, peptic ulcer disease, erosive esophagitis,

Helicobacter pylori infection, or Zollinger-Ellison syndrome).

RESULTS: 171 patients received PPI therapy for more than 30 days, with a mean

duration of 287 ± 120 days (PPI group); 115 patients were not maintained on acid

suppressive therapy (No PPI group). Baseline characteristics were similar among

groups, with the exception of a trend toward more deceased donor transplants in

the PPI group (p=0.089). More patients in the PPI group experienced delayed

graft function (22.2% vs. 8.7%, p=0.003), and biopsy proven acute rejection

(9.4% vs. 2.6%, p=0.029). Infectious complications were not significantly

different between groups. GI ulcers (1.2% vs. 0%, p=0.517) and bleeding

episodes (2.3% vs. 0%, p=0.151) were rare in the PPI group and not observed in

[299p]

MEASURING THE IMPACT OF THIRD YEAR STUDENT PHARMACISTS
WHILE PROVIDING HEALTH SCREENING SERVICES AT A LOCAL
COMMUNITY PHARMACY AS PART OF THE INTRODUCTORY
PHARMACY PRACTICE EXPERIENCES CLASS C. Booth:

PURPOSE: Currently, the impact of having third year student pharmacists

carrying out their introductory practice pharmacy experience rotations by

providing health screenings at a local community pharmacy location have not

been explored. Health screenings serve the dual purpose of educating the public

as to many of the services pharmacists can provide and providing student

pharmacists the opportunity to apply skills previously only studied didactically.

Evaluating the impact of these screenings prepares our course for future student

pharmacist events, and to enhance general health knowledge in the public.

METHODS: Public health screening events were scheduled at several local

community pharmacy locations consisting of blood pressure screening, ten-year

cardiac disease risk screening, and diabetes risk screening. The health screening

events occurred at nine different community pharmacy locations on nine different
days. Patients in the community pharmacy at the time of the event were polled in

a five question survey to assess the effectiveness of the health screening service,

regardless of their participation in the event.

RESULTS: The impact of third year student pharmacist conducted health

screening services at a local community pharmacy location will be recorded and

results will be evaluated.

CONCLUSIONS: It is hypothesized that this project will demonstrate an increase

in general public health knowledge following the health screening service events

provided by third year student pharmacists.
the No-PPI group.

**CONCLUSIONS:** No direct benefit was observed with chronic PPI use in decreasing the incidence of GI ulcers and bleeding in a kidney transplant population undergoing early corticosteroid withdrawal. Further studies are needed to investigate the association of PPI use and acute rejection.
THE EFFECT OF POLYMIXIN B DOSE ON 30-DAY MORTALITY IN PATIENTS WITH BLOODSTREAM INFECTIONS DUE TO CARBAPEM-RESISTANT GRAM-NEGATIVE RODS B. Nelson; 

PURPOSE: Polymyxin B has re-emerged as an important treatment for patients with infections caused by carbapenem-resistant Gram-negative rods (CRGNRs). The pharmacokinetic and pharmacodynamic characteristics of polymyxin agents remain poorly understood and definitive dosing strategies have yet to be determined. Renal dose adjustment remains controversial and correlation to clinical outcomes has rarely been reported. Much of the published clinical data evaluated colistin with one recent study showing a significant increase in microbiologic clearance using higher colistin doses. Unfortunately, this data may not be applicable to polymyxin B due to differences in their respective pharmacokinetic profiles. The primary objective of this study will be to evaluate the effect of polymyxin B dosing strategies on 30-day mortality in patients with bloodstream infections due to CRGNRs.

METHODS: This study is an IRB-approved retrospective chart review of adult patients (≥18 years old) who received polymyxin B for the treatment of bloodstream infections due to carbapenem-resistant Enterobacteriaceae, Acinetobacter baumannii, or Pseudomonas aeruginosa who were treated between January 2006 and December 2013. Data to be collected will include: baseline patient demographics, Charlson Comorbidity Index, Pitt Bacteraemia Score, degree of immunosuppression, dialysis status, source of infection, microbiology and laboratory data, and information related to antibiotic treatment. Polymyxin specific parameters will include dose (mg/kg), dosing interval, use of loading, minimum inhibitory concentration (MIC) and adverse effects. Clinical outcomes to be evaluated include death within 30 days, time to microbiologic clearance, safety and recurrence within 30 days of antibiotic discontinuation.

RESULTS: The 30-day mortality and time to microbiologic clearance will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will support the practice of avoiding polymyxin B renal dose adjustment and provide evidence guiding effective therapy for infections due to CRGNRs.

SODIUM BICARBONATE VERSUS ACETATE CONTAINING FLUIDS TO MAINTAIN URINE ALKALINIZATION FOR PEDIATRIC ONCOLOGY PATIENTS RECEIVING HIGH-DOSE METHOTREXATE THERAPY L. Camaione; 

PURPOSE: There is currently no published literature evaluating the use of sodium acetate in comparison to sodium bicarbonate for the purpose of urine alkalization; however, data is available which compares the efficacy of sodium acetate to sodium bicarbonate when correcting acidosis. Theoretically, urine alkalization should result from metabolism of acetate to bicarbonate. The objective of this study is to determine if fluids containing sodium acetate are as effective and safe as those containing sodium bicarbonate for the maintenance of urine alkalization used to promote optimal clearance of methotrexate (MTX) in pediatric oncology patients receiving high-dose MTX.

METHODS: This retrospective cohort study will include pediatric oncology patients receiving high dose MTX from January 22, 2011 through January 31, 2014. The primary and secondary endpoints of approximately 250 of these patients will be collected or collated from the electronic medical record (EMR). The primary endpoint of this study will be to evaluate the proportion of doses throughout which urine pH was maintained at a value of ≥ 7.0. Secondary endpoints include time from initiation of initial sodium bicarbonate bolus to appropriate urine alkalization, time to MTX clearance (level 3).

RESULTS: Results are pending.

CONCLUSIONS: Results are pending.

EVALUATION OF THE ADDITION OF A PHARMACIST TO THE QUALITY ASSURANCE PROCESS IN THE EMERGENCY DEPARTMENT TO REDUCE THE INAPPROPRIATENESS OF REVISED ANTIMICROBIAL PRESCRIPTION IN DISCHARGED ADULT PATIENTS K. Miller; 

PURPOSE: The objective was to evaluate whether adding a pharmacist to the nurse quality assurance (QA) review of discharged adult ED visits’ prescriptions/cultures would reduce the prevalence of revised antimicrobial regimen inappropriateness.

METHODS: This study is a retrospective observational cohort of discharged adult ED visits to a single center with positive cultures requiring QA antimicrobial regimen revision (5/1-10/31/12 – nurse QA process, 2/1-7/31/13 – nurse/pharmacist QA process). Two investigators abstracted both cohorts’ medical records for demographic, ED diagnosis, original/revised antibiotic regimen, culture result, medical history, medications and patient instruction data and determined whether the revised regimen was inappropriate based on Infectious Diseases Society of America Levels: 1. incorrect agent for organism, 2. incorrect regimen for diagnosis, Clinical Levels: 3. potential for adverse drug interactions from regimen, 4. inappropriate dosing for renal/liver function and 5. conflict with allergy history. We used the large sample z-test to compare the prevalence of revised antimicrobial regimen inappropriateness between the two cohorts.

RESULTS: In the pre-pharmacist cohort, there were 411 positive ED discharge cultures. 73 (17.8% 95CI (14.1-21.5%)) required QA antimicrobial regimen revision; 34 of these met one or more level of inappropriateness (46.6% 95CI (35.1-58.0%)). In the post-pharmacist cohort, there were 459 positive ED discharge cultures. 75 (16.3% 95CI (13.0-19.7%)) required QA revision; 11 of these met one or more level of inappropriateness (14.7% 95CI (6.7-22.7%)), (z=4.2, p<0.001).

CONCLUSIONS: Adding a pharmacist to the nurse QA review of discharged adult ED patients’ prescriptions/cultures reduced the prevalence of revised antimicrobial regimen inappropriateness.
IMPLEMENTATION OF A PHARMACIST-MANAGED CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) GROUP EDUCATION CLINIC D. Hsu;

PURPOSE: Chronic obstructive pulmonary disease (COPD) is a major cause of disability and death in the United States. Although it cannot be cured, optimal diagnosis and management provides symptom control, slows disease progression, and may improve quality of life. Despite efforts of the Global Initiative for Chronic Obstructive Lung Disease (GOLD) to provide the best therapeutic guidance, a recent evaluation of COPD management practices in a rural outpatient Veteran population at VA Hudson Valley Health Care System (VA HVHCS) suggested that compliance to GOLD guideline recommendations is suboptimal. Furthermore, several studies have reported that 60% of patients with COPD do not adhere to prescribed therapy and up to 85% of patients use their inhaler ineffectively. The implementation of a pharmacist-managed COPD group education clinic aimed to improve the management of COPD through education and promotion of self-care.

METHODS: A pharmacist-managed COPD group education clinic will be piloted at one of five hospitals in the West Penn Allegheny Health System (WPAHS) consisting of five hospitals ranging from a large university hospital to a small community hospital. At WPAHS, we were at a stage where hospitals were merging into a health system. It is anticipated that this project will standardize formulary across the hospitals within a system and improve the quality of care provided to patients. As hospitals merge to become a health system; in order to effectively manage pharmaceutical care, inconsistency must be eradicated. Standardizing formulary across the hospitals within a system helps eradicate some of the inconsistency in managing pharmaceutical care. West Penn Allegheny Health System (WPAHS) consists of five hospitals ranging from a large academic medical center to a small community hospital. At WPAHS, we were at a stage where it was crucial to standardize our formulary across our hospitals.

METHODS: The Formulary Standardization process was divided into three phases. Phase I: Initial clinical review to determine formulary; non-formulary or evaluate recommendations for presentation to System Pharmacy and Therapeutics Committee (P&T). Phase II: Formulation and line item level (dosage) selection for addition/deletion to CDMs. Phase III: Implementation at the site level. Medications with evaluation recommendations were prioritized for formulary review to determine status and/or therapeutic interchange.

RESULTS: The results will be presented.

CONCLUSIONS: It is anticipated that this project will standardize formulary across the five hospital health system.

IMPACT OF AN ASTHMA CAMP ON PARENT REPORTED ASTHMA CONTROL L. Acree;

PURPOSE: The purpose of this study was to determine if there was a change in parent reported asthma control in children attending a week long asthma camp which includes disease self-management. It is theorized that an asthma camp run by health professionals may result in improved disease state management.

METHODS: Surveys were obtained from the summer of 2013 camp participants prior to beginning asthma camp to determine the parent reported asthma control of the participants. During camp, peak flow readings were obtained from all participants twice daily. After camp, similar surveys were sent to the same participants to conclude if these children had the same level of asthma control after camp, better control, or worse control. Campers were excluded if they did not have a diagnosis of asthma or if the child did not complete the entire camp. Fifty one children were included in the study. The parameters that were measured included frequency of quick relief inhaler use, parent reported asthma control, ED visits, and frequency of symptoms. These measurements prior to camp and in the post-camp survey were compared. Secondary findings related to peak flow readings and weather patterns were compared from previous years to determine if the week was a determining factor for changes in peak flow readings throughout the week of asthma camp.

RESULTS: Fifty pre-survey and 55 post-survey were obtained from the 51 camp participants and 11 post-surveys were obtained through a mailing (22% post-survey response rate). Of the parents that responded with the post-survey, 7 reported the same level of asthma control, 3 reported better asthma control, and 1 reported worse asthma control. However, of the 7 that reported the same asthma control, 2 reported fewer symptoms or less frequent inhaler use. Peak flows varied throughout the week. Weather patterns indicate moderate mold counts during the week of camp and high mold counts 2 weeks prior to camp.

CONCLUSIONS: Not only does this camp provide the typical camp experience to children that may not otherwise be able to attend a summer camp, it provides education for the children as well as trained professionals to assist with inhaler technique. The potential for disease management improvement with asthma education, in addition to medications, is solidified by these findings. The children in this camp were surrounded by many healthcare workers and these results strengthen the need for asthma camps with similar structures.

DESIGNING FORMULARY STANDARDIZATION ACROSS THE HEALTH SYSTEM A. Mehta;

PURPOSE: As hospitals merge to become a health system; in order to effectively manage pharmaceutical care, inconsistency must be eradicated. Standardizing formulary across the hospitals within a system helps eradicate some of the inconsistency in managing pharmaceutical care. West Penn Allegheny Health System (WPAHS) consists of five hospitals ranging from a large academic medical center to a small community hospital. At WPAHS, we were at a stage where it was crucial to standardize our formulary across our hospitals.

METHODS: Formulary Standardization process was divided into three phases. Phase I: Initial clinical review to determine formulary; non-formulary or evaluate recommendations for presentation to System Pharmacy and Therapeutics Committee (P&T). Phase II: Formulation and line item level (dosage) selection for addition/deletion to CDMs. Phase III: Implementation at the site level. Medications with evaluation recommendations were prioritized for formulary review to determine status and/or therapeutic interchange.

RESULTS: The results will be presented.

CONCLUSIONS: It is anticipated that this project will standardize formulary across the five hospital health system.

QUALITY ASSESSMENT OF CURRENT SEDATION PRACTICES: USING THE RICHMOND AGITATION-SEDATION SCALE IN MECHANICALLY VENTILATED CRITICALLY ILL PATIENTS A. Martinelli;

PURPOSE: Using standardized assessments of sedation and agitation has proven to be beneficial for the optimal care of intensive care unit patients (ICU). The Richmond Agitation-Sedation Scale (RASS) has been recommended as the most valid and reliable sedation assessment tool for measuring both the quality and depth of sedation in adult ICU patients. The purpose of this quality improvement project was to examine current sedation assessment practices at Allegheny General Hospital in the medical, surgical, trauma, neuroscience, and coronary intensive care units using the RASS without prior educational intervention.

METHODS: A multidisciplinary quality improvement team including a pharmacist, physician, and nurse observed RASS performance in mechanically ventilated patients with active sedation orders. Assessments were categorized as accurate if they followed the RASS protocol or unable to assess if errors occurred.

RESULTS: 58 assessments were performed over a three-month period with the majority of assessments categorized as unable to assess (36 [62.1%]). The most common error was simultaneous verbal and tactile stimulation.

CONCLUSIONS: The majority of RASS assessments were not performed in accordance with the protocol. A sustainable education plan is under development to improve sedation evaluations for mechanically ventilated intensive care unit patients.
COMPARING THE EFFICACY OF PALIFERMIN FOR THE MANAGEMENT OF ORAL MUCOSITIS IN PATIENTS WHO RECEIVED TBI-BASED VS. NON-TBI-BASED MYELOABLATIVE REGIMEN FOLLOWED BY ALLOGENEIC HEMATOPOIETIC STEM CELL transplantation C. Lee;

PURPOSE: Palifermin is FDA-approved for prevention of oral mucositis (OM) in patients undergoing myeloablative (MA) hematopoietic stem cell transplantation (HSCT). Due to its limited data in non-total body irradiation (TBI) based regimen, current practice guideline does not recommend using palifermin in patients who undergo non-TBI-based HSCT.

METHODS: A single center, 2 year retrospective chart review assessing efficacy of palifermin in adult patients who underwent allogeneic HSCT (allo-HSCT) patients.

RESULTS: In palifermin group, duration of OM was significantly longer by a median of 7 days in TBI-based group compared with non-TBI-based group.

CONCLUSIONS: The incidence of overall and severe OM in palifermin treated patients were similar between TBI-based and non-TBI-based allo-HSCT.

IMPLEMENTATION OF A PHARMACIST MANAGED CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) EDUCATION GROUP CLINIC S. Pierce;

PURPOSE: Chronic obstructive pulmonary disease (COPD) is the third leading cause of death in the United States. Inhalers are commonly used in COPD treatment. An estimated ninety percent of patients use inhalers incorrectly, and are often unaware of errors in their technique. Physical demonstration of proper use has been shown to improve technique, and repeated instruction has been shown to improve adherence. The purpose of this project is to describe the implementation of a pharmacist managed COPD education group clinic.

METHODS: An ambulatory care pharmacy resident worked with clinical pharmacy specialists (CPS) to pilot a pharmacist managed COPD education group clinic in a primary care setting. Patients participating in the clinic had a documented diagnosis of COPD and a recent prescription for any COPD medication. Each group included up to ten patients, and met for a series of three monthly, two hour long visits. Each visit was conducted by the pharmacy resident with the support of a CPS. Each visit focused on a different aspect of COPD: pathophysiology, treatment, and exacerbations. Smoking cessation and vaccinations were also discussed. At every clinic visit, the pharmacy resident met with each patient individually to evaluate and correct the patient’s inhaler technique. Review by an institutional review board was not required for this descriptive report.

RESULTS: From October through December 2013, a full cycle of the COPD education group was completed. The second cycle in progress at the time of this writing. Two groups completed the first cycle, one meeting during the morning hours (Group A) and the other during the afternoon (Group B). Overall attendance rates for both groups was 88%, excluding cancelations prior to the day of the group visit. For Group A, attendance at all three sessions averaged 87%; for Group B, 90%. Attendance rates generally remained stable or increased as each of the three sessions was completed.

CONCLUSIONS: In conclusion, a pilot pharmacy managed COPD education group clinic was successfully implemented in a primary care setting. Attendance remained stable or increased from the first to the third group clinic visit. The long term sustainability of the clinic will require further evaluation. Potential future directions of the clinic could include COPD medication management by the pharmacist, as well as involvement from providers of other disciplines.

CREATING A MEDICATION ORDER MENU IN A COMPUTERIZED PROVIDER ORDER ENTRY (CPOE) SYSTEM A. Li;

PURPOSE: Computerized provider order entry (CPOE) systems have been shown to improve the quality and efficiency of patient care, reduce errors, and increase adherence to evidence-based guidelines. CPOE systems allow the user to create preconfigured orders and order sets that guide providers in selecting formulary medications recommended by the guidelines. The objective of this study is to create a medication order menu that will assist providers with medication order entry.

METHODS: This is a quality improvement project. This project has been reviewed and approved in accordance with local policy and procedures for quality improvement projects. Prior to creating the medication order menu, physicians and pharmacists were surveyed to determine what aspects of the order menu would be preferred. This will encompass disease states, medications, and medical disciplines. The order menus from other facilities were reviewed to determine if they will be beneficial for this facility according to the requests. The order menus will be created by the information systems team. The order menus will then be tested by a select group of physicians and pharmacists who will be from different disciplines.

RESULTS: The medication order menu template was selected and is currently under review from the informatics systems team and providers. The order menus will then be tested by a select group of physicians and pharmacists who will be from different disciplines.

CONCLUSIONS: It is anticipated that the establishment of a medication order menu that is categorized according to disease states and medical disciplines will improve quality and efficiency of patient care and provide evidence-based guidance for medication selection.

IMPROVING MEDICATION ADHERENCE TO RHEUMATOID ARTHRITIS THERAPY VIA A COLLABORATIVE MANAGED CARE ORGANIZATION AND PRESCRIBER EFFORT IN A MEDICAID POPULATION J. Marks;

PURPOSE: The objective of this study is to disseminate best practices for medication adherence to prescribers of Medicaid patients diagnosed with rheumatoid arthritis (RA). This is an effort to improve adherence to RA medications. Poor adherence has been shown to unfavorably affect clinical and economic outcomes. While improving medication adherence has long been an industry-wide focus; managed care organizations (MCOs) have not typically partnered with prescribers to achieve this common goal. This unique partnership affords the opportunity to provide prescribers with patient-specific and group-level medication adherence rates.

METHODS: We identified members diagnosed with RA belonging to two health plans. Members were identified using approved prior authorization claims for biologic agents indicated to treat RA. We targeted prescribers common to these members. Prescriber report cards comparing group-level patient adherence rates to overall adherence rates of RA patients within the respective health plan will be delivered to thirty-eight rheumatologists. Adherence support tools such as medication reminder calendars, adherence commitment contracts, and provider-focused techniques to improve medication adherence will be appended to the report cards. The adherence tool will vary based on specific provider interests needs. Each tool will be reviewed with providers upon delivery in-person or via telephone. Report cards and varying adherence materials will be sent quarterly. Pre-adherence rates will be compared to post-adherence rates as measured by PDC (defined as total covered days divided by total calendar days). Baseline PDC values have been calculated for each prescriber group. PDC will be recalculated quarterly to assess for changes in medication adherence. Descriptive analysis of PDC reports will be performed each quarter and yearly.

RESULTS: Adherence rates will be calculated and recorded for each practice group and health plan. A comparison of practice group, health plan, and gold stand adherence rates will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate a need for partnerships between managed care organizations and prescribers in order to improve medication adherence.
IMPROVING CARE TRANSITIONS FROM HOSPITAL TO HOME THROUGH A COORDINATED PHARMACY PRACTICE MODEL B. Dudeck:

PURPOSE: Patients with heart failure or chronic obstructive pulmonary disease (COPD) are at an increased risk for medication related problems due to the complexity of medication regimens which can lead to non-adherence, rehospitalization, and even death. The overall study is to determine if adherence issues are improved by the development of an integrated pharmacy practice model incorporating hospital and community pharmacists along with other practitioners to identify and prevent medication-related problems during the transition from hospital to home. The objective of this study is to quantify and describe discrepancies found by the hospital pharmacist when conducting medication reconciliation of patients screened.

METHODS: Patients with an admitting diagnosis or history of heart failure or COPD will be randomized to a treatment or control group. Patients in the treatment group will meet with a hospital pharmacist who will develop an assessment and plan to be communicated to the participating community pharmacist who will meet with the patient on a monthly basis while the control group receives standard of care. Patients eligible for the study will have medication reconciliation completed by the hospital pharmacist.

RESULTS: Discrepancies found during medication reconciliation will be quantified and classified by type of recommendation and results will be presented. It is anticipated that medication reconciliation discrepancies for 100 patients will be analyzed.

CONCLUSIONS: It is anticipated when a pharmacist completes a medication reconciliation, many discrepancies and medication-related problems are identified. Identifying and preventing these issues could improve care and prevent medication-related problems when transitioning from hospital to home. Overall the recommendations implemented during the hospital stay when transitioning to the community pharmacy will enable the continuity of care between providers and the patient during a time when errors are more prone to occur.

SERUM MONITORING OF MORPHINE & OXYCODONE IN CHRONIC PAIN MANAGEMENT: CLINICAL CORRELATION & UTILITY T. Atkinson.

METHODS: This study recruited 50 patients, 23 in the intervention group and 27 in the control group. The objective of this study is to evaluate the clinical utility of serum monitoring for patients requiring continuous around-the-clock dosing of oral morphine or oxycodone for the treatment of chronic pain and to assess if there is a correlation of dose administered with serum free morphine and/or oxycodone concentrations measured in ng/mL. Additionally, we wish to determine the utility of serum monitoring for both drugs to identify potential aberrant behaviors, drug misuse/abuse, and metabolic/genetic variabilities likely due to polymorphism or drug interactions.

RESULTS: It is anticipated that patients receiving additional education would report a higher level of satisfaction.

CONCLUSIONS: The study recruited 50 patients, 23 in the intervention group and 27 in the control group. The results of the surveys will be recorded and results will be presented.

IMPACT OF PAIN MEDICATION EDUCATION ON SATISFACTION IN PATIENTS RECOVERING FROM ORTHOPEDIC SURGERY M. Halsey.

METHODS: Third-party reimbursement for hospital services is shifting towards payment based on performance and patient outcomes, rather than for services provided. A part of the shift is the use of Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) surveys to determine patient satisfaction during their hospitalization. One area of emphasis is pain management, which is one of the weaker HCAHPS composites at South County Hospital (reputed with the highest patient satisfaction in Rhode Island).

Previously, another hospital improved pain management scores by educating patients about analgesics and setting realistic expectations about pain after major surgery. The objective of this study is to assess the impact of patient education on patient satisfaction.

METHODS: Patients scheduled to have hip or knee replacement surgery were approached at presurgery testing for informed consent. After the surgery and admission to the Med-Surg floor, patients in the intervention group met with a pharmacist to discuss the medications ordered for pain and other symptoms. Pamphlets were provided to the patients, designed to explain the pain scale, set goals for pain management and to list the available medications patients may request. After discharge, patients were surveyed by telephone to rate their satisfaction with a survey created for this study. Patients in the control group were only surveyed and did not receive additional education or a pamphlet. HCAHPS scores were also examined for this time period for the participants. The study hypothesized that patients receiving additional education would report a higher level of satisfaction.

RESULTS: The study recruited 50 patients, 23 in the intervention group and 27 in the control group. The results of the surveys will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that the patient education intervention will have a modest benefit on patient satisfaction in the orthopedic population. The small study size may preclude any significant changes in HCAHPS scores, especially considering that HCAHPS surveys may not be completed by all participants.

COMPARATIVE ANALYSIS OF GLYCEMIC CONTROL IN PATIENTS WITH TYPE 2 DIABETES MANAGED BY PRIMARY CARE PHYSICIANS, PHARMACISTS, AND AN INTERDISCIPLINARY DIABETES CARE TEAM. C. Freitas;

PURPOSE: Type 2 diabetes mellitus (T2DM) continues to be a major cause of morbidity and mortality worldwide. Treatment is difficult because the disease is progressive, may require multiple medications, and it involves changes in lifestyle for proper management. The purpose of this study is to compare the efficacy of the various approaches utilized to treat diabetes at the Providence Veterans Affairs Medical Center (PVAMC), and to evaluate the effect of a diagnosis of post-traumatic stress disorder (PTSD), bipolar disorder (BPD), or major depressive disorder (MDD) on treatment outcomes.

METHODS: This pilot study is a retrospective chart review data collected from veterans with T2DM managed at the PVAMC and treated with either oral anti-diabetic drugs and/or insulin from September 1, 2012 to September 30, 2013. The primary outcome of this study is a comparison in glycemic control in patients treated by Primary Care Physician (PCP), Pharmacist Managed Metabolic Clinic (PMC), or multi-disciplinary Diabetes Care Team (DCT) by assessing change in Hemoglobin A1C (HbA1c) over a period of one year. Secondary outcomes include the achievement of target Blood Pressure (BP), Low Density Lipoprotein (LDL), and HbA1c goals at the end of the study period. Other endpoints include evaluating if comorbidities, including PTSD, MDD, and BPD have a negative effect on glycemic, BP, or LDL goals.

RESULTS: Data will be collected, analyzed and presented.

CONCLUSIONS: It is anticipated that the multi-disciplinary diabetes care team will show a larger decrease in HbA1c in comparison to the PMC, or PCPs.

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OBSTRUCTIVE PULMONARY DISEASE (COPD) EDUCATION AND EXPANSION OF PHARMACY SERVICES TO INCLUDE CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) EDUCATION AND MEDICATION MANAGEMENT N. Parmush

PURPOSE: Current disease states managed under clinical pharmacy services at the Lebanon VA Medical Center (VAMC) include diabetes, hypertension, hyperlipidemia, anemia, hepatitis C, and nicotine dependence. There is an unmet need to provide pharmacy services for additional disease states, including COPD. Clinical pharmacy specialists (CPS) can improve outcomes for COPD patients by helping providers manage medications and providing additional education to patients about self-management of COPD. The purpose of this project is to expand existing clinical pharmacy services via design and implementation of a pharmacy-run COPD education and medication management clinic.

METHODS: Steps for creating the new COPD clinic included: 1) a proposal document outlining the purpose, background, clinic structure, required resources, and potential implications of the new service was approved by the assistant chief of pharmacy, chief of pharmacy, and chief of staff. The project was reviewed and approved in accordance with local policy and procedures for quality assurance/quality improvement projects; 2) Input from key stakeholders (CPS, pulmonologists, primary care physicians, etc.) was considered for design of the clinic; 3) A standard operating procedure was drafted which detailed the consultation process, enrollment criteria, and basic appointment structure; 4) Necessary resources were obtained; educational materials were collected and received approval from the Veterans Health Education Committee (VHEC); 5) Note templates were created, and the informatics team built the new consult into the Computerized Patient Record System (CPRS); 6) Education was provided to the CPS who will be staffing the clinic; 7) The service was advertised to targeted providers.

RESULTS: Results pending.

CONCLUSIONS: There is currently an unmet need at the Lebanon VAMC to provide pharmacy services for multiple disease states, including COPD. The purpose of this project was to expand existing clinical pharmacy services via design and implementation of a pharmacy-run COPD education and medication management clinic. A proposal for expansion of existing pharmacy services to include COPD management was approved, and all necessary steps for starting a new clinical service were completed. The goal of this new service is for CPS to improve outcomes for COPD patients by helping providers manage medications and provide additional education on the self-management of COPD.

ADVERSE REACTIONS REPORTED TO A POISON CONTROL CENTER RELATED TO DIETARY SUPPLEMENT EXPOSURES K. Hummel

PURPOSE: The use of dietary supplements has increased over the past decade. Between 2010 and 2012, dietary supplement exposures reported to the United States Poison Control Centers (PCC) increased from 32,052 to 37,729 and dietary supplements were ranked in the top 25 of single substance human exposures. Poison Control Centers have been studied and reported to be able to identify safety issues related to the commercial use of dietary supplements. The Philadelphia PCC serves southeastern Pennsylvania, the Lehigh Valley and the State of Delaware and receives thousands of calls annually from healthcare providers and the public related to suspected poisonings. The objective of this retrospective review is to characterize dietary supplement exposures and trend adverse reactions reported to a single PCC.

METHODS: Exposure cases were obtained from the Philadelphia PCC database, Toxicall® from 2001 through 2013. Exposure calls coded as dietary supplements, vitamins, herbal, diet aids, energy products, homeopathic or cultural remedies were included. Informational calls and animal related exposures were excluded from analysis. Preliminary data was analyzed for exposure characteristics including class of substance, reason for exposure, medical outcome, and population characteristics, including age and gender of the patient. Exposure calls coded as adverse reactions were further analyzed.

RESULTS: The number of dietary supplement exposure calls coded as adverse reactions over the past thirteen years will be reported. Exposure characteristics of all adverse reactions will be further analyzed by type of supplement, severity of reaction and age of patient. The most common dietary supplements involved in exposures resulting in adverse reactions will be identified.

CONCLUSIONS: It is anticipated that the analysis of dietary supplement exposures reported to a single PCC over the past thirteen years will provide guidance for future research into the safety of dietary supplements.
PHARMACIST VERSUS PHYSICIAN MANAGEMENT OF DIABETES MELLITUS C. Dolecki:

PURPOSE: Diabetes mellitus remains one of the most common conditions in the United States, with more than 8 percent of the population being affected. Uncontrolled diabetes leads to many complications, and even death. Through the Asheville Project and the Diabetes Ten City Challenge, pharmacist intervention and management has shown significant improvement in glucose control, medical costs, and productivity.

METHODS: Electronic health records were reviewed retrospectively from 11/7/11 to 6/30/13. Glucose control of patients seen at a pharmacist-run diabetes management service within an internal medicine clinic were compared to patients seen at a similar clinic without a permanent pharmacist.

RESULTS: The change in glycosylated hemoglobin Alc (A1c), the number of patients that are at goal A1c as determined by the American Diabetes Association (ADA), and the number of patients at target metformin dosing will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will highlight a role for pharmacists in patient education and management of diabetes mellitus.

STANDARDIZED HEART FAILURE EDUCATION WITH EMPHASIS ON MEDICATION REGIMEN TO FACILITATE QUALITY TRANSITION TO HOME PILOT STUDY C. Smelstor:

PURPOSE: Disparities in providing proper heart failure education by health care personnel and a lack of emphasis on self-care based strategies for patients prior to discharge may be a contributing factor to frequent decompensation and increased costs of care in the congestive heart failure population. The Joint Commission mandates that all patients be educated before discharge however, this process has not been standardized. Without standardization patients may not be receiving the same level of care. Outpatient services have been successful in improving patient outcomes such as readmission rates and patient satisfaction but many barriers exist to reaching this population that don’t always make outpatient services feasible. Pharmacists, as medication experts, have the opportunity to emphasize medication education, improve patient understanding and satisfaction and have a positive impact on adherence to follow-up.

METHODS: This was IRB-approved. Pharmacists will be responsible for medication reconciliation, inpatient pharmacist CHF medication education and tailored telephone follow-up post-discharge. When discrepancies are identified during medication reconciliation the patient’s inpatient team will be notified. Approximately 45 minutes of care time will be spent with each patient for counseling. Approximately one to four days post-discharge, pharmacist will contact patients in intervention group to confirm new prescriptions have been filled and verify the patient understands how to take each medication as well as screen for early medication side effects. If the patient is still confused with medications they will be encouraged to attend a medication therapy management (MTM) session with one of the pharmacists. A control group with usual CHF standard of care will be used for comparison. A phone survey will be conducted 15-30 days post-discharge to assess patient understanding and satisfaction in both the intervention and control group.

RESULTS: Data collection is ongoing.

CONCLUSIONS: Preliminary conclusions will be presented at the time of the residency conference.

EVALUATION OF ANTIHYPERTENSIVE MEDICATIONS AND DOOR-TO-NEEDLE TIME WITH ALTEPLASE FOR ACUTE ISCHEMIC STROKE. S. Nerenberg:

PURPOSE: Elevated blood pressure is a contraindication to administering recombinant tissue-plasmin activator (tPA) to patients with acute ischemic stroke (AIS) and reduction of the blood pressure is required before administration. Given the fact that the optimal antihypertensive medication that will reduce the blood pressure to goal in the shortest time is unknown, the purpose of this study was to determine if there is an optimal antihypertensive to reduce door-to-needle time with tPA.

METHODS: For this retrospective electronic chart review, all patients who were greater than 18 years of age and received an intravenous antihypertensive medication prior to receiving tPA for AIS from 1/1/12 through 2/28/14 were included. Up to three pre-treatment antihypertensive medications were recorded along with the time the medication was ordered, the dose ordered, and the time the medication was administered. The primary outcome was door-to-needle time, defined as the elapsed time from arrival to the Emergency Department to administration of the tPA bolus. The mean door-to-needle times were calculated for each antihypertensive ordered. If more than one antihypertensive medication was ordered, the previous medication was considered a treatment failure and mean times were calculated for patients who received two antihypertensive medications and three antihypertensive medications.

RESULTS: To be presented.

CONCLUSIONS:

MEDICATION DISCHARGE COUNSELING OF HOSPITAL CLINIC PATIENTS AT A COMMUNITY TEACHING HOSPITAL F. Cheng:

PURPOSE: Medication reconciliation and counseling at discharge are important for improving quality of care and improving patient outcomes. Despite evidence supporting pharmacist-led medication reconciliation, there is no consensus regarding the most effective methods to conduct this. Limited collaboration among physicians, pharmacists, and nurses at discharge can further lead to poor medication compliance and decreased outcomes. Integrating pharmacists into the process of counseling and reconciliation can improve patient outcomes. The purpose of this study is to conduct medication reconciliation and counseling at discharge for primary care center patients who are admitted to the hospital, to evaluate its impact on patient safety and compliance, to assess medication habits, identify patients’ need, and to address patients’ concerns regarding their medications.

METHODS: This is a prospective study consisting of pharmacist-led medication reconciliation, inpatient counseling, post-discharge office visit, and phone-call. Prior to discharge, a pharmacist reconciled the patient’s medications, provided medication counseling, and assessed patient compliance using the Morisky 8-item Medication Adherence Questionnaire, a validated assessment tool. A nurse practitioner conducted a wellness phone call 24-48 hours post-discharge. After at least 14 days post-discharge, a nurse practitioner followed-up with patients to reassess compliance using baseline interview data. The nurse practitioner also assessed medication understanding by verbally administering a medication use questionnaire. Patients’ satisfaction regarding the meeting with the pharmacist was also obtained.

RESULTS: Research outcomes are under investigation with results pending.

CONCLUSIONS: To be determined.
PHARMACIST LED DYSLIPIDEMIA MANAGEMENT IN A PATIENT CENTERED MEDICAL HOME R. Dance:

PURPOSE: Various studies have demonstrated pharmacists in outpatient settings have improved health outcomes in diabetes and hyperlipidemia. A novel setting for pharmacists includes the patient centered medical home (PCMH) which focuses on improving patient care through team based collaboration and increasing access to health care services. Utilizing a clinical pharmacist is a desirable way to help diabetic patients reach their lipid goals. This study aims to determine the feasibility of the utilization of a clinical pharmacist at a PCMH for dyslipidemia management in diabetic patients.

METHODS: Patient population includes those who are diabetic and have a low density lipoprotein (LDL) > 100 mg/dL stratified into two arms. One arm will include high risk patients defined as having a LDL > 130 mg/dL or < 130 mg/dL and identified as non-adherent (defined as scoring < 6 on the Morisky Medication Adherence Scale) or who have been difficult to manage (defined as not at goal LDL < 100 mg/dL or have not reached a 30-50% baseline reduction and been managed for > 6 months on therapy). A clinical pharmacist with physician collaboration will manage the high risk group. The second arm will include low risk patients defined as an LDL < 130 mg/dL. The low risk group will be managed by physicians that have received one educational session on lipid management by a clinical pharmacist. Primary endpoints include LDL < 100 mg/dL and or those who reached an LDL lowering of at least a 30-50% reduction. Secondary endpoints include total cholesterol, triglycerides, high-density lipoprotein, patient and physician satisfaction surveys, and cardiovascular events, number of patients on appropriate statin therapy. The study period will be 6 months. A lipid panel will be measured at baseline and again after the study period concludes. Patients will be followed through office visits and phone calls.

RESULTS: This project is currently in progress and the results are pending.

CONCLUSIONS: We hypothesize that utilizing this model will be feasible for clinical pharmacists to manage patients with dyslipidemia. In addition, patients managed by the clinical pharmacist will demonstrate a reduction in their LDL < 100 mg/dL or a decrease in LDL of 30%-50% from baseline at 6 months.

ASSESSMENT OF BLEEDING AFTER ALTEPLASE ADMINISTRATION FOR ACUTE ISCHEMIC STROKE IN PATIENTS ON ANTIPLATELET AND/OR ANTICOAGULANT AGENTS C. Mckenzie:

PURPOSE: One of the most serious complications of utilizing intravenous (IV) thrombolitics is the conversion to intracranial hemorrhaging (ICH). Many researchers have conducted analysis of patient characteristics in an attempt to identify risk factors that predispose a patient to develop an ICH. The objective of this study is to determine the incidence of bleeding (intracranial or other) among patients with prior antiplatelet or anticoagulant use before IV rt-PA for the treatment of acute ischemic stroke.

METHODS: A retrospective, electronic chart review was conducted on patients at least 18 years of age with whom activation of the Brain Attack team was initiated from January 1, 2012 to December 31st 2013 for the evaluation of acute ischemic stroke and were also noted to be on an antiplatelet or anticoagulant medication. Adverse drug events including bleeding complications were recorded for analysis along with baseline vitals and patient demographics.

RESULTS: To be presented

CONCLUSIONS: To be presented

ASSessment of a state-mandated sepsis protocol with pharmacists as part of the interdisciplinary team approach V. Lin:

PURPOSE: In New York, sepsis continues to be a leading cause of death with a mortality range from 15 to 37%. In May 2013, the New York State Public Health and Health Planning Council (PHHPC) approved regulations on hospital sepsis care requiring all hospitals in the state to implement a Department of Health (DOH)-approved sepsis protocol. At a 1,076-bed, full-service community hospital, a sepsis protocol was designed and implemented using an interdisciplinary approach in which pharmacists play a critical role. The objective of this study is to assess the impact of a state-mandated sepsis protocol on outcomes.

METHODS: As part of the sepsis protocol, pharmacists will receive training regarding the institutional protocol and the management of sepsis. Pharmacists are expected to review each order, expedite medication availability and provide information on simultaneous intravenous administration compatibility. Medical records of patients 18 years and older diagnosed with severe sepsis or septic shock will be reviewed. Data six months before and six months after the implementation of the sepsis protocol will be collected and analyzed. The primary endpoint will time to administration of antibiotics. The secondary endpoints will include overall survival and length of hospital stay. Confidentiality for all recorded patient data will be maintained.

RESULTS: Data regarding the endpoints will be recorded and the results will be presented.

CONCLUSIONS: It is anticipated that this research project will demonstrate a positive impact on outcomes regarding severe sepsis and septic shock patients.

Optimizing the pre-screen selection process for post-graduate year 1 residency applicants R. Habib:

PURPOSE: At Allegheny General Hospital (AGH), the number of candidates applying to the five designated post-graduate year 1 (PGY1) positions has been approximately 80-90 applicants in the last four academic years. The purpose of this research is to evaluate the current prescreening process and ensure we are selecting the most competitive candidates for an onsite interview.

METHODS: The current candidate evaluation form that is used to pre-screen candidates and determine whether they should receive an invitation to interview includes the assessment of the letter of intent, curriculum vitae, academic background (GPA), letters of recommendation, leadership activities, publications/awards or research, and work experience. A survey will be distributed to the current clinical preceptors as well as PGY1 and PGY2 pharmacy practice residents at the site. The survey will incorporate 13 characteristics that PGY1 candidates may potentially be screened for when their application is evaluated. In addition to the criteria mentioned, the survey will also ask the responders to give their opinion on characteristics that had not previously been evaluated such as advanced pharmacy practice experiences. Based on the survey results, an updated candidate evaluation form will be drafted. Utilizing the updated prescreen candidate evaluation form, 25 applications from the 2014-2015 PGY1 residency candidates will be re-reviewed. Application packets will be reviewed by the same preceptors and residents that initially assigned prescreen scores, as permitted by availability. The 2014 – 2015 candidate re-rank will determine the utility of the updated form. The project has been submitted to the AGH Institutional Review Board and is pending approval.

RESULTS: The data will be evaluated using descriptive statistics and results will be subsequently presented.

CONCLUSIONS: It is anticipated that this project will result in a candidate evaluation and subsequent prescreening process that selects applicants who are likely to be successful in a residency program. The updated procedure will be reflective of perspectives shared by clinical specialists and residents at the site.
EVALUATION OF CHLORAMPHENICOL USE IN CYSTIC FIBROSIS PATIENTS AT A PEDIATRIC TEACHING HOSPITAL. S. Lam.

PURPOSE: Chloramphenicol is a seldom used antimicrobial agent due to its adverse effect profile despite having a highly effective, broad-spectrum profile against many gram-positive and negative bacteria. The most significant toxicity associated with chloramphenicol is bone marrow suppression. Cystic fibrosis (CF) patients often have limited antibiotic options due to the high incidence of resistance among pathogens involved. There is currently a lack of studies on the use of chloramphenicol in this patient population. The objectives of this analysis are to evaluate dosing regimens and subsequent serum concentrations of chloramphenicol to determine toxicity and efficacy in CF patients.

METHODS: A thorough literature review was conducted to review existing recommendations regarding chloramphenicol use in CF patients. Prior to commencement, this work was submitted to the hospital’s Institutional Review Board (IRB) for approval. A retrospective analysis was conducted looking at patients with cystic fibrosis who have been treated with chloramphenicol at a large pediatric tertiary care center. Data was gathered using the electronic medical record system to identify patients who have been treated in the past with chloramphenicol. The following data was collected: patient demographics (age, gender, weight), past medical history, drug allergies, concurrent antibiotics, laboratory data (complete blood count, inflammatory markers), pulmonary function tests, microbiology data, drug information (chloramphenicol doses, serum concentrations, duration of treatment, rationale for starting medication, adverse events), length of stay, and time between exacerbations.

RESULTS: Results will be presented.

CONCLUSIONS: It is anticipated that this project will aid in the use of chloramphenicol in treating CF patients at our institution.

THE INCIDENCE OF UROSEPSIS OR URINARY TRACT INFECTIONS IN ONCOLOGY PATIENTS WITH FEBRILE NEUTROPENIA WHO PRESENT TO THE EMERGENCY ROOM. P. Lee.

PURPOSE: Cancer chemotherapy is given for a variety of malignancies which results in neutropenia. Chemotherapy impairs the mucosal integrity particularly in the mucosal linings of the genitourinary tracts which leaves patients susceptible to infections. Also due to neutropenia they have increased vulnerability to infections. We retrospectively reviewed charts with adults with neutropenia due to chemotherapy and the presence of urinary tract infections (UTI) and/or urosepsis. This is a single center, three year retrospective study on the incidence of urosepsis and/or urinary tract infections for patients who presented to the emergency with febrile neutropenia in a three year period from 2011-2013.

METHODS: Medical records of patients who presented to the emergency room of Winthrop-University Hospital with febrile neutropenia were reviewed. Data was collected and organized in an active database to allow for a thorough review of the patient’s medical record. Each patient was evaluated with an ICD-9 code which was associated with febrile neutropenia. It is Winthrop-University Hospital policy with any patient who presents to the emergency room with febrile neutropenia to have both blood and/or urine cultures. Urosepsis was defined as positive blood and urine cultures due to the same uropathogen. A UTI was defined as a positive urine culture without a positive blood culture.

RESULTS: The data will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that the project will demonstrate patients who are neutropenic do not have an increased incidence of urosepsis and/or urinary tract infection.

PHARMACIST-LED DISCHARGE COUNSELING AND ITS EFFECT ON PATIENT DRUG KNOWLEDGE, COMPLIANCE, AND SATISFACTION. G. Fakelmann.

PURPOSE: Transitions of care are currently a major area of focus for hospitals across the country, as healthcare providers are recognizing that the current system leaves much to be desired and patient satisfaction scores regarding communication of medications continue to be an improvement opportunity. For hospitals, the focus for streamlining and improving transitions of care centers on the discharge process. Discharge is also the time at which patients are most receptive to health care recommendations, which places even further emphasis on maximizing the impact of patient education. A new focus and emphasis towards increasing the quality of counseling and patient satisfaction, as well as improving medication adherence, is warranted. This quality improvement project examines whether a pharmacist-led discharge counseling program could improve patient satisfaction scores, self-reported patient compliance rates, and the patient’s knowledge of the medications they are taking upon discharge.

METHODS: The project will assess the quality of medication discharge counseling in the general medicine patient population, excluding patients who are younger than 18 years of age, who have conditions that would present significant challenges to understanding counseling, or who are discharged to outside facilities. Upon initiation of the assessment period, nurses will continue to provide discharge counseling as they have been. After two weeks, pharmacists will provide the counseling to these patients at time of discharge for a similar two-week time frame. The counselors will document how long they spent counseling and will capture medication lists and contact information so that patients can be reached by telephone for a follow-up survey. The survey will be conducted two weeks post-discharge and will assess each patient’s compliance with and knowledge of their prescribed discharge medications, as well as their satisfaction with their discharge counseling session.

RESULTS: Data collection is currently ongoing. Final results will be collated and presented.

CONCLUSIONS:

INTEGRATION OF A PHARMACY RESIDENT IN A GERIATRIC SPECIAL CARE UNIT AT A VETERANS AFFAIRS MEDICAL CENTER. H. Nguyen.

PURPOSE: Integration of a clinical pharmacist as part of an interdisciplinary team is the preferred approach to improve patient care. The objective of this study is to determine whether the presence of a pharmacy resident (PR) in the Geriatric Special Care Unit (GSCU) would improve drug therapy and decrease inappropriate use of certain medications and prevent side effects. GSCU provides special care to the veterans with behavioral complications associated with dementia or severe mental illness that require total care for activities of daily living, vulnerable for polypharmacy, and at an increase risks for falls due to medications and inappropriate use of antipsychotic drugs.

METHODS: A 6-months (2 months prior, 2 months during, and 2 months after) pilot study where PR rounds with the interdisciplinary team every other Wednesday to discuss treatment plan and intervention of current 6 GSCU residents. Medications, lab results, and progress notes information will be collected 2 months prior to the initiation of PR to the unit and compares to the data collected every 2 months thereafter for a total of 6 months. Outcomes of interest include: identify and evaluate inappropriate antipsychotic usage, minimize drug usage on the Beer’s Criteria list, manage possible side effects, monitor for adequate pain control, decrease the use of drugs that could potentially cause falls, and optimize drug therapy.

RESULTS: The numbers of intervention for every two months will be recorded and compared against each other and the results will be presented.

CONCLUSIONS: It is anticipated that the presence of a pharmacy resident at a specialized area will add values to the interdisciplinary team and improve patient outcomes.
IMPLEMENTATION OF A PHARMACIST MANAGED ANTICOAGULATION CLINIC H. Thai;

PURPOSE: Meritus Medical Center is proposing a business plan to open a pharmacist managed outpatient anticoagulation clinic (OPAC) within the next few years. Currently, pharmacists are consulted for dosing warfarin and educating patients in the hospital. With implementation of the new clinic, a significant improvement in continuity of care leading to a reduction in hospitalizations and readmissions due to poorly controlled INRs, improved patient satisfaction, and an overall improvement in warfarin management are predicted.

METHODS: Strategic planning regarding the pharmacist managed anticoagulation clinic has occurred since Fall 2013. Research consists of comparison of PT/INR point of care devices, determining the Maryland Board of Pharmacy regulations and applications, composing a collaborative practice agreement, business plan, and appropriate protocols for the clinic. A survey was sent out to local physicians regarding interest in referring patients to a pharmacist managed anticoagulation clinic. The Director of Pharmacy, Clinical Coordinator, anticoagulation specialist, and pharmacy residents are working on the strategic planning for implementing this new expansion of pharmacy service at Meritus Medical Center.

RESULTS: In Process

CONCLUSIONS: In Process

PREVENTING THE REOCURRENCE OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) EXACERBATIONS THROUGH PHARMACIST INTERVENTION D. Price;

PURPOSE: COPD is the 4th leading cause of death in the United States, accounting for 1.5 million emergency department visits and 700,000 hospitalizations annually. COPD is associated with a significant economic burden and results in the greatest proportion of total COPD burden on the healthcare system. COPD is considered one of the top 5 diseases that contribute to hospital readmissions. A large percentage of unplanned rehospitalizations appear to be related to poorly coordinated transition of care. Pharmacists may help reduce readmissions related to COPD exacerbations by proper counseling and being a crucial part in the transition of care before discharge.

METHODS: A prospective study will be performed and will be sent to the Institutional Review Board for approval. A retrospective review of medication reconciliation data will be performed to identify reconciliation discrepancies prior to implementation of a pharmacist’s review in the seniors emergency center. This will be followed by a prospective collection of medication histories and pharmacist-performed medication reconciliation for patients 65 years or older. Follow-up of a medication history intake or reconciliation by a nurse or pharmacist, the pharmacist will elicit a best possible medication history to identify, correct, and document medication discrepancies based upon the following criteria: incorrect medication, dose, route, or frequency, omission, or therapeutic duplication. Medication reconciliation and medication history discrepancies will be compared at baseline and after pharmacist review. Discrepancies will be categorized according to potential for adverse drug event occurrence based upon risk stratification criteria.

RESULTS: CONCLUSIONS: In Process

IMPLEMENTATION OF A PHARMACIST Managed MEDICATION RECONCILIATION FOR ELDERLY PATIENTS IN THE SENIORS EMERGENCY CENTER C. McSwain;

RESULTS: In Process

CONCLUSIONS: In Process

IMPLEMENTING PHARMACIST PARTICIPATION DURING CODE BLUE EMERGENCIES AT A LARGE COMMUNITY HOSPITAL P. Keen;

PURPOSE: Meritus Medical Center is a 272 bed, level II trauma center hospital serving Western Maryland, Pennsylvania, and West Virginia. Beginning in August 2012, with the addition of ED and ICU clinical pharmacy specialists, pharmacists began responding to Code Blue events in those areas but not in the other inpatient units. It is predicted that expanding Code Blue pharmacist response to the remaining areas of the hospital will result in better drug dosing, timely drug delivery and an overall improvement in patient care during code situations.

METHODS: In Fall 2013, the PGY-1 pharmacy resident surveyed current Code Blue team members (nurses, respiratory therapists and physicians) to see how they thought having a pharmacist during Code Blue events could help. Pharmacists were also surveyed to gauge their comfort with providing this service, anticipate training needs and any other concerns regarding this proposed service. From October 2013 to present, ACLS trained pharmacists have responded to inpatient codes and documented data immediately after the event to learn from the experiences. In April 2014, a presentation will be given to the pharmacy department showing what we have learned from these responses so far, and what the plan will be for pharmacist involvement moving forward.

RESULTS: In Process

CONCLUSIONS: In Process
ASSESSING POTENTIAL USE OF PREEXPOSURE PROPHYLAXIS IN PATIENTS AT HIGH RISK OF SEXUALLY ACQUIRED HIV F. Strom:

PURPOSE: To assess preexposure prophylaxis (PrEP) as a prevention method for patients at high risk of acquiring human immunodeficiency virus (HIV). By educating Coastal Medical healthcare professionals on the current Centers for Disease Control and Prevention (CDC) PrEP recommendations using a pharmacist-developed training, providers will be able to appropriately identify patients at high risk of contracting HIV. Additionally, patients seen at Coastal Medical physician group offices will be provided with an anonymous patient survey evaluating high risk behavior. It is hypothesized that providers and patients will be more apt to discuss PrEP as a method of HIV prevention and consider its use in those who meet eligibility requirements after participating in the study.

METHODS: This study evaluates the feelings of Coastal Medical healthcare providers and patients towards the use of PrEP as an HIV prevention method. All adult healthcare providers (MDs, DOs, PAs, RNPAs, PharmDs, RNs) practicing within Coastal Medical were sent an email with an explanation of the study, an invitation to participate, and a link to access the preliminary survey. Provider surveys were conducted immediately prior to the start of the educational training and immediately after. Surveys consist of 5 questions pre-training and 6 questions post-training, and assess knowledge of and comfort with recommending PrEP for HIV prevention in high risk patients on a 5-point Likert Scale. Analysis will determine whether there is a change in opinion after a pharmacist-led educational training reviewing current PrEP recommendations. Willingness to consider use of PrEP for HIV prevention will also be assessed through an anonymous patient survey available to adults presenting to a Coastal Medical physician office for a provider visit. Patient surveys consist of 12 questions and are designed to assess patients’ knowledge of and willingness to use PrEP, as well as to identify any potential correlation between responses to specific characteristics or lifestyle (sexual orientation, high risk behaviors, current protection methods, substance abuse) and interest in PrEP.

RESULTS: Research outcomes are under investigation, with results pending. Results will be presented at the time of the conference.

CONCLUSIONS: To be determined. Conclusions will be presented at the time of the conference.

IMPLEMENTATION OF A CONTINUOUS INFUSION BETA-LACTAM ANTIBIOTIC DOSSING PROTOCOL K. Salesses:

PURPOSE: The objectives of this study are to determine if optimization of pharmacokinetic properties of cefepime, ceftazidime, meropenem, and piperacillin-tazobactam will lead to a corresponding clinical benefit for patients in the critical care setting. Over the past several years, bacterial resistance has been increasing and new antibiotic research and development has slowed. Optimization of the pharmacokinetics of existing agents, in this case, beta-lactam antibiotics, is another option to manage severe infections. Due to their time-dependent mechanism of action, time above MIC has been shown to be the best predictor of microbiological response for beta-lactam antibiotics. Administration of beta-lactam antibiotics by continuous infusion has proven benefits in optimizing pharmacokinetic parameters. Clinical benefits have not been conclusively proven at this point; however, studies as well as a meta-analysis have shown that, especially for patients with severe infections, clinical benefits may exist. Inova Health System currently administers all beta-lactam antibiotics via an intermittent infusion method. Inova Alexandria Hospital (IAH), has a large population of nursing home patients, who tend to suffer from severe infections with resistant bacteria. Optimization of beta-lactam antibiotic dosing may lead to improved clinical outcomes. This retrospective chart review will determine if clinical benefits are seen with continuous infusion administration of beta-lactam antibiotics in critically ill patients being treated for severe infections.

METHODS: This is a retrospective chart review of patients at IAH who received empiric therapy with continuous infusion of selected beta-lactam antibiotics for treatment of severe infections. Patients started on one of the four study drugs were initiated on a continuous infusion dosing strategy if their renal function and severity of illness were appropriate. Data related to clinical cure was collected and analyzed.

RESULTS: The time to clinical cure will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate improvements in time to clinical cure in critically ill patients treated with continuous infusion beta-lactam antibiotics.

THE ROLE OF ROUTINE SEPSIS SCREENINGS IN THE IMCU M. Patel:

PURPOSE: The Surviving Sepsis Campaign recommends early goal directed therapy in those individuals who are suspected to have signs and symptoms of severe sepsis. Early recognition is the key to treating patients who have developed sepsis on the inpatient patient floors. The aim of this study is to examine the impact of a nurse driven sepsis screening tool on adherence to daily screenings and proper application of early goal directed therapy for septic patients in the Intermediate Care Unit (IMCU).

METHODS: The IMCU at Inova Alexandria Hospital implemented a sepsis screening tool for use by nurses in the electronic medical record (EMR). Patients admitted to IMCU were examined on a daily basis during a five-month period to evaluate adherence to the tool and response to positive screenings. Data includes the daily census of IMCU patients, adherence to twice daily sepsis screening by IMCU nursing staff, individual bundle times for positive screenings, overall bundle time for positive screenings, ICU transfers for positive screenings, and length of stay (LOS) and mortality of positive screenings. A “bundle” consisted of ordering fluids, lactate level, blood cultures, and antibiotics within one hour of presentation. All data was recorded into a secured spreadsheet.

RESULTS: Adherence to the screening tool, as well as overall mortality and LOS of positive screenings will be calculated as percentages and results will be presented.

CONCLUSIONS: It is expected that this research will demonstrate the utility of a sepsis screening tool as a guide to identifying septic patients in the IMCU, treating them in a timely manner, and recognizing possible benefits of reduced LOS and mortality in this population.