2017 ABSTRACTS

PHARMACY-DIRECTED STRATEGY IMPLEMENTATION TO IMPROVE HOSPITAL CONSUMER ASSESSMENT OF HEALTHCARE PROVIDERS AND SYSTEMS (HCAHPS) SCORE IN COMMUNICATION ABOUT MEDICATION

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Objectives: The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) score in communication about medications domains has shown to influence readmission rates in patients with pneumonia and heart failure in the past. This project was designed to implement strategies to improve frequency and quality of communications between nurses and patients regarding their medication therapy. The objective of this project was to improve patient satisfaction with communication about medications by enhancing nursing communication to patients. **Methods:** All units with non-critically ill patients were included between January and March 2017. Prior to the initiation, a survey was completed by nurses to assess for current obstacles when communicating to patients regarding medications. A nurse education on teaching techniques was delivered by a pharmacist at that time as well. Upon initiation, a pocket card containing 150 commonly prescribed medications, with their indications and side effects was created and distributed to all nurses. A binder with educational handouts on different drug classes were compiled and placed in each nursing unit to be given to patients during medication administration and discharge. HCAHPS score from last quarter will be compared with next quarter to assess for improvement. **Results:** Awaiting HCAHPS score for final result analysis. **Conclusions:** Regardless of the final result, nursing staff were satisfied with the additional resources.

EXPLORATORY ANALYSIS OF POTENTIAL PROGNOSTIC FACTORS FOR ACHIEVING SUSTAINED VIROLOGIC RESPONSE VERSUS VIROLOGIC FAILURE IN CHRONIC HEPATITIS C INFECTED PATIENTS TREATED WITH DIRECT-ACTING ANTIVIRALS

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Objectives: The recent advent of direct-acting antiviral (DAA) medications for chronic hepatitis C infection has revolutionized the treatment of this disease. In clinical trials, about 97 percent of all patients achieved sustained virologic response, but up to 12 percent still experienced treatment failure in individual trials. The purpose of this chart review was to compare and contrast the baseline characteristics of real-world patients who failed a third generation DAA regimen to those who achieved cure. **Methods:** This study was approved by the Institutional Review Board. Patients were included if they completed a third generation DAA regimen and had a viral load taken at least 12 weeks post-treatment to assess for sustained virologic response (SVR12). The electronic health record was used to collect data regarding baseline characteristics, which included patient age, gender, race, ethnicity; treatment regimen and length; viral genotype; baseline viral RNA, platelets, and alanine aminotransferase level; liver fibrosis score; presence of extrahepatic manifestations; and concomitant proton pump inhibitor use. Patients who failed to achieve SVR12 were assessed for presence of NS5A resistance associated variants. **Results:** Pending **Conclusions:** Pending

EVALUATION OF CLINICAL INTERVENTIONS OF DIABETES REGIMENS IN NON-CRITICALLY ILL PATIENTS AT A TEACHING INSTITUTION

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Objectives: The American Diabetes Association (ADA) recommends scheduled insulin therapy as standard of care for inpatient diabetes management. These recommendations comprise of scheduled basal, bolus, and/or correctional sliding scale insulin and hypoglycemic prevention measures. A retrospective study of non-critically ill patients admitted to the medicine floors in Brookdale University Hospital Medical Center (BUHMC) indicated suboptimal hyperglycemia management. The primary objective of this prospective study is to evaluate interdisciplinary clinical interventions in achieving hyperglycemic control with insulin use in non-critically ill patients. Secondary outcomes include areas of clinical intervention, percentage of patients who develop hypoglycemia, adjustment of insulin regimen in uncontrolled patients within 24 – 48 hours, correctional insulin scale patterns, patient education prior to discharge, number of patients recruited and seen in Medication Management Clinic (MMC), diabetes complications and all-cause 30 day readmissions. **Methods:** Study period will be October 2016 through March 2017. Patients of at least 18 years of age with a diagnosis of diabetes and two or more point of care (POC) readings will be monitored by a pharmacist to ensure that POC goals are achieved and appropriate diabetes regimens are used. Recommendations will be provided to the medicine team. Patients are excluded if they are critically ill, pregnant or non-compliant to treatment. Past admissions of the same patients without any pharmacist interventions make up the control group. **Results:** Pending **Conclusions:** Pending

ANALYSIS OF OPPORTUNISTIC INFECTION MEDICATION MANAGEMENT IN HIV/AIDS PATIENTS AT AN ACADEMIC TEACHING HOSPITAL

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Purpose: Although the use of highly effective antiretroviral medications has increased within the HIV/AIDS population, the proportion of patients with a risk factor for, history of, or active opportunistic infection remains a concern. Opportunistic infections (OI) pose a direct impact upon hospital costs, mortality, as well as the overall treatment success of the HIV/AIDS patient. The aim of this analysis is to evaluate whether medications used for OI prophylaxis or treatment are appropriately initiated and dosed correctly throughout inpatient management for patients diagnosed with HIV/AIDS. **Methods:** This is a retrospective analysis where the electronic medical record will be used to identify patients with a diagnosis of either HIV or AIDS from January 1, 2015 to July 31, 2016. Patients will be included in the analysis if they have a reported CD4 count of less than or equal to 250 cells per milliliter. Patients will be excluded if they are less than 18 years of age, pregnant or receiving immunosuppressive therapy. The primary outcome will assess appropriateness for OI medication order entry. Medication orders will be examined for appropriateness based on patient weight, CD4 count, organ impairment and allergies. The secondary outcomes include compliance with the AIDS info Guidelines for OI prophylaxis and treatment initiation, length of stay and incidence of medication errors or adverse events related to OI medications. Patient demographics and laboratory values will be collected. Descriptive statistical methods will be used to calculate results. The study has been submitted to the Institutional Review Board for approval. **Results** In progress **Conclusion** In progress

EVALUATING THE OUTCOME OF A CLINICAL PHARMACIST INVOLVEMENT IN MANAGING IN-PATIENT HYPERGLYCEMIA

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Objectives:In-patient hyperglycemia has been associated with increased morbidity and mortality and also prolonged hospital stay in the diabetic population. Conversely, glycemic control has been shown to reduce morbidity, mortality, and hospital stay. The primary objective of this study is to determine the outcome of a clinical pharmacist's involvement in managing hyperglycemia in Diabetes Mellitus (DM) patients admitted to the general floor of a hospital. The primary endpoint is average blood glucose (BG). The secondary endpoints are percentage of BG at goal (70-180 mg/dL), average units/kg utilized, average length-of-stay (LOS), reduction in LOS, number of hyperglycemic episodes (>180 mg/dL) and number of hypoglycemic episodes (<70 mg/dL). **Methods:** Patients at least 18 years of age with DM who are admitted to the general floor will be followed from time of IRB approval until May 2017 in a prospective manner and randomized 1:1 to either the intervention or control group. Patients will be excluded if they have received any type of level 1 care (ex. ICU), if insulin was started >48 hours after admission, are admitted for DKA (Diabetic Ketoacidosis), are prescribed corticosteroids at current visit or are pregnant. One group will be have insulin regimen adjusted by pharmacist recommendations while control group will have insulin managed by primary team. **Results**: Pending **Conclusion**: Pending

IMPACT OF PHARMACIST DISCHARGE COUNSELING ON DIRECT ORAL ANTICOAGULANT (DOAC) DOSE TRANSITIONS

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Objectives: Pharmacist counseling during transitions of care has resulted in improved patient outcomes. One area for potential impact is with direct oral anticoagulants (DOACS). These medications (i.e. apixaban, rivaroxaban) require dose transitions at specified time intervals for certain indications. However, limited data is available on whether these transitions are being done as recommended by manufacturers. Lack of follow-up could lead to medication errors and possible readmission as patients continue on inappropriate doses. The objective of this study is to evaluate the impact of discharge counseling and post-discharge follow-up conducted by pharmacists on the number of patients who receive appropriate DOAC dose transitions. **Methods:** This study received approval by our Institutional Review Board. This retrospective chart review includes patients who were discharged from an inpatient hospitalization on apixaban or rivaroxaban. Patients are included in the study if they have a primary care provider (PCP) at our institution and were previously on a DOAC or were newly initiated on a DOAC during their inpatient stay. Data collected includes: whether patient received pharmacist discharge counseling, name of medication, strength, quantity, directions for use, and indication. We will also determine whether patients were given and attended a follow-up PCP/cardiology/pharmacist appointment post inpatient discharge to receive appropriate dose transitions. We will compare the number of patients who received appropriate DOAC dose transitions before vs. after implementation of care transitions counseling and post-discharge follow-up. We will also compare the patient follow-up rates and 30-day readmission post pharmacist counseling. **Results:** In progress **Conclusion:** In progress

REDUCING UNPLANNED MEDICAL ONCOLOGY READMISSIONS USING PHARMACIST LED INTERVENTIONS AT CARE TRANSITIONS

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Objectives: Reducing unplanned 30-day hospital readmissions is a national and institutional priority in order to demonstrate a high quality of healthcare and reduce a major financial burden. Recent literature has demonstrated medical oncology units have an especially high risk of readmission with published rates of approximately 25-30%. The most frequent symptoms associated with unplanned admission to the hospital in this population include nausea and vomiting, pain, febrile neutropenia, shortness of breath, dehydration, anemia, fatigue, diarrhea, and anxiety/depression. Many of these symptoms have the potential to be effectively managed or controlled with medication therapy. The objective of this study was to investigate if pharmacist led interventions at care transitions can improve unplanned 30-day readmission rates for oncology patients in a medical/surgical unit. **Methods:** All oncology patients admitted to the medical/surgical unit from December 2016 to March 2017 were included into the study and a pharmacist ensured an admission medication reconciliation was completed, performed discharge medication reconciliation review, provided discharge medication counseling, and made a follow-up phone call 72 hours after discharge to answer any of the patient's questions, perform symptom management, provide education, and encourage patient adherence. The pharmacist documented all pharmacy interventions made for each patient. Thirty days after the patient was discharged the investigators assessed for readmission and the reason for readmission was recorded. Planned 30-day readmissions for elective surgeries or chemotherapy were excluded. Approval for implementation of the process improvement project was obtained from the institutional review board of St. Peter's Hospital. **Results:** Results are pending. **Conclusions:** Conclusions are pending.

EVALUATION OF DUAL ANTIMICROBIAL COVERAGE IN PATIENTS WITH HOSPITAL-ACQUIRED OR VENTILATOR-ASSOCIATED PNEUMONIA CAUSED BY *PSEUDOMONAS AERUGINOSA* OR MULTI-DRUG RESISTANT GRAM-NEGATIVE BACTERIA

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Objectives: Hospital-acquired pneumonia (HAP) and ventilator-associated pneumonia (VAP) accounts for 22% of all hospital-acquired infections. These infections have negative impacts on patient outcomes, including increased mortality, increased length of time on mechanical ventilation, and prolonged hospital length of stay. The primary objective of this retrospective cohort study was to evaluate the utilization of dual antimicrobial coverage in patients with HAP/VAP due to *P. aeruginosa* and other multi-drug resistant (MDR) gram-negative bacteria to determine the initial appropriateness of antibiotic therapy and whether double coverage improves outcomes in these patients. Secondary outcomes included time to antibiotic de-escalation, percentage of isolates in which dual antimicrobial coverage was warranted, and incidence of MDR gram-negative bacteria in patients with HAP/VAP. **Methods:** Patients at least 18 years of age who were hospitalized in an ICU and had a diagnosis of HAP or VAP between January 1, 2015 and December 31, 2016 were included in this study. Patients also had to have *pseudomonas aeruginosa* or a MDR gram-negative organism as the causative infectious organism for inclusion. Patients were excluded if they had symptoms of pneumonia at time of admission, did not meet criteria for true HAP or VAP diagnosis, were diagnosed with HAP outside of the ICU setting, did not require mechanical ventilation, or were treated for an infection other than HAP/VAP. Data collected included duration and dosing of antibiotics prescribed, sputum culture results, duration of mechanical ventilation, time to de-escalation, hospital and ICU length of stay, and mortality. **Results:** In progress **Conclusions:** In progress

EVALUATING A PHARMACIST'S IMPACT ON THE TREATMENT OF URINARY TRACT INFECTIONS IN A COMMUNITY HOSPITAL

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Objectives: In Huntington Hospital, the majority of patients are overseen by individual hospitalists. As a result, there is an array of differences in habitual prescribing patterns and opinions in the treatment of various diseases with urinary tract infections being one of them. To compound on these differences, the presence of pharmacy is not entirely established throughout the hospital's multiple medical-surgical units as two of the four units lack a unit-based pharmacist. The primary objective of this study is to establish the differences in outcomes associated with the treatment of urinary tract infections between medical-surgical floors with a unit-based pharmacist and medical-surgical floors without. Secondary outcomes will be assessing differences in length of stay, time to defervescence, prevalence of hospital acquired *C. difficile*, and readmission within 30 days for UTI-related complications/symptoms. **Methods**: Patients ≥ 18 years of age with any drawn urine culture or classified with ICD-9 and ICD-10 codes for asymptomatic bacteriuria, cystitis, pyelonephritis and prostatitis as well as admission or discharge from Huntington Hospital's medical-surgical units were included in the data report for our retrospective chart review from August 31, 2015 to August 31, 2016. **Results**: Results in progress. **Conclusion:** Conclusion in progress.

ASSESSING THE CLINICAL AND ECONOMIC IMPACT OF RESIDENT-RUN PHARMACY SERVICES IN A PRIMARY CARE CLINIC

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Objectives: As the role of pharmacists is evolving, an increased emphasis on clinical activities has allowed them to expand into many areas of patient care, including primary care clinics. PGY1 Pharmacy Residents of Niagara Falls Memorial Medical Center spend one day per week at Summit Family Health Center working alongside medical residents treating patients in clinic. The pharmacy resident reviews patient medication regimens and makes recommendations for optimization of therapy. The primary objective of this study is to determine the percentage of pharmacy resident recommendations that are accepted by the medical providers. **Methods**: A retrospective review was conducted of medication therapy recommendations made by the pharmacy resident between October 1, 2016, and March 31, 2017. Patients were included if they were on eight or more medications, or at the request of the provider based on perceived need for medication optimization. The percentage of accepted recommendations was calculated and stratified by whether they were initiated by the pharmacy resident, or given at the request of the provider. **Results:** A preliminary analysis shows that 50 of 52 (96%) of pharmacy resident recommendations were accepted, with the remaining two being modified before acceptance. Of pharmacy residentinitiated recommendations, 26 of 28 (93%) were accepted, while 24 of 24 (100%) of provider requested recommendations were accepted. **Conclusions**: A high percentage of recommendations made by pharmacy residents were accepted by the provider. Pharmacists working alongside providers in a primary clinic can help to optimize medication therapy regimens for patients.

EFFECT OF INPATIENT EDUCATION BY PHARMACY PERSONNEL ON HOSPITAL READMISSION RATE OF HEART FAILURE PATIENTS

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Objectives: The primary objective of this cohort study was to evaluate the impact of inpatient education provided to patients with heart failure, with a goal of reducing 30-day readmission rates. Secondary outcomes included 90-day readmission rates and association of time spent per patient visit. **Methods:** The study was approved by the hospital institutional review board and informed consent was obtained for all subjects. Patients with an admitting diagnosis of heart failure exacerbation were identified and pharmacy staff provided inpatient education. Patients were excluded if; not admitted primarily with heart failure exacerbation, transferred elsewhere, discharged against medical advice, unable to give consent, or expired. Impact of inpatient education (n = 27) on 30 and 90 day readmission rates were compared to readmission rates prior to study initiation (n = 25). Readmission rates based on provider contact time (< 45 minutes vs. 46-90 minutes) were examined for association. Chi-squared was used to generate p-values and risk ratios were calculated to determine associations. **Results:** There were no statistically significant differences in readmission rates at 30 days (p = 0.55), 90 days (p = 0.91), or when comparing time spent with patients. **Conclusions:** The statistically insignificant results of our study indicate a positive trend associated with inpatient education on decreasing readmission rates at 30 days (RR = 0.31) and 90 days (RR = 0.69).

EFFECT OF DISPENSING INHALERS WITH OR WITHOUT PHARMACIST COUNSELING TO PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) EXACERBATIONS ON THIRTY-DAY COPD READMISSION RATES

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Objectives: As part of our hospital's new standard of care, all patients admitted with COPD exacerbations will be discharged home with their inpatient inhalers properly labeled for outpatient use. The purpose of this study is to assess the impact of dispensing inhalers used for COPD at discharge coupled with or without pharmacist counseling on 30-day COPD readmission rates. **Methods**: Patients 18 years and older admitted to the hospital with a COPD exacerbation will be identified using the hospital's COPD Analytics Dashboard. The three cohorts for comparison include preimplementation, post-implementation, and post-implementation plus pharmacist counseling. Prospective enrollment will take place from November 2016 through February 2017 as long as patients meet inclusion criteria. Following initial consent and proper inhaler labeling for outpatient use, randomization will take place using the Biostatistics Randomization Management System. A second consent form will be collected for those patients randomized to receive pharmacist counseling. Approximately thirty days post-discharge, internal data will be reviewed to assess readmission status and patients will receive a follow-up phone call to assess outside hospital readmissions. The pre-implementation cohort will be randomly sampled retrospectively from November 2015 until the intervention start date. Secondary endpoints include changes in overall HCAHPS scores (the Hospital Consumer Assessment of Healthcare Providers and Systems) related to medication metrics, 30-day all-cause readmissions, and 30-day all-cause mortality. **Results**: In process **Conclusions:** In process

EVALUATION OF WARFARIN NOMOGRAM PROVIDER ADHERENCE AND SUBSEQUENT ACHIEVEMENT OF TARGET INR VALUES FOLLOWING PHARMACY INTERVENTION AT A QUATERNARY CARE TEACHING HOSPITAL

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Objectives: The purpose of this study is to assess how well providers adhere to the warfarin nomogram at North Shore University Hospital, and if pharmacy intervention plays an impact on improving adherence. The primary efficacy objective of the study is to assess the adherence patterns of providers to the nomogram who initiate patients on warfarin therapy in the inpatient setting. The second efficacy objective is to evaluate the frequency at which target INRs are reached. **Methods**: This prospective cohort study will focus on patients who are initiated on warfarin therapy in the inpatient setting for any indication, as well as patients who were initiated on warfarin during a previous hospitalization during a pre-determined time frame (to be collected retrospectively). Patients will be selected from a chart review and will be included if they were initiated on warfarin therapy during an inpatient hospitalization during a pre-determined time frame for specified indications, including Atrial Fibrillation, Atrial Flutter, Ischemic Stroke, Deep Vein Thrombosis or Pulmonary Embolism, etc.. Patients who were previously on warfarin therapy prior to admission and patients who are initiated on warfarin therapy for any indication other than those listed will be excluded from the study. **Results:** Research in progress. **Conclusions:** Research in progress.

EFFECT OF CODE CART REARRANGEMENT ON COMPLIANCE WITH ADVANCED CARDIAC LIFE SUPPORT (ACLS) GUIDELINES

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Objectives: Due to the high mortality rate associated with cardiac arrest, the proper medical management of cardiac arrest patients is critical, and adherence to current guidelines may increase chances for survival. The purpose of this study was to evaluate the effect of rearranging code carts based on the recommendations of the 2015 American Heart Association (AHA) Cardiopulmonary Resuscitation and Emergency Cardiac Care (CPR & ECC) Guidelines on guideline compliance. **Methods:** This study was approved by the Catholic Health System Institutional Review Board. Code carts were rearranged in August 2016 to better comply with the 2015 AHA CPR & ECC Guideline recommendations. Patients were included if they were treated at Mercy Hospital of Buffalo between January 2016 and December 2016 for cardiac arrest (asystole, pulseless electrical activity, ventricular fibrillation, or pulseless ventricular tachycardia), were ≥18 years of age, had at least one drug from the code cart administered, and had a code record sheet that was completely and properly filled out. Interventions were assessed for appropriateness according to the 2015 AHA CPR & ECC Guidelines. Pre-rearrangement (January-August 2016) and post-rearrangement (September-December 2016) groups were compared. **Results:** Preliminary results show that there was no statistically significant difference in compliance with the 2015 AHA CPR & ECC Guidelines before and after code cart rearrangement. The cost of each code tray was decreased after rearrangement. **Conclusions:** While rearrangement of code carts may not have an effect on compliance with ACLS guidelines, it may decrease drug costs and simplify drug administration during cardiac arrest.

DELAY IN INITIATING PROPHYLACTIC FLUOROQUINOLONES POST AUTOLOGOUS HEMATOPOIETIC STEM CELL TRANSPLANTATION FROM DAY 0 TO NEUTROPENIA AND THE DEVELOPMENT OF *CLOSTRIDIUM DIFFICILE* INFECTION AND BACTEREMIA

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Purpose: Following hematopoietic stem cell transplantation (HSCT), patients are immunocompromised and are administered prophylactic antibiotics, commonly fluoroquinolones, in order to prevent bacterial infection. Determining the appropriate time to begin fluoroquinolone administration may minimize the risk of *Clostridium difficile* infection as studies have identified this infection as a common complication in this population. This study will evaluate the initiation of prophylactic fluoroquinolones at the onset of neutropenia (ANC ≤ 500) in comparison to Day 0 (day of HSCT) and assess if this delayed initiation has a positive impact on the risk of *Clostridium difficile* infection without increasing the rate of bacteremia.
Methods: In this 1-year, single-center retrospective cohort study, a bone marrow transplant database will be used to identify adult patients who received an autologous HSCT and levofloxacin prophylaxis from April 2016 to September 2016. Initiation of levofloxacin prophylaxis was initially delayed from Day 0 to Day +3 of transplant beginning April 30, 2015. This practice was revised to further delay the initiation of levofloxacin until onset of neutropenia beginning April 2016. Objectives of this study are to assess the incidence of *Clostridium difficile* infection and bacteremia in patients who were initiated on levofloxacin once neutropenic compared to those who started on Day 0. The following data will be collected: date of birth, gender, malignancy, stress ulcer prophylaxis, conditioning regimen, ANC, date of neutropenia, *Clostridium difficile* infection, and bacteremia within 30 days post-transplant. Statistical analysis will then determine any alterations in bacteremia and *Clostridium difficile* infection rates.
Results: Pending **Conclusions:** Pending

EVALUATION OF AN ADJUSTED BODY WEIGHT-BASED PHARMACY VANCOMYCIN DOSING GUIDELINE: A DESCRIPTIVE ANALYSIS

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Objectives: Although vancomycin has been used for decades, optimal dosing strategies are not well defined. Dosing nomograms can help guide dosing to achieve target concentrations. In July 2015, a St. Peters Hospital pharmacy-use only nomogram using adjusted body weight and renal function was developed and distributed. Since the nomogram has been in use for the past year, the objective of this study was to assess the effectiveness of the vancomycin dosing guideline to achieve target trough concentrations of 15-20 mcg/ml for serious infections and 10-15 mcg/ml for less serious infections. **Methods**: Patients who received vancomycin between the months of August 2016 – October 2016 were included in the analysis if at least 18 years of age, received at least 2 doses of vancomycin per the pharmacy guideline recommendations, and had a documented trough concentration within 1 hour before the next vancomycin dose. Exclusion criteria included pregnancy, requirement of peritoneal dialysis, vancomycin for perioperative prophylaxis, and presentation with acute kidney injury or a creatinine clearance < 15 ml/min. The primary outcome was attainment of therapeutic trough levels of 15-20 mcg/ml for serious infections (e.g. pneumonia). Secondary outcomes included (1) achievement of therapeutic trough levels of 10-15 mcg/ml for less serious infections (e.g. cellulitis), and (2) identification of patient variables associated with lack of goal trough attainment (e.g. age, weight, renal function, treatment in the ICU). Approval for implementation of the process improvement project was obtained from the institutional review board at St. Peter's Hospital. **Results**: Results are pending. **Conclusion**: Conclusion is pending.

IMPLEMENTATION OF A COMPREHENSIVE UNIT-BASED SAFETY PROGRAM (CUSP) WITHIN A HOSPITAL PHARMACY

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Objective: The Comprehensive Unit-Based Safety Program (CUSP) is a unique safety program that aims to improve the culture of safety within the department and the institution while at the same time allowing the frontline to be the ones identifying the hazards that threaten patients. It is a program that employs a bottom-up approach by having the staff identify and mitigate hazards and to evaluate whether implemented changes are actually improving patient safety. CUSP has been utilized by surgical, medical and intensive care units around the country to help reduce patient threats (e.g.: Eliminating CLAUTI/CLABSI).The objective of the study is to successfully implement a CUSP program within hospital's inpatient pharmacy department. **Methods:** A two question safety assessment was distributed to all employees of the inpatient pharmacy department. A CUSP drop off box was hung at a central location for all employees to drop off their completed safety assessments after which time, the Patient Safety/CUSP team analyzed the results and divided them into different categories: Interruptions/Distractions, Workflow and Staffing. Department wide CUSP meetings were attended by staff, a category was chosen and a Root Cause Analysis was performed to determine significance of interventions, which were then carried out by both the CUSP team and pharmacy staff members. Approval for implementation of quality improvement project was obtained from the Institutional Review Board at St. Peter’s Hospital. **Results:** Results are pending. **Conclusions:** Conclusions are pending.

IMPACT OF DDAVP ADMINISTRATION ON HEMATOMA EXPANSON IN ANTIPLATELET-TREATED PATIENTS WITH INTRACRANIAL HEMORRHAGE

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Objective: The Neurocritical Care Society/Society of Critical Care Medicine Antithrombotic Reversal in Intracranial Hemorrhage Guidelines suggests the consideration of a single dose of DDAVP for cases of ICH that are associated with the use of aspirin/COX-1 inhibitors or ADP receptor inhibitors. This recommendation is based on paucity of evidence and studies that suffer from a number of methodological limitations including lack of a comparator group and not all patients were on antiplatelets. The purpose of this study is to assess the impact of DDAVP on hematoma expansion in patients on antiplatelet therapy who experience ICH. **Methods:** A retrospective, single center, chart review was conducted. Patients 18 years and older treated with antiplatelet agents and diagnosed with ICH by cerebral CT scanning between August 1, 2014 and August 31, 2016 were included. Patients were excluded if they received DDAVP for an indication other than antiplatelet reversal, had a repeat CT scan >24 hours after DDAVP administration, were on anticoagulation or receiving fibrolytic drugs, or had concurrent acute cerebrovascular accident. Patients were stratified into two cohorts depending on if they received DDAVP treatment or not. The two groups will be analyzed to assess the proportion of patients experiencing >15% expansion of hematoma volume during the first 24 hours. **Results:** Pending **Conclusion:** Forthcoming

ASSESSING THE IMPACT OF CLINICAL PHARMACY MONITORING SERVICES AT A SMALL URBAN TEACHING HOSPITAL

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Objectives: Increased pharmacy clinical monitoring services were implemented at Niagara Falls Memorial Medical Center (NFMMC) in January 2016. These services primarily consisted of writing clinical pharmacy notes in patient charts with an increased focus on existing pharmacy protocols, including renal dose adjustments of medications, therapeutic drug level monitoring, and converting medications from intravenous to oral routes of administration. The purpose of this study is to determine the effect of these monitoring services on patient outcomes. **Methods:** A retrospective chart review was conducted on two groups of patients: before implementation of increased clinical monitoring services (March 1 – August 31, 2015) and after (March 1 – August 31, 2016). Inclusion criteria consisted of patients aged 18 years or older treated at NFMMC who received ≥ 2 doses of levofloxacin or ciprofloxacin. **Results:** Preliminary results show a significant reduction in antibiotic treatment duration in the cohort after implementation when compared to patients before implementation (3.84 ± 2.0 days vs. 5.86 ± 2.7 days; p = 0.0089). A reduction in hospital and ICU lengths of stay trended toward significance (p = 0.056 and 0.092, respectively).
Conclusion: Increased pharmacy clinical monitoring services are associated with improved patient, antibiotic, and pharmacoeconomic outcomes. This study reinforces the importance of pharmacy involvement and clinical monitoring at a small urban teaching hospital.

COMPARISON OF FENTANYL VERSUS PROFOLOL FOR SEDATION IN MECHANICALLY-VENTILATED CRITICALLY ILL PATIENTS

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OBJECTIVE: Patients who are mechanically ventilated in the intensive care unit (ICU) often require sedation and analgesia to facilitate ventilation. Historically, patients are treated with a hypnotic-first approach, using agents such as propofol and benzodiazepines. In the most recent guidelines published by The Society of Critical Care Medicine, the recommendation is to utilize an analgesic first approach for sedation in mechanically ventilated patients. Some clinical trial data suggests decreased time of mechanical ventilation and ICU length of stay with this approach. To date, no study has prospectively evaluated patient outcomes with the commonly used medications, fentanyl versus propofol, for sedation in mechanically ventilated patients. **METHODS**: Medical records of patients admitted to the ICU or Cardiac Care Unit were reviewed in an ongoing basis and if inclusion criteria were met patients were randomized 1:1 within 24hours to fentanyl or propofol infusions. A power analysis was utilized to find an average difference of 1 day in length of ICU stay and it was found to obtain 80% power (α=0.05, two tail), 130 subjects are required in each intervention group. The primary outcome of the study is duration of ICU length of stay. **RESULTS**: The outcomes of ICU length of stay, duration of mechanical ventilation, total hospital length of stay, percent of pain and sedation scores at goal, and frequency of adverse events will be presented at the conclusion of the study. **CONCLUSION**: The results of the study are pending completion of enrollment.

EFFECTS OF GENDER AND AGE ON ADVERSE DRUG REACTIONS WITH TICAGRELOR AND ASPIRIN DUAL ANTIPLATELET THERAPY

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Objectives: Ticagrelor is an antiplatelet agent used in combination with aspirin for the treatment of acute coronary syndromes. Studies have shown systemic exposure to ticagrelor is higher in both elderly female patients compared to younger male patients. The purpose of this study was to determine if the rates of adverse drug reactions such as bleeding and dyspnea with ticagrelor and aspirin dual antiplatelet therapy (DAPT) were higher in women and elderly patients greater than 65 years of age. **Methods:** This Institutional Review Board approved prospective cohort study included patients 18 years and older on ticagrelor and aspirin DAPT from December 19, 2016 through February 17, 2017. Patients were identified via the electronic medical record system and provided informed consent at enrollment. Exclusion criteria were contraindications to DAPT therapy, bleeding disorders, pregnancy, critically ill, and non-English speaking patients. A follow-up scripted telephone survey at 30 days ascertained the occurrence of adverse drug events such as bleeding (defined through ICD 10 readmission codes and patient self-reporting) and dyspnea (new or unusual shortness of breath not related to another illness such as COPD or acute decompensated heart failure). **Results:** There were 21 patients recruited. Thirteen follow-ups were completed thus far, of which 31% were female. Bleeding occurred in 69% of those who completed follow-up. Those who experienced bleeds were ≤ 65 years of age (50% (2/4) were female and 78% (7/9) were male). No dyspnea events were reported. Final results pending completion of study. **Conclusions:** N/A

THE IMPLEMENTATION OF AN ANTIBIOTIC STEWARDSHIP PROGRAM TO REDUCE TREATMENT OF ASYMPTOMATIC BACTERIURIA AT A LONG-TERM CARE FACILITY

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Objectives: Systemic antibiotics are often inappropriately prescribed within long term care facilities(LTCFs). The misuse of antibiotics has lead to a national emergence of antibiotic resistant pathogens, along with other complications such as unnecessary side effects, drug interactions or secondary infections such as *C.difficile*. The development of an antibiotic stewardship program(ASP) aims to optimize antibiotic usage. Urinary tract infections(UTIs) are one of the most common infections of residents in LTCFs, and are often mistreated for asymptomatic bacteriuria(ASB). This study will assess the efficacy of an antimicrobial stewardship program to safely reduce antibiotic usage for suspected asymptomatic urinary tract infections. **Methods:** This is an experimental study targeting antibiotic prescriptions for UTIs with 3 month retrospective pre-intervention and 3 month intervention period following the implementation of an antimicrobial stewardship program in a LTCF within Brooklyn, New York. During the retrospective period baseline information on prescribing patterns will be assessed. During the intervention period the pharmacist will identify residents receiving antibiotics for UTIs on a weekly basis, gather data on prescribing practices, and assess if further education is required. The primary endpoint of this study is to reduce the days of treatment of ASP by implementing a protocol based antibiotic stewardship. Secondary endpoints of this study include analyzing treatment appropriateness, treatment duration, and lastly a comparison of the number of urine cultures sent out. This study has been IRB approved by Kingsbrook Jewish Medical Center. **Results and Conclusions:** Data collection and analysis is ongoing and will be presented at the 2017 NYSCHP Annual Assembly.

IMPACT OF A PHARMACY-DRIVEN TRANSITION OF CARE PROGRAM FOR PATIENTS WITH ACUTE CORONARY SYNDROMES

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Objectives: Pharmacist intervention has been shown to increase patient understanding and adherence to medications and decrease hospital readmissions in high-risk patients. The primary objective of this study is to determine the impact of a pharmacy-led transition of care program on 30-day and 90-day readmission rates in patients with acute coronary syndromes. Secondary objectives will be to identify trends in hospital readmissions following acute coronary syndromes (ACS), to identify the prevalence of optimal medical therapy for ACS at discharge, and to determine the impact of pharmacy intervention on 30-day and 90-day cardiovascular-related readmissions. **Methods**: This study is a retrospective, single-center, pre-post observational cohort study. Patients at least 18 years of age admitted to the Cardiology A team for ACS between July 1, 2016 – December 31, 2016 received pharmacy intervention as part of their usual care which included medication reconciliation, discharge counseling, post-discharge phone call. Patients meeting inclusion criteria will be matched for age, gender, type of ACS, and history of percutaneous coronary intervention, and history of coronary artery bypass graft (CABG) to a historical cohort admitted to a cardiology teaching service for an acute coronary syndrome between July 1, 2015 and December 31, 2015. Patients will be excluded if they had scheduled CABG surgery within 30 days, left the facility against medical advice, or were discharged to a post-acute care facility. **Results**: In progress **Conclusions**: In progress

AMIODARONE VERSUS DIGOXIN FOR RATE CONTROL IN CRITICALLY ILL PATIENTS WITH RAPID ATRIAL FIBRILLATION OR FLUTTER

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Objectives: In hemodynamically unstable patients with atrial fibrillation and rapid ventricular rate (RVR), first-line agents such as beta-blockers or calcium channel blockers may be unfavorable due to their negative inotropic and/or vasodilatory effects. Antiarrhythmics, such as amiodarone and digoxin, can be used as alternatives; however, there is a paucity of literature comparing the effectiveness of these agents with doses typically utilized in clinical practice. The purpose of this study is to compare the effectiveness of amiodarone versus digoxin in critically ill patients who present with atrial fibrillation/flutter with RVR. **Study Design:** This retrospective chart review included all adult patients located in an intensive care unit between June 2014 and December 2016 who received digoxin or amiodarone for new onset or chronic atrial fibrillation/flutter with RVR (HR>110 bpm). Patients were excluded if amiodarone or digoxin were listed as home medications or if both agents were initiated within 6 hours of each other. The primary endpoint was time until achievement of ventricular rate control (HR <110 bpm) within a 24-hour period. Secondary endpoints included maintenance of target heart rate, time to sinus rhythm conversion, need for rescue therapy with an alternative agent, intensive care unit length of stay, in-hospital mortality, and adverse drug events such as bradycardia, hypotension, and hyperkalemia. **Results:** Data collection is currently ongoing. **Conclusion:** Due to the limitations in administering a loading dose with digoxin, it is anticipated that amiodarone will demonstrate superiority in achieving time to ventricular rate control.

IMPACT OF A 72 HOUR "TIME OUT" ON DURATION OF INTRAVENOUS ANTIBIOTIC THERAPY

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Background: Antimicrobial stewardship has reached a critical turning point in addressing antibiotic resistance. The CDC recommends that hospitals adopt an antibiotic "time out" as a core element in antibiotic stewardship programs. At the Mount Sinai Hospital (MSH), an automatic 7-day stop order on all intravenous (IV) antibiotics was implemented in June 2015. "Time out" notifications were also implemented notifying prescribers on days 5, 6, and 7 of therapy requesting reassessment of antibiotic therapy and reminding the prescriber of the 7-day stop. In compliance with the new CDC recommendations, a new "time out" alerting after 72 hours was implemented at MSH in January 2017. The objective of this study was to determine the impact of this 72 hour "time out" on the overall length of IV antibiotic therapy. **Methods:** A retrospective review of medication administration records was performed between October 2016 and April 2017. All patients with ≥ 1 day of standing IV antibiotic therapy were included. An electronic "time out" alerts prescribers in our electronic medical record system after 72 hours (beginning of day 4), and on days 5, 6 and 7 of therapy. This new alert requests reassessment of the utility of the antibiotic. Data was collected 3 months prior and 3 months post implementation of the "time out". This data was used to assess antibiotic discontinuation on day 4 and whether there was a significant difference after the alert was put into place. Data collected included medication name, dose, order start and end date, and total duration of therapy. **Results:** Pending **Conclusions:** Pending

IMPLEMENTATION AND EVALUATION OF A VANCOMYCIN DOSING PER PHARMACY PROTOCOL IN A LARGE ACADEMIC MEDICAL CENTER

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Objectives: Monitoring and dosing vancomycin appropriately is pivotal in securing positive patient outcomes. Drawing levels at optimal times and dosing accordingly leads to decreased adverse events and prevention of bacterial resistance. The primary objective of this study is to gain an understanding of the efficacy of vancomycin dosing per pharmacy based on outcomes in the pilot units. The goal is to expand the service to other inpatient units and ultimately implement a hospital-wide vancomycin dosing per pharmacy protocol. **Methods:** A medication use evaluation was conducted to assess physician based vancomycin dosing and revealed improper dosing and monitoring. This led to the conception of the vancomycin per pharmacy protocol. The vancomycin per pharmacy program was initiated in two inpatient oncology units in 2013 and is now being expanded to additional units. Education will be provided to physicians, nurse practitioners, and pharmacists through the use of previously developed in-service materials. Pharmacists conducting the service will keep track of data through computerized chart logging and monitoring sheets developed specifically for the routine follow-ups. All patients receiving at least one dose of vancomycin will be included in the data. Data collection dates range from March 2016 to February 2017. The two treatment groups are allocated as dosing per pharmacy and traditional dosing. The outcomes are the percentage of patients receiving correct initial doses, frequency, timing of levels, the percentage of patients with levels obtained who were on therapy for five days or more, and the percentage of patients achieving therapeutic range. **Results:** Pending **Conclusions** Pending

OUTCOMES OF RENAL TRANSPLANTATION IN PATIENTS WITH PREVIOUS HEMATOLOGIC MALIGNANCIES

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Purpose: Recommendations regarding the appropriateness of organ transplantation in patients with prior hematologic malignancies (HMs) are limited given the lack of available data. Further studies are needed to better assess which of these patients will maximally benefit from renal transplant (RT).**Methods:** This was an IRB-approved, single center, retrospective study of adults who received RTs between 1/2009 and 1/2016 with a prior diagnosis of multiple myeloma, leukemia, lymphoma, light chain deposition disease, amyloidosis, or myeloproliferative disorder. The primary endpoint for this review was the incidence of new or recurrent malignancy 1-year post-RT. **Results:** Ten patients were identified for inclusion; 6 received chemotherapy and 5 had a prior hematopoietic stem cell transplant (HSCT). Median age at time of RT was 58 years. Median waiting time post-remission was 2.6 years. Median follow-up time post-RT was 2.7 years. Overall 1-year patient and graft survival were 100% and 90% respectively, with 1 episode of acute cellular rejection (did not result in graft loss). Two patients were diagnosed with new cancers; both died from complications of cancer with functioning allografts. There was suspicion for recurrent HMs in 2 patients based on concerning lab values, but with equivocal cytopathology. All 4 of these patients received chemotherapy and HSCT pre-RT. **Conclusions:**
Transplantation can be successfully performed in patients with prior hematologic malignancy. Aggressive screening should be undertaken to evaluate for de novo or recurrent malignancy. Further studies are needed to identify the optimal time after remission to perform a kidney transplant and which immunosuppressive protocol is safest.

RISK FACTORS FOR READMISSION IN PATIENTS WITH OUTPATIENT PARENTERAL ANTIMICROBIAL THERAPY

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Objectives: Outpatient parenteral antimicrobial therapy (OPAT) is a practical and effective way of delivering antimicrobial therapy, but may also increase the risk for hospital readmission. This study aimed to elucidate risk factors related to 30-day readmissions in patients who were discharged with OPAT at Mount Sinai Beth Israel (MSBI). **Methods**: This IRB approved retrospective study included patients who were at least 18 years or older, admitted to MSBI from August 2015 to March 2016, and were discharged to receive OPAT. Exclusion criteria included intravenous antibiotics prescribed for chronic suppression and planned readmission within 30 days. The primary endpoint was the 30-day readmission rate. Secondary outcomes included predictors associated with readmission and the rate of 30-day readmission for those discharged with a midline compared to a peripherally inserted central catheter (PICC)**. Results:** Of the 200 patients included in the analysis, 42 patients (21%) were readmitted within 30 days to MSBI. When compared to patients without readmissions, those with readmissions were older (66 years versus 58 years), weighed less (77.6 kg versus 86.2 kg), and had a longer total duration of intravenous antimicrobial therapy (42 days versus 30 days). Patients with readmissions were also more likely to have cerebrovascular disease, diabetes without end-organ disease, and discharge to a skilled nursing facility or subacute rehabilitation center ($P < 0.05$). There was no statistically significant difference in readmission rates for patients discharged with midlines versus PICCs**. Conclusions:** Readmissions are common in patients discharged with OPAT. Recognition of predictors associated with readmission can help determine strategies to optimize ca

EVALUATION OF 30 DAY BLEEDING OUTCOMES IN PATIENTS WITH CONCOMITANT ATRIAL FIBRILLATION AND ACUTE CORONARY SYNDROMES RECEIVING TRIPLE THERAPY ON WARFARIN VERSUS A DIRECT ORAL ANTICOAGULANT

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Objectives: Approximately 42,000 patients every year will have concomitant indications for aspirin, a P2Y12 inhibitor, and an oral anticoagulant, otherwise referred to as triple antithrombotic therapy. The applicability of the direct oral anticoagulants in triple therapy management remains unclear, yet are still being utilized in practice. Because of this, a large demand exists for trials exhibiting safety and efficacy data on these agents. The primary objective of this retrospective, single center, cohort study is to define the difference in 30-day readmission rates for bleeding among patients receiving warfarin triple therapy and direct oral anticoagulant triple therapy. Secondary outcomes include bleed event severity, 30-day readmission rates for the composite of stroke, myocardial infarction, and stent thrombosis, as well as bleed event rates on a novel P2Y12 inhibitor (i.e. prasugrel, ticagrelor). **Methods:** Patients of at least 18 years of age were included if they presented to BGMC with diagnosis of an acute coronary syndrome with percutaneous coronary intervention plus atrial fibrillation between April 1, 2011 and July 31, 2016. Additionally, documented receipt of aspirin and P2Y12 inhibitor, plus a direct oral anticoagulant or warfarin was required. Patients were excluded if they had any indication for oral anticoagulation outside of atrial fibrillation, any indication for dual antiplatelet therapy outside of an acute coronary syndrome, or if triple antithrombotic therapy was initiated prior to admission. **Results:** Research In Progress **Conclusions:** Research In Progress

EVALUATION OF THE SCREENING AND TREATMENT PRACTICES FOR BONE HEALTH IN PROSTATE CANCER PATIENTS RECEIVING ADJUVANT ANDROGEN DEPRIVATION THERAPY

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Purpose: The NCCN Clinical Practice guidelines for prostate cancer recommend that patients initiated on androgen deprivation therapy (ADT) be evaluated for bone health at baseline regardless of age or sex with periodic follow-up. Guidelines encourage pharmacological therapy if definitive diagnosis of osteoporosis or risk for bone loss or fracture exists. Prostate cancer growth is driven by androgen hormones; therefore, suppression of such hormones benefits cancer therapy but negatively affects bone metabolism. The objective of this study is to determine if screening and treatment of prostate cancer patients on ADT complies with NCCN guidelines. Methods: This retrospective quality improvement study approved by the institutional review board uses an electronic medical record system to identify prostate cancer patients started on androgen deprivation therapy in 2014. Current clinical practice of bone mineral density (BMD) screening, fracture risk analysis, and treatment with Denosumab, Pamidronate, or Zoledronic acid in patients started on androgen deprivation therapy will be evaluated. Data collection parameters will be analyzed to confirm bone health care as compliant, noncompliant, and noncompliant but clinically appropriate with NCCN guidelines. Data yield may establish requirement of a new protocol implementation within the institution or confirm current bone health care is appropriate. Results: There are patients receiving adjuvant androgen deprivation therapy that can benefit from consistent bone health care screening and timely interventions. Conclusion: Implementation of a new protocol is needed within the institution to standardize the approach to bone health care evaluation including screening and treatment practices in prostate cancer patients.

COMPARISON OF AN ANTIFACTOR XA (ANTI-XA) PROTOCOL VERSUS AN ACTIVATED PARTIAL THROMBOPLASTIN TIME (APTT) PROTOCOL FOR HEPARIN MONITORING AT A TERTIARY MEDICAL CENTER

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Purpose: Unfractionated heparin monitoring methods include activated partial thromboplastin time (aPTT) and antifactor Xa assay (anti-Xa). Disadvantages of aPTT include poor correlation with heparin concentration, variable response to reagents, and sensitivity to extraneous factors. Anti-Xa is the reference standard for determining in vivo heparin activity and is less susceptible to interference. The optimal monitoring method remains unclear. The purpose of this study is to compare the performance of anti-Xa and aPTT protocols. **Methods:** A retrospective chart review of all patients on a pilot anti-Xa protocol and a random sample of patients on the current aPTT protocol from May through August 2016 was conducted. Anti-Xa and aPTT levels were collected to evaluate time to therapeutic levels, distribution of levels in defined ranges (subtherapeutic, therapeutic, supratherapeutic), and concordance between paired anti-Xa and aPTT levels. Descriptive and quantitative analyses were performed. **Results:** Data from 16 and 20 patients on the anti-Xa and aPTT protocols, respectively, was analyzed. There was no statistically significant difference in average time to one therapeutic level (1.8 vs. 2.6 levels; p=0.068) or two consecutive therapeutic levels (3.6 vs. 4.6 levels; p=0.157). Distribution of level interpretations was similar for both protocols. Of 113 paired levels, 58% were discordant. **Conclusion:** The anti-Xa monitoring protocol trended towards faster time to therapeutic levels. Both protocols appeared adequate in achieving goal. However, paired anti-Xa and aPTT levels were concordant less than half of the time. Therefore, the use of aPTT levels for unfractionated heparin monitoring results in dose adjustment errors if anti-Xa is the reference standard.

TIMING OF FIRST DOSE ANTIMICROBIAL ADMINISTRATION IN INTENSIVE CARE UNIT (ICU) PATIENTS IN A LARGE ACADEMIC MEDICAL CENTER

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Objectives: Timely administration of first dose antimicrobials in critically-ill patients is important to improve clinical outcome. The objective of this study is to evaluate the current process of first dose antimicrobial verification, dispensing, and administration across various shifts at two campuses of our medical center. Our goal is to rectify any problems that exist in our current process to improve patient care. **Methods:** A concurrent chart review to evaluate the antimicrobial dispensing process for ICU patients across two campuses of a large, non-profit academic medical center. ICU patient charts were reviewed every day for 4 weeks to identify new antimicrobial orders. First time antimicrobials are defined as new orders not received in prior 48 hours. A delay in administration is defined as a difference of greater than 1 hour from the scheduled administration time. Data collection included date, patient's location and demographic data, antimicrobial agent and dose ordered, indication for use, time of initial order, time of ID approval (for restricted antimicrobials), time of order verification, and the scheduled and actual time of administration. Orders of antivirals for HIV or antibiotics for surgical prophylaxis were excluded. Mean and median time to administration were calculated with and without outliers. **Results:** The median time to administration were 59 minutes and 68 minutes for two individual campuses. Factors that increased time to administration were drugs requiring ID approval, drug not stocked in Pyxis, and orders on weekends. **Conclusion:** Current processes of medication dispensing by pharmacy can be improved to ensure timely administration of antimicrobials in ICU.

CEFEPIME VERSUS CARBAPENEMS FOR THE TREATMENT OF URINARY TRACT INFECTIONS CAUSED BY EXTENDED-SPECTRUM BETA-LACTAMASE PRODUCING ENTEROBACTERIACEAE

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OBJECTIVE: The objective of this study is to evaluate the effectiveness of cefepime compared to carbapenems for the management of urinary tract infections (UTIs) caused by extended-spectrum beta-lactamase (ESBL)-producing Enterobacteriaceae. **METHODS**: This was an IRB-approved single-center retrospective study among patients with a documented ESBLproducing Enterobacteriaceae UTI between July 1, 2014 and July 31, 2016. Adult patients who received either cefepime or a carbapenem for symptomatic UTI were included in the analysis. Exclusion criteria were polymicrobial infection, multiple sources of infection, use of a concomitant antibiotic with activity against ESBL-producing Enterobacteriaceae, and repeated admissions. The primary endpoint was clinical failure, defined by persistence of initial UTI symptoms that required escalation of therapy. Secondary endpoints included microbiological failure and relapse within 30 days. **RESULTS**: Data analysis is currently ongoing. The rate of clinical failure will be compared between cefepime and carbapenem group. In addition, results for secondary endpoints and sub-group analysis will be presented. **CONCLUSION**: The conclusion will be conveyed at the NYSCHP Residency Presentation Program. It is anticipated that the project will demonstrate a potential role of cefepime in the treatment of UTIs caused by ESBL-producing Enterobacteriaceae.

IMPACT ON PHARMY RESIDENTS' LEARNING EXPERIENCE WITH IMPLEMENTATION OF ED SATELLITE

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Objectives: The value of implementing clinical pharmacy services in the emergency department (ED) is well documented in the literature. The American Society of Health-System Pharmacists
(ASHP) supports the idea of having pharmacy services in the ED at every hospital. The ED pharmacy satellite was built at The Brooklyn Hospital Center to promote prospective medication order review on, to prevent medication errors, optimize patient care in the ED. Establishing a satellite pharmacy in the ED will influence the pharmacy residents' learning experience tremendously. The influence of integrating the pharmacy satellite into the longitudinal pharmacy staffing rotation in addition to the required and elective rotations have to potential to enhance the pharmacy residents' learning experience. The purpose of this descriptive prospective study is to quantify the residents' learning experience with implementation of an ED satellite. **Methods:** This study is a prospective chart review that will be quantifying electronic and paper data from the following databases: Medkeeper (a software that provides secure, web-based applications for documentation used by pharmacy residents), Eclipsys Gateway, and a paper log book of sterile IV compounds prepared from the ED pharmacy satellite. **Results:** Pending **Conclusion:** Pending

HOW ARE PGY1 PHARMACY RESIDENCY PROGRAMS EVOLVING TO MEET CHANGING PHARMACY PRACTICE NEEDS?

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Objectives: The objective of the project is to assess how residency programs have changed in response to the increased requirements for training for positions that did not previously require such training. The objectives of the survey are to describe PGY1 pharmacy residency program design among academic medical centers, characterize key changes that residency programs have made over the past 5 years, and describe future training and career paths among PGY1 pharmacy residency graduates. **Methods:** A 32-item questionnaire was developed independently and was reviewed and validated by 4 separate residency program directors who felt the questionnaire met the previously stated objectives of the survey. The final survey was uploaded to an online survey tool and sent electronically via email to residency program directors of 109 Vizient/UHC Academic Medical Centers with PGY1 pharmacy residency programs. Residency program directors were identified from a list of hospitals provided by Vizient. Contact emails were obtained from ASHP's residency directory website. The survey was re-sent to nonrespondents at 2 week intervals to improve overall response rates. Descriptive statistics were used to analyze the data. **Results & Conclusion:** Pending

IMPACT OF CPOE-ASSISTED REASSESSMENT ("TIME-OUT") OF INTRAVENOUS VANCOMYCIN THERAPY 72 HOURS AFTER INITIATION

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Objectives: Antibiotic "time-outs" encourage prescribers to perform routine reassessments of antibiotic regimens. The use of a checklist during a "time-out" that promotes appropriateness of antibiotic therapies has been shown to decrease the duration of therapy and increase the correct targeting of a pathogen. "Time-outs" have been proposed for antibiotic stewardship programs by the Centers for Disease Control (CDC) and Infectious Diseases Society of America (IDSA), but the literature on the implementation and effectiveness of such strategies is limited. Computerized physician order entry (CPOE) will be used to facilitate hospital-wide antibiotic "time-outs". The objective of this study is to quantify the impact of a CPOE-assisted "time-out" of vancomycin. **Methods:** This is a retrospective, single center chart review study conducted at our institution and has been approved by the investigational review board. A third-party database will be utilized to generate a report of all adult patients that have received vancomycin therapy at our institution during the study period. The hospital's electronic medical record system will be used to access pertinent information. Primary outcome is defined as compliance with completion of antibiotic reassessment form in the CPOE. Secondary outcomes are average length of therapy for vancomycin and the rate of correct targeting of pathogens after 72 hours. **Results:** Research in-progress. **Conclusions:** N/A

EVALUATION OF TREATMENT, DURATION AND OUTCOMES OF URINARY TRACT INFECTIONS IN KIDNEY TRANSPLANT RECIPIENTS

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Purpose: Urinary tract infection (UTI) is the most common post-transplant bacterial infection following kidney transplantation, with incidence ranging 23-75%. Transplant recipients frequently receive antimicrobial treatment for positive urine cultures, regardless of bacterial burden or presence of symptoms. This practice may lead to unnecessary antibiotic exposure and development of antimicrobial resistance. The purpose of this study is to evaluate the appropriateness of UTI treatment, regarding antibiotic choice, dose and duration within the first year following kidney transplant. Also being evaluated is the incidence of antimicrobial resistance involving appropriate versus inappropriate treatment. **Methods**: Adult patients who received a kidney transplant from January 2012 to June 2015 were retrospectively reviewed following approval by the institutional review board. Patients with documented bacterial urine culture(s) within the first year post-transplant were included, while those with fungal cultures, incomplete culture and susceptibility data, or with less than 12 months of follow-up were excluded.
Results: Sixty-six patients with 154 episodes of UTI were included, 137 (89%) of which were treated appropriately. Incidence of recurrence and relapse did not differ between appropriately and inappropriately-treated UTI (p=0.608; p=1.000, respectively), nor did antimicrobial resistance (p=0.132). One-year patient and allograft survival were 100% and 95%, respectively**. Conclusion**: The majority of post-transplant UTIs were treated appropriately. No differences in UTI recurrence, relapse, or antimicrobial resistance were found compared to those treated inappropriately. Despite excellent patient and allograft survival within the first post-transplant year, evaluation of long-term effects of UTI on renal allograft outcomes is warranted.

USE OF DIRECT ORAL ANTICOAGULANTS AND BLEEDING INCIDENCE IN HIV PATIENTS

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Objectives Few studies have been completed on assessing the risk of bleeding in HIV patients who have concomitant diagnoses that require anticoagulation therapy. Antiretroviral treatment regimens often have interactions with many different classes of medications. Because bleeding risk can be a major concern with the use of anticoagulation, concomitant use with antiretrovirals can exacerbate bleeding risk by inducing or inhibiting the metabolism of anticoagulants. The objective of this study is to determine whether HIV/AIDS patients on warfarin have greater bleeding risk than those on direct oral anticoagulants. **Methods** (225 words) Using International Classification of Diseases (ICD) codes, the electronic medical record will identify HIV/AIDS patients who were admitted in the last 5 years with a bleed. This will include patients from Mount Sinai St. Luke's and West hospitals who were diagnosed with atrial fibrillation, deep vein thrombosis, venous thromboembolism, pulmonary embolism, gastrointestinal bleed, subarachnoid hemorrhage, or intracranial hemorrhage. Patients will be not included in the study if they have one or more of the following: concomitant diagnosis of end stage liver disease, pregnancy, or SCr > 2.5 mg/dL. Chart reviews will be completed to identify any upward trends in INR, aPTT, or bleeding adverse events during the course of their hospitalization. Upon classification of anticoagulation therapy into warfarin or direct anticoagulant categories, statistical comparisons will done to determine if HIV/AIDS patients on a direct anticoagulant such as dabigatran, apixaban, edoxaban, or rivaroxaban have a greater risk of bleeding than HIV/AIDS patients on warfarin**. Results** N/A **Conclusion** N/A

EVALUATION OF PROTON PUMP INHIBITORS AS A RISK FACTOR IN HOSPITAL-ACQUIRED CLOSTRIDIUM DIFFICILE INFECTION

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Objectives: According to the IDSA 2010 update for *Clostridium difficile* infection (CDI), proton pump inhibitors (PPI) are considered to be a potential risk factor for development of infection. Furthermore, numerous reports have stated that up to 40% of PPIs are administered with no appropriate indication, representing a need for greater awareness on discontinuing PPIs appropriately for inpatients. The primary endpoint of this study was to evaluate the association between proton pump inhibitor (PPI) use and the development of CDI. Secondary endpoints include evaluation of severity of CDI in patients with respect to PPI use, assessment of appropriate prescribing of PPI in an inpatient setting, and association of antibiotic choice with development of CDI. **Methods:** Patients admitted to Lenox Hill Hospital between January 1, 2015 and August 31, 2016 were included in this IRB-approved, single-center, retrospective study. Patients in the obstetrics service were excluded. There are two cohort groups, patients that received PPI therapy and patients that did not receive PPI therapy (control group), along with further breakdown by CDI vs. no CDI cases. **Results** To be determined **Conclusions** To be determined

EVALUATION OF LOWER DOSE APIXABAN IN NONVALVULAR ATRIAL FIBRILLATION PATIENTS WHO DO NOT MEET THE MANUFACTURER'S RECOMMENDED DOSE ADJUSTMENT CRITERIA

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Objectives: Apixaban is a commonly used direct oral anticoagulant for nonvalvular atrial fibrillation (NVAF) to prevent thromboembolic events. In a study re-evaluating data from the ARISTOTLE trial, there was an increase in bleeding and thromboembolic events in 5 mg twice daily apixaban patients with only one criterion for dose reduction. Prescribers sometimes reduce the dose based on non-manufacturer recommended patient factors to decrease risk of bleeding. We will review patients receiving lower dose apixaban, any associated bleeding or thromboembolic events, and tease out any factors the physicians at this institution use to reduce the dose. **Methods:** Patients at least 18 years old using either apixaban 2.5 mg or 5 mg twice daily dosing for stroke and systemic embolism prevention in NVAF will be retrospectively reviewed for the appropriateness of dosing based on the manufacturer's recommendations. We will also look at clinical endpoints such as bleeding and thromboembolic risk between the improperly dose reduced group and properly fully dosed group. Additionally, we will evaluate factors prescribers are using when dosing based on clinical judgment instead of the drug labeling. Institutional Review Board approval was obtained prior to data collection, after which descriptive statistics will be used to assess the data to help educate our medical teams and gauge the impact of such prescribing practices. **Results**: In progress. **Conclusion**: In progress.

INTEGRATING AN AMBULATORY CARE PHARMACIST INTO THE TRANSITIONS OF CARE PROCESS AT AN ACADEMIC MEDICAL CENTER FOR PATIENTS ON HIGH RISK MEDICATIONS

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Objectives: Transitions of care are points in time where drug related problems occur at the highest frequency. Utilization of an ambulatory care pharmacist as patients transition into and out of a hospital system is being studied to determine the potential impact on minimizing drug related problems. The goals of this study were to 1) identify and reduce drug related problems (DRPs), 2) improve coordination of care, and 3) reduce 30-day readmission rates. **Methods:** All patients receiving anticoagulation and diabetes management services through a collaborative practice agreement between an ambulatory care pharmacist team and a university hospital based adult medicine clinic were eligible for the study. Patients who were admitted to the affiliated university hospital between October 1, 2016 and February 1, 2017 were prospectively identified. For each patient admitted, the ambulatory care pharmacist performed the following tasks: 1) ensured medication reconciliation was performed, 2) communicated relevant findings to inpatient team, 3) surveilled the patient throughout hospitalization and intervened when drug related problems were identified, 4) when able, educated patients prior to discharge 5) coordinated follow-up visits, 6) communicated with community pharmacists, and 7) participated in post hospital follow-up visits with providers. Drug related problems were identified and intervened upon at each phase of care. **Results**: in process **Conclusions:** in process

IMPACT OF A PREMIXED CEFEPIME-VANCOMYCIN COMBINATION BAG ON CLINICAL OUTCOMES IN EMERGENCY DEPARTMENT PATIENTS WITH SEVERE SEPSIS AND SEPTIC SHOCK

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Objectives: To determine whether the use of a premixed bag consisting of 2 grams cefepime and 1 gram vancomycin in 1000mL of normal saline effects 14 day all cause mortality during the in-hospital period in emergency department patients with severe sepsis or septic shock. Secondary outcomes will include the proportion of patients who receive antibiotics within 1 hour and a guideline recommended fluid bolus within 3 hours. **Methods:** A 12 month retrospective analysis will be conducted to determine the impact of a newly implemented intervention on the clinical outcomes of patients with severe sepsis and septic shock. Patients who arrived to the emergency department of a single academic medical center, received a diagnosis of severe sepsis or septic shock and were administered more than one antibiotic were eligible for inclusion. Patients who arrived as transfer from an outside hospital or who had incomplete data sets were excluded. **Results:** Pending further data collection and analysis. **Conclusions:** Pending further data collection and analysis.

IMPLEMENTATION OF ASTHMA EDUCATIONAL SERVICES PROVIDED BY CERTIFIED ASTHMA EDUCATOR PHARMACISTS IN AN INNER-CITY HOSPITAL

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Purpose: In July 2014, clinical pharmacists in our institution who are certified asthma educators began providing asthma education services in the outpatient pulmonary clinic. During clinic visits, the pharmacists educate patients on asthma pathophysiology, trigger avoidance, medication instructions, and peak flow monitoring. An Asthma Action Plan is also provided to patients. The primary objective of this study was to determine if there is a difference between Asthma Control Test (ACT) scores before and after education by certified asthma educator pharmacists. The secondary objective was to determine the frequency of 30-day hospital and emergency department admissions post asthma education. **Methods:** All clinical research represented has been approved by the Institutional Review Board. This study is a retrospective, single center chart review conducted at our institution. Patients at least 18 years old who were provided asthma education by certified asthma educator pharmacists between July 2014 to September 2016 were included in the study. Patients' ACT scores were collected during initial and follow up clinic visits. Other parameters such as patients' baseline characteristics, medications, consult orders, and disease severity was documented. **Results:** The number of patients with controlled asthma after asthma education showed statistical significance with a p-value of 0.0389. **Conclusion:** Based on patients' ACT score, asthma education provided by pharmacists showed clinical improvement of asthma control.

THE IMPACT OF REFLEX URINALYSIS TESTING ON BACTERIURIA TREATMENT OUTCOMES

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Objectives: In April of 2015, the implementation of the "Reflex Urinalysis" policy began requiring physicians to order a urine culture as an "add-on" to patient urinalyses. Urinalyses are held for 24-hours after collection and discarded if no such order was placed by the provider. The goal was to prevent unnecessary urine cultures on negative urinalyses, thereby decreasing the overtreatment of asymptomatic bacteriuria (ASB). The primary objective of this single-center retrospective study was to determine the effect of reflex urinalysis on the rate of ASB treatment compared to the pre-invention population. Secondary outcomes included duration of therapy for UTI and ASB, incidence of ADRs, *C. difficile* infection incidence, the number of patients treated without urine cultures, and the incidence of bacteriuria recurrence within 30 days. **Methods:** A search was performed identifying patients treated for UTI using diagnosis codes N39.0, N10, O23.43, O23.42, O23.40, or N30.90 during November 1, 2015 - April 30, 2016 and June 1, 2016 - November 30, 2016. Patients were excluded if they had multiple sources of infection during their admission, were untreated for their bacteriuria, were not full admissions, or if their UTI treatment was continued on admission without any urinary testing. Remaining patients were classified as ASB or UTI using pre-specified definitions based on the 2012 McGreer criteria. Demographics and treatment outcome variables are being collected with the intent of comparing the pre-intervention to the post-intervention data. **Results:** Data collection is in process at this time. **Conclusions:** Because the data is currently ongoing, there are no conclusions to present.

CHARACTERIZATION OF STAPHYLOCOCCUS AUREUS SKIN AND SOFT TISSUE INFECTION SUSCEPTIBILITY IN A PEDIATRIC HOSPITAL

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Objectives: Based on hospital-wide antibiotic susceptibility reports, clindamycin is not an ideal choice for the treatment of methicillin resistant Staphylococcus aureus (MRSA) or methicillin susceptible Staphylococcus aureus (MSSA) skin and soft tissue infections at Upstate University Hospital. However, it is common practice for admitted pediatric patients to be treated with clindamycin as empiric therapy for these infections. The purpose of this study is to characterize susceptibility profiles of S. aureus isolates from pediatric patients admitted for the treatment of acute bacterial skin and skin structure infection (ABSSSI) to aid in future prescribing. **Methods**: This study was granted institutional review board exemption. This is a retrospective, noninterventional chart review from March 1, 2014 to December 31, 2016. Pediatric patients less than 19 years old with S. aureus ABSSSI were be identified. Patients were included if they were admitted to the hospital and received at least 24 hours of antibiotic therapy. Patients will be excluded if they had a polymicrobial infection, were treated for an infectious process other than ABSSSI, had bacteremia or osteomyelitis, or were immunocompromised. The primary outcome is susceptibility of the first S. aureus isolate to clindamycin and trimethoprim/sulfamethoxazole. **Results**: In process. **Conclusions**: In process

ASSESSING THE RISK OF NEPHROTOXICITY ASSOCIATED WITH NON-RENALLY ADJUSTED INTRAVENOUS POLYMYXIN B COMPARED TO TRADITIONAL DOSING

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Objectives: are paramount in reducing morbidity and mortality secondary to bacterial infections, but many are associated with development and propagation of multidrug-resistance. To combat this, broad-spectrum antibiotics with significant toxicities (e.g., polymyxin B) are forcibly utilized. Due to nephrotoxicity, polymyxin B has been seldom utilized and inadequately studied. Prior data states that polymyxin B is renally cleared, but newer data suggests it is predominantly non-renally cleared. This project aims to determine whether non-renally adjusted doses of intravenous polymyxin B produce similar rates of nephrotoxicity as renally adjusted doses, and to potentially standardize dosing strategies in patients with multidrug-resistant Gram-negative infections, despite renal impairment. **Methods:** This retrospective observational chart review has been approved by the Institutional Review Board at The Feinstein Institute for Medical Research of Northwell Health℠ and evaluates patients who received intravenous polymyxin B at any dose. Patients are included if they are at least 18 years old, received at least 1 dose of intravenous polymyxin B, and have creatinine clearance below 80 milliliters/minute (using Cockcroft-Gault), and excluded if they were in acute kidney injury (by RIFLE criteria), receiving renal replacement therapy prior to intravenous polymyxin B, or pregnant. Exposed subjects received non-renally adjusted doses of intravenous polymyxin B; unexposed subjects received renally adjusted doses. **Results:** Pending **Conclusion:** Pending

IMPLEMENTATION OF PRE-EXPOSURE PROPHYLAXIS PHARMACY SERVICES IN A PRIMARY CARE CLINIC

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Objective: Pre-exposure prophylaxis (PrEP) is an approach to prevent HIV acquisition by prescribing antiretroviral medications in uninfected individuals. Tenofovir/emtricitabine (TDF/FTC, Truvada) is the only FDA approved agent for use as PrEP in adults in the United States. PrEP must be accessible in primary care settings in order for it to have a major public health impact. Currently, PrEP services are provided by pharmacy to HIV-negative patients who are 18 years of age or older at Brookdale Family Care Center Bristol (BFCC Bristol), a primary care clinic. The primary objective of this retrospective study is to evaluate clinical and patient-centered outcomes achieved in patients enrolled in PrEP pharmacy services at BFCC Bristol. **Methods:** A study will be conducted to review the medical charts of patients who received PrEP services from pharmacy between February 1st 2017 through April 15th 2017. Patients will be enrolled in PrEP pharmacy services if they are an HIV-negative adult with a CrCl ≥60 mL/min with substantial and ongoing risk of exposure. Patients were excluded if they were pregnant. The primary outcome is percentage of patients who develop HIV infection while on PrEP. Secondary outcomes include patient retention, development of sexually transmitted infections, and self-reported adherence. **Results:** Patient recruitment and enrollment in PrEP pharmacy services is ongoing. Primary and secondary outcomes are pending and results will be presented. **Conclusions:** It is anticipated that this research will highlight the value of adding pharmacist to an interdisciplinary team treating PrEP patients in a primary care setting through improved clinic and patient-centered outcomes.

COMPARISON OF STEROID REGIMENS ON READMISSION RATES FOR COPD EXACERBATIONS TREATED IN THE EMERGENCY DEPARTMENT

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Objectives: Systemic corticosteroids are commonly prescribed for acute exacerbations of COPD (AECOPD). Current guidelines recommend prednisone 40mg per day for 5 days, however, the optimal dose and duration of treatment has not been determined. We sought to characterize the types of steroid regimens being prescribed to patients presenting to the ED with AECOPD and compare the frequency of re-exacerbations resulting in ED re-visits or hospital admissions between different steroid regimens. **Methods:** Patients 18 years of age or greater who were discharged from the ED and treated with systemic corticosteroids for an AECOPD exacerbation between March 1st, 2015 and March 31st, 2016 were identified through chart review and included in this study. Patients were excluded if they were admitted to the hospital from the ED or had a diagnosis of pneumonia or asthma exacerbation. Patients with a steroid regimen containing less than 40mg of prednisone equivalents per day or had a duration of less than 5 days were compared with those who had a steroid regimen containing at least 40mg of prednisone equivalents per day and a duration of at least 5 days. Thirty and 180-day ED-revisits and hospitalizations due to COPD re-exacerbations were compared between groups. This study has received exemption from IRB at Upstate Medical University. **Results:** In progress **Conclusions:** In progress

ASSESSING CLINICAL IMPACT OF PHARMACIST INTERVENTION ON GLYCEMIC CONTROL DURING INPATIENT HOSPITAL STAY

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Objectives: The Joint Commission and Centers for Medicare and Medicaid Services follow American Diabetes Association (ADA) guidelines for inpatient diabetes management. The ADA recommends a basal-bolus regimen for most patients with good nutritional intake and discourages exclusive use of correctional insulin. The objective of this study was to evaluate whether pharmacist intervention helped improve glycemic control in patients with persistent hyperglycemia. **Methods**: This study was Institutional Review Board exempt. Patients with type 2 diabetes, any two point-of-care (POC) blood glucose levels greater than 250 mg/dL, and managed on correctional scale insulin only were included. Taking into account patient-specific factors such as age, weight, concurrent corticosteroid use, and nutritional intake, the pharmacist recommended a basal insulin regimen best suited for the patient. If the recommendation was accepted, the pharmacist continued to monitor POC glucose levels and recommended adjustments as needed. If the recommendation was not accepted, or if the patient was deemed not appropriate for basal insulin, the pharmacist continued to monitor and intervene as needed. A retrospective analysis of similar patients was performed during the same months in the previous calendar year for a historical control. The primary efficacy endpoint was the number of days since pharmacist intervention to achieve a fasting POC glucose of less than 200 mg/dL for two consecutive days. The secondary efficacy endpoint was the percentage of patients initiated on basal insulin. The primary safety endpoint was the number of hypoglycemic events, defined as POC blood glucose levels less than 70 mg/dL.

MEDICATION DOSING IN END STAGE RENAL DISEASE PATIENTS: A SINGLE CENTER RESTROSPECTIVE REVIEW

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Objectives: End stage renal disease (ESRD) affects the pharmacokinetic processes involved in drug disposition as well as renal drug elimination. Medications that are renally eliminated require dose adjustment in accordance with the patient's creatinine clearance (CLcr) or glomerular filtration rate (eGFR). Patients with ESRD are more prone to medication dosing errors, which can lead to adverse events and poor outcomes. The primary objective of this retrospective chart review was to assess the appropriateness of drug dosing and frequency in hospitalized patients with ESRD. **Methods:** This was an IRB-approved single center, retrospective cohort review of ESRD patients admitted to The Mount Sinai Hospital to assess the appropriateness of drug dosing during the patient's hospitalization. Electronic medical records were reviewed to identify all patients with ESRD from January 2016 – August 2016. Patients missing data were excluded from the chart review. Baseline demographics collected for all patients included: age, sex, weight and etiology of kidney disease. The appropriateness of drug dosing was assessed by evaluating patient's inpatient medication regimens compared to drug manufacturer's renal dose adjustment recommendations. Safety was assessed by recording aberrant lab values that may have resulted from prescribed medications that were not dosed according to patient's renal function. **Results:** Pending (on-going) **Conclusions:**Pending

CEFTAROLINE MEDICATION USE EVALUATION IN METHICILLIN-RESISTANT *STAPHYLOCOCCUS AUREUS* INFECTIONS

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Objective: Methicillin-resistant *Staphylococcus aureus* (MRSA) associated infections, such as bacteremia and infective endocarditis, have been associated with increased morbidity and mortality. Challenges to treatment have increased due to growing resistance to antibacterial agents. Ceftaroline is a fifth-generation cephalosporin that exhibits anti-MRSA activity and has demonstrated efficacy in MRSA bacteremia, endocarditis, and osteomyelitis. The objective of this study is to review the usage of ceftaroline in MRSA infections. **Methods:** Adult patients who received ceftaroline for ≥ 48 hours were included in this retrospective review. Patient demographics, source and type of infection, pathogens and susceptibilities, antibiotics prior to ceftaroline therapy, time to first negative blood culture, microbiological and clinical outcomes were collected. Descriptive statistics were used to analyze the data. **Results:** A total of 38 patients received ceftaroline, 92% received ceftaroline as targeted treatment. The most common types of infections were: bacteremia (34%), cellulitis (18%), and osteomyelitis (16%). Persistent bacteremia (26%) was the most common reason for ceftaroline use. There were 19 bacteremic patients in which 95% cleared the bacteremia in a mean of 6 days. Clinical response at 72 hours and at the end of therapy were 63% and 84%, respectively. Majority of patients received ceftaroline q12h dosing for deep-seated MRSA bacteremia/endocarditis. **Conclusion:** Ceftaroline has become a viable option for treating MRSA-associated infections at our institution. Majority of the patients received ceftaroline for targeted treatment as salvage therapy. Ceftaroline has shown a successful clinical response for the treatment of deep-seated MRSA infections.

AZTREONAM WITH VANCOMYCIN COMPARED TO CEFEPIME WITH VANCOMYCIN IN THE TREATMENT OF HEALTHCARE-ASSOCIATED PNEUMONIA, HOSPITAL ACQUIRED PNEUMONIA, AND VENTILATOR-ASSOCIATED PNEUMONIA

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Objectives: The objective of this research is to compare clinical outcomes of cefepime and aztreonam in the treatment of hospital-acquired pneumonia (HAP), ventilator-associated pneumonia (VAP), and healthcare-associated pneumonia (HCAP). **Methods:** This is a retrospective cohort study of patients admitted between July 1, 2014 and June 30, 2016. Adult patients receiving cefepime or aztreonam in combination with vancomycin for at least 48 hours for treatment of HCAP, HAP, or VAP were included. Patients with gram-positive pneumonia or cystic fibrosis were excluded. The primary endpoint is clinical failure. Secondary endpoints include all-cause mortality, length of hospital stay, length of intensive care unit (ICU) stay, use of ventilatory support, total days of ventilatory support, total days of antibiotics, microbiologic failure and readmission rate. **Results:** Data were collected for 38 patients with 19 each in the aztreonam and cefepime group. Clinical failure occurred in five patients in the cefepime group as compared to nine patients in the aztreonam group (p=0.18). The median length of hospital stay was 23 days with aztreonam and seven days with cefepime treatment (p<0.001). Use of ventilatory support was four patients in the cefepime group and 11 patients in the aztreonam group (p = 0.04). There were no statistically significant differences in all-cause mortality, length of ICU stay, length of ventilatory support, total days of antibiotics, microbiologic failure, or readmission rate. **Conclusions:** There was no statistical difference in clinical failure rates with aztreonam compared to cefepime for treatment of HCAP, HAP, and VAP. A larger sample size may be necessary to detect a difference.

EVALUATION OF SUGAMMADEX UTILIZATION FOR REVERSAL OF NEUROMUSCULAR BLOCKING AGENTS IN SURGICAL PATIENTS

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Objectives: Sugammadex is a novel drug that has been approved for the reversal of steroidal neuromuscular blocking agents (NMBA) rocuronium and vecuronium. Studies have shown that sugammadex rapidly reverses the effects of NMBA and has improved effectiveness compared to neostigmine. The primary objective of this retrospective observational study is to determine if sugammadex use results in shorter times to extubation than neostigmine post-operatively. Secondary outcomes included need for repeat dosing of a reversal agent, time until sustained head lift, return of train of four to baseline 5 minutes post-reversal, oxygen saturation less than 90% post extubation, and clinical signs of residual neuromuscular blockade. **Methods**: This is s retrospective observational study conducted at an academic medical center looking at the effectiveness of sugammadex in orthopedic surgical patients. Patients at least 18 years of age who received either rocuronium or vecuronium for paralysis and then sugammadex or the combination of neostigmine and glycopyrrolate for reversal were included in this study. Patients were excluded if they were under the age of 18 or required prolonged ventilation post-operatively. Patients who underwent an orthopedic procedure in-between November 2016 and February 2017 had their charts reviewed for inclusion into the study. Included patients then underwent further investigation to retrieve all required data points for this study. **Results:** In progress **Conclusions:** In progress

THE IMPACT OF DURATION OF INTRAVENOUS AND ORAL ANTIBIOTIC THERAPY IN HOSPITALIZED COMMUNITY-ACQUIRED PNEUMONIA PATIENTS ON 30-DAY READMISSION RATES: A RETROSPECTIVE COHORT STUDY

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Objectives: There is limited evidence to suggest that prolonged antibiotic courses for community-acquired pneumonia (CAP) reduce readmission rates. As part of the antimicrobial stewardship program at St. Joseph's Hospital, optimizing length of therapy in CAP patients is one of many ongoing efforts. This study will evaluate the impact of receiving ≤7 days versus >7 days of antibiotic treatment on 30-day readmission rates for patients with an index admission for CAP. **Methods:** This retrospective chart review was approved by the Institutional Review Board. Patients 18 years and older with a primary admission diagnosis for community-acquired pneumonia between Jan 1st – March 31st and Oct 1st – Dec 31st, 2016 were identified. Exclusion criteria included treatment in an intensive care unit, hospital stay greater than 14 days, previous admission for pneumonia within 30 days, initial antibiotic therapy not active against identified pathogen, presence of complicated pneumonia, or immunosuppression. Patient demographics, presence of comorbid disease states, antibiotics received, vital signs, laboratory values, and readmissions within 30 days of the index admission were collected**.** The primary outcome is 30-day readmission rate. Secondary outcomes include 30-day readmission rate for pneumonia, mean total days of antibiotics received, and incidence of *Clostridium difficile* infection. **Results: Conclusions:**

ASSESSING THE EFFECT OF THE INTERNATIONAL MEDICAL PREVENTION REGISTRY ON VENOUS THROMBOEMBOLISM (IMPROVE) RISK ASSESSMENT MODEL ON THE FREQUENCY OF USE OF VENOUS THROMBOEMBOLISM PROPHYLAXIS

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Purpose: The International Medical Prevention Registry on Venous Thromboembolism risk assessment model (IMPROVE RAM) is an evidence-based model used to determine the risk of venous thromboembolism (VTE) and the need for prophylaxis in medical inpatients. Education on the use of IMPROVE RAM was performed at the institution in July 2016 and its use has been continuously reinforced. This study aims to identify the effect of the implementation of the IMPROVE RAM on use of VTE prophylaxis in medical inpatients within a tertiary care center. **Methods:** This study was approved by the health-system's institutional review board. The electronic medical record system (EMR) was used to identify patients that were admitted to the hospital and followed by a medicine team prior to and after IMPROVE RAM education, divided into the non-RAM and RAM arms, respectively. The primary outcome was the proportion of patients receiving VTE prophylaxis in the RAM versus non-RAM arms. New VTE and bleeding events were also compared between the two populations to identify clinical impact. Patients 18 years of age or older followed by the medicine team during their hospital stay, with an IMPROVE score documented in the EMR for the RAM arm were eligible. Patients requiring full anticoagulation or diagnosed with suspected or confirmed VTE on admission were excluded. **Results:** N/A **Conclusions:** N/A

CLINICAL OUTCOMES OF AN INPATIENT PHARMACIST-DIRECTED ANTICOAGULATION SERVICE IN A COMMUNITY HOSPITAL

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Objectives: Anticoagulants have been identified as one of the top five drug types associated with patient safety incidents in the United States. In order to improve anticoagulation management and safety, our institution implemented an inpatient pharmacist-directed anticoagulation service. The primary objective of this single-centered prospective/retrospective cluster randomized study was to analyze time in therapeutic range (TTR) using process capability measure for warfarin patients and appropriate renal dose adjustment for newer anticoagulants, namely apixaban, rivaroxaban, dabigatran and edoxaban. **Methods:** The retrospective data (control group) included adult patients from May-October 2016 who presented to Mercy Hospital of Buffalo, and were on selected anticoagulants. The outcome was compared to prospective data (protocol group) including adult patients who were part of internal medicine teaching team. Patients in both groups were excluded if they were receiving surgery prophylaxis anticoagulation, pregnant, or if their anticoagulation was managed by hematology team. Warfarin doses for selected patients were adjusted using a protocol implemented by the hospital, whereas newer anticoagulants were adjusted based on renal function by centralized or clinical pharmacists. Documentation of recommendations was made directly into the patient's chart, and available to the physicians. **Results:** Control group including 70 patients on warfarin group demonstrated 38.87% process capability for TTR, whereas protocol group including ___ patients demonstrated ___ process capability. Dosing inappropriateness for newer anticoagulants decreased from an average of 15% in control group including 104 patients to ____in ___ protocol group patients. **Conclusions:** Pharmacist-led anticoagulation resulted in ____ TTR for warfarin, and improved dose adjustments for newer anticoagulants.

LOCAL INTRA-ARTICULAR ANESTHETIC INJECTION VS. ROPIVACAINE NERVE BLOCK FOR TOTAL KNEE REPLACEMENT AT NORTHWELL HEALTH - HUNTINGTON HOSPITAL

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Purpose: Total knee replacement (TKR) involves a prolonged length of stay (LOS), increased pain burden necessitating use of opioids, consequently predisposing patients to opioid-related side effects. Various local intra-articular anesthetic (LIA) compounds demonstrated a reduction in pain, less opioid use, improved ambulation and a reduction in LOS. The purpose of this study is to examine the effectiveness of LIA compared to ropivacaine nerve (RNB) block in TKR. **Methods:** This IRB approved retrospective study analyzed patients who have received RNB (Control group) between February – May 2016 vs patients who had received LIA (Intervention group) between August – December 2016. A multidisciplinary team consisting of pharmacy, orthopedic surgeons, and physical therapy created an order set approved by the Pharmacy and Therapeutics committee in July 2016 for LIA in TKR to standardize the medication content. LIA consists of ropivacaine 246 mg, epinephrine 0.5 mg, ketorolac 30 mg and clonidine 0.08 mg. The primary outcome was percent of patients discharged home. Secondary outcomes included LOS, distance walked post-surgery, opioid use and side effects of opioids post-surgery. Logistic regression will be used to model discharged home (vs. rehab) as a function of pain management group (LIA vs. RNB), while adjusting for potential confounders, such as, surgeon, OR time, age and BMI. Cox proportional hazards regression will be used to model LOS as a function of pain management, while adjusting for potential confounders. The log of the time from post-surgery to discharge will be used as an offset to adjust for varying observation times. **Results**: In progress **Conclusions**: In progress

EXTENDED VERSUS SHORT-COURSE CORTICOSTEROID TAPER REGIMENS IN THE MANAGEMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE EXACERBATIONS IN CRITICALLY ILL PATIENTS

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OBJECTIVE: To evaluate the safety and efficacy of short-course versus extended taper of corticosteroids in the management of acute exacerbations of chronic obstructive pulmonary disease (AECOPD) in critically ill patients.**METHODS**: This was an IRB-approved retrospective cohort study that evaluated patients with AECOPD admitted to the intensive care unit from January 1, 2014 to December 31, 2016. Patients were divided into short-course (≤ 5 days) or extended taper (> 5 days) groups. The primary endpoint was treatment failure, defined as the requirement for intubation or reintubation. Secondary endpoints included the duration of mechanical ventilation and steroid therapy, hospital and ICU lengths of stay, and adverse events. **RESULTS**: Of the 151 patients included, 94 were in the extended taper and 57 in the shortcourse group. Treatment failure occurred in 3 patients (3.2%) in the extended taper and 0 patients (0%) in the short-course group. The duration of mechanical ventilation was 3 versus 2 days in the extended taper and short-course groups, respectively (p=0.01). Finally, the hospital lengths of stay were 11 days and 7 days in the extended taper and short-course group, respectively (p<0.0001). Additional statistical tests including multivariate analysis will be performed. **CONCLUSION**: In patients admitted to the ICU for AECOPD, the risk of treatment failure was similar between the extended taper and short-course groups, but the latter was associated with reduced hospital length of stay. These findings support the use of short-course corticosteroid taper regimens in critically ill patients with AECOPD, though prospective randomized trials should be performed.

AWARENESS OF MEDICATION COSTS AND IMPACT OF PRICING TRANSPARENCY ON PRESCRIBING PRACTICES IN TYPE 2 DIABETES MELLITUS: PREPARING FOR PAYMENT MODEL REFORM

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Objectives: According to the National Diabetes Statistics Report 2014, an estimated 29.1 million Americans (9.3%) have diabetes. The burden on the health care system includes $176 billion in direct medical cost per year. The objective of this study is to evaluate primary care prescribers' awareness of medication costs and the impact of cost transparency on their prescribing practices for Type 2 Diabetes Mellitus (T2DM) patients. Additionally, set the stage for further considerations on care delivery as we shift payment models and strive to design optimal metrics of quality as well as total cost of care. **Methods:** Prescribers will be surveyed about their prescribing practices using a hypothetical case involving a patient with T2DM. This online survey was developed to collect and evaluate the prescribing choices of primary care providers as it pertains to add-on therapy to metformin in T2DM, providing information in a segmented basis, revealing one additional piece of information at a time. Information will include A1C lowering percentages of various drug classes, guideline recommended therapy, typical adverse reactions, and the average wholesale price of one month and one year's supply of the various classes of medications. The survey will also include general questions pertaining to the prescriber's current awareness of the total cost of medications that they routinely prescribe to patients. Lastly, it will investigate how cost transparency, at the time of prescribing, impacts the selection of these medications. **Results:** Results are currently pending as the survey is actively being completed **Conclusions:** No conclusions can be drawn at this time without sufficient data.

IMPACT OF AN ADVANCED MEDICATION THERAPY MANAGEMENT (MTM) SERVICE VERSUS STANDARD MEDICARE MTM ON HOSPITAL ADMISSIONS OF CHF PATIENTS.

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Purpose: Congestive heart failure (CHF) is a progressive chronic disease where low quality care can lead to high costs from avoidable hospital admissions. Congestive heart failure can generally be managed in the outpatient care setting to prevent exacerbations and the need for hospitalizations. MTM services can improve outcomes in these patients. The purpose of this research is to determine if advanced MTM services can significantly decrease rates of hospitalization versus standard MTM in members with CHF. **Methods**: Within each arm, a predictive model was applied to determine the risk probability of a hospitalization. Members were then stratified into high probability, moderate probability, and lower probability groups. This grouping is blinded to the investigator. The primary outcome will be the rate of hospitalization for a preventable admission within six months of the MTM intervention. Secondary outcomes will include any changes to the member's risk of hospitalization as determined by reevaluation by the predictive model. Inclusion criteria for this study includes members with a CHF diagnosis, age 18 and older, and have continuous coverage during the study period. Data will be gathered from MTM engagement, administrative medical, and pharmacy claims databases. **Results**: Results are pending and will be presented at NYSCHP Residency and Research Practice Forum meeting on April 28th, 2017.

THE EFFECT OF PROCALCITONIN ON LENGTH OF ANTIBIOTIC THERAPY IN PATIENTS WITH VIRAL PNEUMONIA

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Objectives: Procalcitonin is an inflammatory biomarker shown to have strong negative predictive value for bacterial pneumonia. As such, low procalcitonin values may allow for identification of viral illnesses and early antibiotic discontinuation. The purpose of this project is to assess the effect that low procalcitonin levels have on antibiotic duration in general medicine patients admitted with a diagnosis of community acquired pneumonia (CAP) and concurrent respiratory viral infection. **Methods:** We performed a retrospective, cohort analysis between January 1, 2015 and December 31, 2015. Adult patients (age ≥ 18 years) with a diagnosis of CAP were identified via a query of the electronic medical record and were included in this analysis if they received antibiotics within 24 hours of presentation and if they had a procalcitonin and positive respiratory panel obtained within 48 hours of presentation. The comparison was between patients with a negative initial procalcitonin level (<0.25 ng/mL) warranting early discontinuation antibiotics and an elevated procalcitonin level (≥ 0.25 ng/mL). Patients were excluded if they have an infection from any source other than pneumonia. **Results:** A total of 123 patients were reviewed and 40 included in the final analysis. Mean antibiotic days were reduced by 4.1 days in the negative procalcitonin group, p-value 0.003. **Conclusions:** Procalcitonin in addition to other clinical markers of infection serves as a tool to allow for early discontinuation of antibiotic in hospitalized patients with CAP.

INTERVENTION TO DECREASE PROTON PUMP INHIBITOR USAGE IN ORDER TO REDUCE CLOSTRIDIUM DIFFICILE INFECTION RATES

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Objectives: Clostridium difficile infection (CDI) is associated with significant costs, morbidity, and mortality. Studies suggest increased risk of CDI with proton pump inhibitor (PPI) usage, and this risk appears to be less with histamine-2 receptor antagonists (H2RAs). The objective of this study is to determine if making an impact on PPI prescribing patterns utilizing active interventions and order set changes can result in a decrease in CDI. **Methods:** New PPI orders were prospectively reviewed between the dates of August 28, 2016 and September 9, 2016. These orders were evaluated for necessity and a decision was made to intervene recommending either discontinuation or a change to a H2RA. Patients were excluded if they were younger than 18 or older than 89 years old, admitted to the prison ward, or had an appropriate indication for a PPI. This study was submitted to the Institutional Review Board for approval. In the second phase of this study, there was a review of 16 computerized physician order entry order sets which contain options for either PPI or H2RA. We proposed adding a banner to these order sets to caution against PPI use and indicate H2RAs as the preferred agent. **Results:** 277 orders were reviewed, of those 59 recommendations were made and four were accepted. CDI was documented in two patients. **Conclusions:** Patient specific interventions were inefficient and ineffective at reducing PPI use in this institution. Additional initiatives to reduce PPI use are under evaluation.

READMISSION RATES ASSOCIATED WITH HIGH-RISK MEDICATION PRESCRIBING IN ELDERLY PATIENTS

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Objectives: The American Geriatrics Society (AGS) updated the list of Beers Criteria medications that are “potentially inappropriate” or high risk for elderly patients 65 years or older. Utilization of these medications may be associated with numerous adverse effects and augment risks for hospital readmissions. The objectives of this study are to describe prescribing patterns of high risk medications to hospitalized elderly patients and to determine the associated risks for hospital readmission related to adverse medication effects. **Methods:** We are conducting a retrospective, single center chart review. Institutional review board exemption was sought and granted. A 30-day all-cause readmission report of elderly patients (65 years or older) was generated between 10/1/2015 and 9/20/2016 to identify potential study patients. Data collection includes medication profile during previous admission and upon discharge, patient demographics, days to readmission, significant past medical history, and reason for readmission. Discharge medication profiles were then analyzed and grouped according to containment of high-risk medications, described by the AGS. Two clinical pharmacists independently assessed each case of readmission to determine if the cause of readmission was related to a medication adverse event. A third clinical pharmacist assessed cases when necessary to resolve disagreement between the initial two reviewers. Readmissions were categorized as medication (Beers criteria) related, medication (non-Beers criteria) related, and non-medication related. After adjusting for confounders, odds ratios for readmission rates will be calculated. **Results:** Pending further data collection **Conclusions:** Pending results

IMPACT OF ELECTRONIC BRACELET MEDICATION REMINDER TECHNOLOGY ON MEDICATION ADHERENCE IN HEART FAILURE PATIENTS

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Objectives: The primary objective of this study is to evaluate the impact of electronic bracelet (EB) medication reminder technology on medication adherence and the secondary objective is the impact on 30-day readmission rates in heart failure patients. **Methods:** IRB approval was obtained. Patients are eligible to be enrolled in the study if they have heart failure admission diagnosis documented in the chart; be 18 years of age; have a Bluetooth enabled smart phone; demonstrate ability to utilize the reminder technology; sign informed consent; be discharged to home. The electronic bracelet will be synchronized to the patient's smart phone via Bluetooth and programmed to send notifications based off their individual medication regimen. The prescription history fill data will be compiled and medication adherence will be recorded as a percentage. The electronic medical record system will be monitored to determine if the patient has been readmitted within the next 30 days. All readmission data collected will be compared to the historic heart failure 30-day readmission rates at Kingsbrook Jewish Medical Center provided by the Centers for Medicare and Medicaid. **Results:** Data collection is still ongoing. **Conclusions:** EB reminders are expected to improve medication adherence and decrease 30-day readmission rates in patients hospitalized for heart failure.

EFFECTIVENESS OF A PHARMACY DRIVEN VANCOMYCIN PHARMACOKINETIC DOSE CALCULATION MODEL

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Objectives: The hospital implemented the health system approved vancomycin pharmacokinetic dose calculation model designed as an excel file, to calculate appropriate initial vancomycin dosing. The primary purpose of this project is to investigate the effectiveness of a pharmacy driven vancomycin dose review using the system approved vancomycin pharmacokinetic calculation model. **Methods:** This is a single-centered, randomized, retrospective study based on the electronic medical record of patients who received vancomycin. The control group was randomly selected from patients who received vancomycin before the vancomycin pharmacokinetic calculator was implemented and the intervention group was randomly selected from patients who received vancomycin after the vancomycin pharmacokinetic calculator was implemented in a certain period of time. Vancomycin trough levels were evaluated based on data extracted and/or retrieved from the electronic medical record. The content of this project was determined as a quality improvement initiative by Institutional Review Board. **Results:** N/A **Conclusions:** N/A

UPDATE OF AN ANTIDOTE HAZARD VULNERABILITY ANALYSIS

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Objectives: In 2009, an interdisciplinary team at our hospital conducted an antidote hazard vulnerability analysis (HVA) in response to the 2009 Expert Consensus Guidelines for Stocking of Antidotes in Hospitals that Provide Emergency Care. While there have not been official guideline updates, the hospital's stock of antidotes has likely since changed. The objective of this project was to identify discrepancies in preparedness for antidotes compared to the 2009 HVA and resolve high vulnerability scores. **Methods:** Twenty-four antidotes were assessed based on the 2009 antidote hazard vulnerability analysis. The pharmacy resident consulted various pharmacy staff to determine inventory locations and conducted a physical count of each antidote. A hazard vulnerability score was calculated as a composite score of probability, risk, and preparedness to determine the hospital’s medication vulnerability for the most common or most severe events. Evaluation of available literature and discussions with pharmacists were utilized to determine if adjustments to par levels and storage location were required. **Results**: Half of the 24 antidotes in the hazard vulnerability analysis had discrepancies in preparedness. Of these, 50% were due to total quantity available, 25% were due to storage location, and 25% were due to both storage location and total quantity available. **Conclusion:** An individualized assessment of antidote stocking in our hospital determined minor discrepancies existed but were rectified with appropriate plans in place.

OUTCOMES ASSOCIATED WITH THE USE OF REVISED RISK ASSESSMENT STRATEGIES TO PREDICT RESISTANCE IN COMMUNITY ONSET PNEUMONIAS: A STEWARDSHIP PERSPECTIVE

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Objective: Recent literature suggests the risk of multidrug-resistant organism (MDRO) infections in community onset pneumonia is largely overestimated leading to unnecessary use of extended-spectrum antibiotics associated with a multitude of negative collateral effects. This information has contributed to the removal of healthcare-associated pneumonia (HCAP) from the most recent Infectious Diseases Society of America guidelines; however, outdated literature is still influencing current practices. The aim of this study is to evaluate select outcomes associated with the implementation of revised risk stratification strategies to predict MDROs in patients with community onset pneumonia at an academic medical center. **Methods:** Restricted antibiotics are requested for approval and reviewed by the infectious diseases clinical pharmacist and pharmacy resident under supervision. Subsequently, requests are accepted or denied utilizing current literature outlining the risk of resistance in community onset pneumonia. These requests will make up one arm of the study and will be compared to an equal number of randomly selected patients that were treated for suspicion of MDRO community onset pneumonia from January 2016 to June 2016, prior to the implementation of the aforementioned processes. Patients will be eligible for inclusion if they are aged 18 years and older and were admitted for a primary diagnosis of pneumonia. The primary outcome will evaluate the difference in anti-pseudomonal days of therapy between the two groups. Secondary outcomes will include length of stay indices and costs of drug therapy. Descriptive statistics and regression analysis, as appropriate, will be applied to interpret results. **Results:** In progress **Conclusions:** In progress

EXPERIENCE WITH A TWO-SAMPLE METHOD TO DETERMINE VANCOMYCIN AUC/MIC RATIO

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Objectives: It is generally agreed upon that the optimal PKPD parameter is the ratio of area under the curve (AUC) to the minimum inhibitory concentration (MIC). The AUC/MIC ratio for the treatment of methicillin-resistant Staphylococcus aureus (MRSA) infections is generally accepted to be > 400 mg*hr/L. While the AUC/MIC ratio is accepted as the optimal parameter, it is not routinely calculated in clinical practice. Upstate University Hospital recently transitioned from a trough-only approach to a two-sample method to calculate vancomycin AUC for deep-seated MRSA infections. The primary objective of this retrospective chart review was to describe the vancomycin pharmacokinetics and pharmacodynamics in deep-seated MRSA infection using a two-sample AUC calculation method. The secondary objective was to assess 30-day mortality or in-hospital mortality, whichever is less. **Methods :** Adult patients who were admitted to Upstate University Hospital between July 1, 2016 and December 28, 2016 with confirmed MRSA infection, stable renal function, and evaluable vancomycin concentration levels were included. Information collected included patient demographics and vancomycin kinetic calculations. Data will be analyzed using SPSS and presented using descriptive statistics. **Results**: Pending **Conclusions:** Pending

INTRAVENOUS ACETAMINOPHEN AND ITS EFFECTS ON PATIENTS' HEMODYNAMICS IN THE INTENSIVE CARE UNIT

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Objectives: Intravenous acetaminophen (IV APAP) has been associated with hypotension. There are limited studies published that show IV APAP's hemodynamic effects. A recent prospective study found that 51.9% of patients who received IV APAP experienced hypotension where 34.9% of patients required an intervention. There have been several other prospective observational studies which also showed similar effects on hemodynamics. However, these studies are inconsistent in their findings and do not define what constitutes hypotension. The primary objective is to evaluate the incidence of acetaminophen-induced hypotension in the intensive care setting. **Methods**: This is a retrospective chart review of ICU patients who received IV APAP at Lenox Hill Hospital from March 1st to April 30th 2016. Patient demographics collected included: age, gender, ICU location, admission date, ICU length of stay, and concomitant medications (e.g., sedatives, antihypertensives, IV fluids, vasopressors). Each patient's blood pressure (systolic blood pressure and mean arterial pressure [MAP]) prior to and after the administration of IV APAP was recorded. Hypotension was defined as a MAP reduction from baseline of ≥ 15%. Data including patient demographics and hemodynamics were collected from the electronic health records accessible from Sunrise application and computerized physician order entry system. **Results**: Pending **Conclusions**: Pending

EFFECT OF NURSING EDUCATION ON UTILIZATION OF PATIENT-SPECIFIC EDUCATION RESOURCES

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Purpose: The Electronic Health Records (EHR) Incentive Program was designed for hospitals to promote the use of EHR in ways that can positively impact patient care. One of the objectives is to use information from the EHR to identify patient-specific education resources and provide those resources to the patient. To meet this objective, Lenox Hill Hospital has implemented a patient-specific education resource into its EHR. The primary objective of this study was to provide education to nurses to encourage the use of patient-specific education resources. **Methods:** Nurses from nine hospital units were provided with instruction and a summary sheet on accessing patient-specific education resources and documenting patient education in the EHR. Instruction for nurses was conducted by a pharmacist at each nursing unit during their team briefings. Discharged patient charts were evaluated by unit for compliance one week prior to receiving instruction and compared with one week after receiving instruction. Patient-specific resources were considered utilized if appropriate patient education documentation was recorded by the nurse in the patient's EHR. **Results:** There was an increase in usage of patient-specific education resources in seven nursing units following one week after nursing instruction. There was a decrease or no effect seen in usage of patient-specific education resources in two nursing units following one week after nursing instruction. **Conclusions:** There was an increase in a majority of the nursing units on usage of patient-specific education resources following nursing instruction and nursing education should be continued to see sustained improvement in utilization of the resources.

RETROSPECTIVE QUALITY ASSURANCE ANALYSIS OF POST-OPERATIVE BLOOD PRESSURE MANAGEMENT IN OPEN AORTIC VALVE REPLACEMENT SURGERIES USING NICARDIPINE AND CLEVIDIPINE

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Purpose: Post-operative hypertension is a complication of cardiac surgery that affects up to 80% of patients, as reported in the ECLIPSE Trial. At St. Joseph's Health Nicardipine (NIC) has been on formulary since 2008. Clevidipine (CLEV) was added to the restricted formulary in March 2015 for open aortic valve replacement (AVR) surgery. The aim of this retrospective study is to compare post-operative blood pressure control in Nicardipine versus Clevidipine open AVR surgery. **Methods:** This study was granted exempt status by the Institutional Review Board. Open AVR patients were identified via Horizon Business Insight (McKesson, Inc.). Two groups were created based upon date of surgery, hospital transition to an electronic health record, and the addition of Clevidipine to the restricted formulary. The two comparative time periods are defined as 5/26/14-3/6/15 (NIC) and 5/25/15-3/12/16 (CLEV). Only patients with an elective AVR were included. The primary objective was to compare the percentage of time systolic blood pressure (SBP) was within the surgeon's designated range. Secondary outcomes include percentage of patients who had new onset atrial fibrillation, new renal replacement therapy within 72 hours of NIC or CLEV, need for additional anti-hypertensive therapy, and re-operation for bleeding. Data collection includes total drug administered, total duration of therapy, number of titrations, number of holds, 4 hour post-operative cumulative propofol and fentanyl doses, and 12 hour post-operative chest tube output. **Results:** Research in progress. **Conclusions:** Research in progress.

MEDICATION USE EVALUATION OF CEFTOLOZANE/TAZOBACTAM AND CEFTAZIDIME/AVIBACTAM FOR MULTIDRUG-RESISTANT GRAM-NEGATIVE INFECTIONS IN AN URBAN ACADEMIC MEDICAL CENTER

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Objectives: The treatment of multidrug-resistant (MDR) organism associated infection has become increasingly challenging to due limited treatment options. Ceftolozane/tazobactam (CT) and ceftazidime/avibactam (CA) are two novel beta-lactam/beta-lactamase inhibitor combination agents with activity against selected resistant Gram-negative pathogens, including carbapenem resistant Enterobacteriaceae (CRE) and /or extensively drug resistant (XDR) *Pseudomonas aeruginosa.* The purpose of this study is to evaluate the usage of CT and CA for the treatment of MDR Gram-negative infections. **Methods:** In this retrospective chart review, patients who received CT or CA between January 2016-November 2016 was identified. Information collected included patient demographics, type of infection, microbiology and clinical outcomes, medication dose/frequency/duration, etc. The data was analyzed using descriptive statistics.
Results: A total of 20 patients were included in this review with the majority of patients receiving CT (80%). The most common infections treated by CT or CA were pneumonia (45%), bacteremia (27%), and urinary tract infections (14%). *P. aeruginosa* (60%), *K. pneumoniae* (16%), and *E. cloacae* (12%) were the main pathogens isolated. Of these isolates, 54% were XDR *P. aeruginosa* and 15% were CRE. Microbiological response rates for CT and CA were 92% and 100%, respectively. CT was appropriately used in 81.3% of the cases whereas CA was appropriately used in 100% of the cases. **Conclusions:** CT and CA were reserved as last line treatment options for XDR Gram-negative infections at our institution and demonstrated good susceptibility for XDR Gram-negative organisms. Continued antimicrobial stewardship effort is essential to ensure that both agents are used appropriately at our institution.

EFFICACY OF INTRAVENOUS IMMUNE GLOBULIN (IVIG) DOSES BASED ON IDEAL VS ACTUAL BODY WEIGHT IN THE TREATMENT OF IMMUNE THROMBOCYTOPENIA (ITP)

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Objectives: Intravenous immune globulin (IVIG) is used to treat several conditions including immune thrombocytopenia (ITP). It is typically dosed based on a patient's actual body weight, but immune globulin has a small volume of distribution and distributes minimally in lipophilic tissue. For this reason, it may be better to dose based on ideal body weight to prevent overdosing obese patients. This study aimed to determine the efficacy and safety of dosing IVIG based on ideal body weight in patients with ITP. The primary objective was the percent of patients who achieved adequate platelet response within seven days. Secondary endpoints included the total increase in platelet count, the percent of patients who achieved adequate platelet counts, the time to reach an adequate response, and the occurrence of clinically significant bleeding events.
Methods: Patients at least 18 years of age who were treated at adult inpatient facilities with IVIG for thrombocytopenia were included in this retrospective cohort study. The dosing protocol at an academic medical center was changed in July 2015 to allow pharmacists to automatically adjust doses based on IBW. Patients who received IVIG from April 2014 through June 2015 who were dosed based on actual body weight were compared to patients who received IVIG from September 2015 through December 2016 who were dosed on ideal body weight. **Results:** In progress. **Conclusion:** In progress.

EVALUATION OF ANTIBIOTIC USE IN PATIENTS WITH ASYMPTOMATIC BACTERIURIA IDENTIFIED IN THE EMERGENCY DEPARTMENT

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Objectives: The purpose of this study is to identify and prevent the inappropriate administration of antibiotics to patients with asymptomatic bacteriuria (ASB) through provider education. The success of provider education will be assessed by evaluating the management of two cohorts of patients, before and after education, to identify if changes in practice were made. Evaluation of the first cohort of patients revealed that 58% of patients initiated on antibiotics for a urinary tract infection (UTI) did not fit diagnostic criteria. Upon admission to the hospital, 87% of these patients were inappropriately continued on antibiotics. **Methods:** The electronic medical records of patients with urinalyses ordered in the Emergency Department (ED) during two consecutive weeks in March of 2016 and February of 2017 were reviewed to identify the evaluable population. Patients included in the study were assessed for meeting UTI criteria, defined as a positive urinalysis with a fever of >38˚C or a urinary symptom. In this study, a positive urinalysis is defined as meeting one of the following criteria: ≥ 6-25 WBC/hpf, positive leukocyte esterase, or positive nitrites. Urinary symptoms are defined as urgency, frequency, dysuria, suprapubic tenderness, and costoverterbral angle pain or tenderness. Inappropriate antibiotic treatment is defined as patients receiving antibiotics despite not meeting UTI criteria. Hospitalists and ED providers were educated regarding appropriate ordering of urinalyses and urine cultures, UTI diagnostic criteria, and discussion regarding which patients should be treated with antibiotics based on signs and symptoms as well as laboratory data **Results:** In progress **Conclusions:** In progress

INTERNALLY DEVELOPED UNIT SPECIFIC ANTIBIOTIC REPORT CARDS AT A LARGE ACADEMIC HOSPITAL

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Objectives: Measurement of antimicrobial use (AU) is a critical component of designing and monitoring antimicrobial stewardship (AS) activities. Antimicrobial days of therapy per 1000 patient days present (DOT/1000d) is the preferred AU metric. Often, this information is provided per hospital, and for large institutions, it might not be useful for improving antimicrobial use and identifying areas for improvement. We report our experience with an internally developed AU report card, per unit, at a large academic hospital. The objectives were to develop unit specific antibiotic report cards, assess DOT/1000d present changes over time, to aid in identification of AS initiatives and to assess physician's attitude towards the antibiotic report cards. **Methods:**
This study was approved by the institutional review board. Antibiotic report cards for 7 medical units were created using DOT/1000d present for commonly used antimicrobials. The antibiotics were presented in groups of coverage, as well as individually, per month. These report cards were presented monthly to the different units. A post implementation survey was done to assess physician's attitude towards the report cards. **Results:** Each unit had its unique AU. Information presented on the report cards led to medication use evaluations, targeted antimicrobial education and identified which physician groups and antimicrobials were potential targets for interventions by AS. **Conclusions:** These results highlight the important differences within a hospital, while also providing actionable data. An AU unit specific antibiotic report card strategy supports meaningful comparison of AU across locations and over time. Full results and conclusions will be presented at the 2017 NYSCHP Residency Forum.

PHARMACIST-LED IDENTIFICATIONS OF FACTORS RELATED TO 30-DAY READMISSIONS AT A COMMUNITY HOSPITAL

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Objectives: The Centers for Medicaid and Medicare reports that one in five patients discharged from a hospital will be readmitted within 30 days. Readmission has been associated with steep financial implications. Although, readmission rates have been slowly decreasing, the national average for 30-day all-cause readmission in 2015 is 17.8%. The objective of this project is to identify factors that are related to 30-day all-cause readmission and to use this data to improve the transitions of care discharge process. **Methods:** The study period extends from December 2016 to March 2017. A system-generated report identifies hospital-wide all-cause-readmissions within 30-days post-discharge. Exclusion criteria include patients who are: younger than 18 years of age, in intensive care, hospice, and palliative care units, from a skilled nursing facility, were discharged against medical advice, and/or a planned readmission. A standardized survey is used to identify factors that lead to readmission. All data is de-identified. The primary endpoint is all causative factors related to readmission with emphasis on medication-related readmission. The secondary endpoint is to prevent a subsequent readmission by addressing factors that were related to the first readmission through patient education. **Results:**
Data analysis will be performed when the study period has concluded. **Conclusion:** This study will identify factors leading to readmission and addressing these factors during the current
admission is expected to reduce readmission rates.

COMPARISON OF THE EFFICACY AND SAFETY OF FILGRASTIM-SNDZ TO FILGRASTIM: A SINGLE CENTER RETROSPECTIVE STUDY

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Objectives: Filgrastim-sndz (Zarxio®) was approved by the FDA in March 2015 as a biosimilar product of its reference product, filgrastim (Neupogen®) for all five indications. The NCCN Clinical Practice Guidelines has incorporated filgrastim-sndz into its recommendations as a category 1 recommendation for use in settings of febrile neutropenia, myelosuppressive chemotherapy administration, and post hematopoietic stem cell transplant (HSCT). In March 2016, our institution switched from filgrastim to filgrastim-sndz for all indications as a cost saving initiative. The purpose of this study was to assess for any difference in clinical and safety outcomes between filgrastim and filgrastim-sndz. **Methods:** An IRB-approved, one year, single institution, retrospective chart review between September 2015 and August 2016 was conducted in adult patients who received either filgrastim or filgrastim-sndz for either prophylaxis of chemotherapy-induced myelosuppression or for neutrophil recovery after autologous HSCT. Patients with myeloid leukemia were excluded from the study. The following patient data was collected: age, weight, indication, dose, date of first dose, number of doses received, white blood cell count (WBC) and absolute neutrophil count (ANC) at initiation and discontinuation of therapy, number of previous chemotherapy regimens received, and reports of adverse events including bone pain, pulmonary toxicity, or splenic rupture. **Results:** There were no differences in duration of G-CSF therapy, WBC/ANC at the time of G-CSF discontinuation, or safety of filgrastim and filgrastim-sndz. Doses of G-CSF administered in the two groups were similar. **Conclusions:** Efficacy and safety of filgrastim and filgrastim-sndz were similar for prophylaxis of chemotherapy-induced myelosuppression and neutrophil recovery post autologous HSCT.

IMPLEMENTATION OF A MULTIDISCIPLINARY APPROACH TO IMPROVE HYPOGLYCEMIA PROTOCOL ADHERENCE

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Objectives: Institutional hypoglycemia protocol provides evidence based recommendations to care providers on the timely and accurate management of hypoglycemic episodes. The objective of this retrospective cohort study is to evaluate the benefits of a pharmacy driven educational intervention targeting nursing staff to improve hypoglycemia protocol adherence. The primary outcome of this retrospective study included percentage of hypoglycemia episodes being treated correctly according to site specific hypoglycemia protocol. Secondary outcome included time to first treatment and treatment response. **Methods:** Patients at least 18 years of age admitted to Southside Hospital between September 2016 to March 2017 with at least 1 hypoglycemic episode were included. Electronic medical record and site specific electronic clinical management dashboard system will be utilized to identify patients. The rate of accurate hypoglycemia protocol activation and subsequent administration of appropriate medications will be calculated and compared between pre-intervention and post-intervention period. For each hypoglycemic episode, reviewer will determine the appropriateness of hypoglycemia treatments. This study has been approved by Institutional Review Board as quality improvement study. **Results:** Data collected for 150 patients will be assessed for adherence to hypoglycemia protocol. **Conclusions:** It is anticipated that implementation of educational intervention will improve adherence to hypoglycemia protocol