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PROJECT ABSTRACTS

ASSESSING THE EFFECTS OF A PHARMACIST-LED EMERGENCY DEPARTMENT CULTURE REVIEW AND FOLLOW-UP SERVICE

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Background: Studies have shown that pharmacist-led emergency department culture review services can improve patient care. A paper based, non-EMR integrated, nursing-led ED culture follow-up system was previously carried out in the emergency department at a 171 bed community teaching hospital. An electronic, pharmacist-led emergency department culture follow up program was implemented as a quality improvement initiative and to make use of pharmacist expertise in antimicrobial stewardship.

Objective: The primary outcome of the study was the time between positive culture result and documentation of culture review.

Methods: This study was approved by the institutional review board. Retrospective chart review and prospective data collection were used to compare data from all cases involving positive cultures taken in the emergency department during the control period (10/18/16-1/18/17) and the intervention period (10/18/17-1/18/18) respectively. Outcomes were compared between cases where cultures were obtained before implementation of the new program and those where cultures were taken after implementation of the new program.

Results: 194 and 156 cases involving positive cultures were identified and included in the control and intervention analyses respectively. There was a statistically significant improvement in time to culture review in the post-implementation group (19.6 h vs. 35.5 h p = 0.0001)

Conclusions: The implementation of a pharmacist-led culture review and follow-up service led to statistically significant improvements in time to culture review.

IMPLEMENTATION OF AN EXTENDED-INFUSION PIPERACILLIN-TAZOBACTAM PROTOCOL IN THE MEDICAL INTENSIVE CARE UNIT

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Purpose: Implementation of an extended-infusion piperacillin-tazobactam protocol in the medical intensive care unit of a large academic medical center

Summary: At The Mount Sinai Hospital, there are currently no protocols guiding the administration of extended-infusion antibiotics. Beta-lactams exhibit time- dependent bactericidal activity and studies have shown that prolonging the duration of infusion of specific beta-lactam antibiotics in critically ill patients results in lower mortality and decreased ICU length of stay. Extensive planning and preparation went into the development of an extended-infusion piperacillin- tazobactam protocol that consisted of optimal dosing strategies with the consideration of critical factors such as location of pilot project implementation, transfer of patients throughout the institution, IV pump line dead space, Y-site compatibility and drug stability concerns, and education to interdisciplinary staff. Obstacles to implementation of the extended-infusion protocol included evolving drug and fluid shortages, Medical Board approval, various logistical and workflow barriers, and interface with the electronic medical record.

Conclusion: Successful implementation of an extended-infusion antibiotic protocol requires consideration of many various elements. Future directions include successful implementation, assessment of the clinical impact and safety of protocol implementation, and development of protocols for additional beta-lactam antibiotics.

IDENTIFICATION OF HEALTHCARE-ASSOCIATED PNEUMONIA RISK FACTORS AMONG PATIENTS WITH COMMUNITY-ACQUIRED PNEUMONIA

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Introduction/Background: The 2016 Infectious Disease Society of America/American Thoracic Society hospital-acquired pneumonia guidelines removed the diagnosis of healthcare-associated pneumonia (HCAP) due to overtreatment with broad spectrum antibiotics. However, determining which risk factors for multidrug-resistant organisms (MDROs) are still clinically relevant based on the HCAP definition remains unclear.

Objective: The objective of this study was to identify local risk factors for the development of MDROs in patients with community-acquired pneumonia (CAP).

Methods: This was an institutional review board approved, retrospective, cohort study of all consecutive patients admitted with CAP from October 2015 to 2017. Risk factors evaluated for MDROs included antibiotic therapy within the last 90 days, previous hospitalization for $\geq$ 2 days within 90 days, residence in a nursing home or extended-care facility (ECF), chronic dialysis within 30 days, immunocompromised status, and admission to the intensive care unit within 24 hours of initial presentation. The primary endpoint was the isolation of an MDRO from either blood or sputum within 48 hours of hospital admission.

Results: Among 88 patients included in the cohort, MDROs were isolated in 45 patients (51.1%). Statistically significant risk factors for MDROs included admission from a nursing home or ECF (odds ratio [OR], 10.2; 95% confidence interval [CI], 3.82 - 27.21; $P < 0.0001$), antibiotic therapy within 90 days (OR, 4.02; 95% CI, 1.5 - 10.6; $P = 0.005$), and previous hospitalization $\geq$ 2 days within the past 90 days (OR, 3.82; 95% CI, 1.56 - 9.36; $P = 0.004$).

Conclusion: Certain risk factors for MDROs previously included in the HCAP definition should still be considered when determining appropriate empiric antibiotics in patients with CAP.

EVALUATION OF ENOXAPARIN DOSING AND MONITORING IN PEDIATRIC PATIENTS AT A TERTIARY CARE CENTER

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Background: Thrombotic conditions are not as common in pediatric patients to warrant clinical trials; therefore, therapeutic anticoagulant doses are extrapolated from the adult population. Low molecular weight heparin, such as enoxaparin, is preferred in the pediatric population due to its advantages over conventional therapies such as heparin and warfarin. However, pediatric patients have a larger volume of distribution and more rapid clearance compared to adults, thus requiring twice daily dosing of enoxaparin compared to single daily dosing in adults. The American College of Chest Physicians (ACCP) Consensus Conference on Antithrombotic Therapy pediatric guidelines recommend an initial enoxaparin dose of 1.5 mg/kg every 12 hours in children less than 2 months of age and 1 mg/kg every 12 hours in children 2 months and older for the treatment of venous thromboembolism. It is recommended to obtain anti-factor Xa peak levels 4 to 6 hours after administration of enoxaparin, with a goal target of 0.5 to 1 unit/mL.

Objective: To assess if the nomogram provided in the Sixth ACCP Consensus Conference on Antithrombotic Therapy guideline is being utilized when dosing and titrating enoxaparin in the pediatric population.

Methods: This was a single-center, retrospective, chart review of pediatric patients receiving enoxaparin for the treatment of venous thromboembolism.

Results: Pending

Conclusions: Pending

IMPACT OF A PHARMACIST IN A CARDIOMETABOLIC MONITORING PROGRAM IN AN OUTPATIENT PSYCHIATRIC CLINIC

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Background: Antipsychotic medications have been associated with higher risk of metabolic syndrome and cardiovascular disease. Some antipsychotics can lead to weight gain and increases of about 2 kg per month. Recent studies have shown a benefit in safe use of antidepressants and antipsychotics and cost saving when introducing a clinical pharmacist into the ambulatory psychiatry team. The rationale for this project is to define the role and the benefit of an outpatient psychiatric clinical pharmacist.

Objective: To assess the types of interventions made by a psychiatric clinical pharmacist in a cardiometabolic monitoring program within the adult outpatient psychiatric department.

Methods: This is a retrospective chart review conducted at BronxCare Health System. This review will analyze patients screened by the psychiatric clinical pharmacist to measure the types and frequency of interventions made by the clinical pharmacist.

Results: The study period was from August 1, 2017 through February 1, 2018. During this period, 979 patients on antipsychotics were screened. The pharmacist requested cardiometabolic monitoring for 945 patients, performed medication reconciliation for 51 patients, and intervened on 47 adverse events, and addressed 162 cases of noncompliance.

Conclusion: The clinical pharmacist made a significant number of interventions and provided increased awareness on the importance of cardiometabolic monitoring and the benefit of adding a clinical pharmacist to the outpatient psychiatric department.

IDENTIFYING THE GAPS IN THE GUIDELINES: HOW MANY PATIENTS ON APPROPRIATE INTENSITY STATIN THERAPY MAY QUALIFY FOR ADDITIONAL LIPID LOWERING THERAPY?

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Background: Various organizations have issued recommendations for the management of dyslipidemia. The purpose of this study is to provide practical insight for utilizing additional non-statin lipid lowering therapy for atherosclerotic cardiovascular disease (ASCVD) event prevention in patients who did not meet lipid goals as per NLA 2014 or AACE 2017 guidelines despite being prescribed an appropriate intensity statin as per ACC/AHA 2013 Blood Cholesterol Guidelines.

Objective: The primary outcome is to determine a difference in ASCVD events between patients on appropriate statin intensity as per ACC/AHA 2013 guidelines who did and did not meet their lipid goals as set forth by NLA 2014 or AACE 2017 guidelines. Secondary outcomes include the difference in rate of ASCVD events for patients on appropriate statin therapy per each individual guideline, the overall rate of ASCVD events in patients who did not achieve lipid goals, and the cost-effectiveness of adding ezetimibe to appropriate statin therapy to prevent ASCVD.

Methods: This is a retrospective, cross-sectional study that included patients seen in the Family Medicine Clinic at The Brooklyn Hospital Center on appropriate intensity statin therapy in November 2014. Included patients will be reviewed for the occurrence of any ASCVD event from the cross-sectional date through the present time. Patients' lipid goals will be identified as per the NLA and AACE guidelines. Chi-squared test and kappa test of agreement will be utilized for statistical analysis of outcomes. A cost-benefit analysis will be conducted based on available date for ezetimibe.

Results/Conclusion: TBD

COMPARISON OF ANTIBIOTIC PRESCRIBING PATTERNS FOR COMMUNITY-ACQUIRED PNEUMONIA IN A TERTIARY MEDICAL CENTER

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Background: The community-acquired pneumonia (CAP) guidelines provide recommendations for optimal antimicrobial selection and duration. The overuse of antibiotics is a growing concern in the United States. Use of an inappropriate duration can lead to untoward outcomes, such as antibiotic resistance, antibiotic-related adverse effects, longer hospital stays, and increased treatment-related costs.

Objective: The purpose of this study was to compare durations of intravenous and total antibiotic therapy between patients on fluoroquinolone- and cephalosporin-based regimens for uncomplicated CAP.

Methods: This was a retrospective chart review evaluating patients admitted from
October 1, 2016 to September 30, 2017 with uncomplicated CAP who were treated in a medical ward. Uncomplicated CAP was defined as illness that did not require treatment in an intensive care unit or mechanical ventilation and the absence of a concurrent infection. International Classification of Diseases, Tenth Revision (ICD-10) codes with a primary discharge diagnosis of pneumonia were used to identify patients. Cases of CAP were confirmed by chart review for documentation of signs and symptoms of pneumonia, including radiographic evidence, which were present less than 48 hours after arrival to Buffalo General Medical Center (BGMC). Data collection included patient demographic information and antimicrobial therapy received. The primary outcome was the mean duration of total antibiotic therapy in patients with uncomplicated CAP who initially received a cephalosporin-based regimen compared to a fluoroquinolone-based regimen. This study was approved by the University at Buffalo Institutional Review Board and the Pharmacy and Therapeutics Committee at BGMC.

Results: In Progress

Conclusion: In Progress

CLONIDINE USE AND THE INCIDENCE OF WITHDRAWAL IN PEDIATRIC PATIENTS WHO RECEIVED PROLONGED DEXMEDETOMINE INFUSIONS

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Introduction: Dexmedetomidine is a centrally acting alpha-2 agonist that exhibits sedative, anxiolytic, and analgesic properties. Due to its favorable adverse effect profile, there is increasing use of dexmedetomidine in the pediatric intensive care unit (PICU) for sedation at doses and duration well beyond its approved indication. Current literature suggests that prolonged continuous infusion of dexmedetomidine may lead to withdrawal symptoms, including tachycardia, hypertension, agitation, and confusion. Oral clonidine tapers have been used to gradually discontinue the alpha-2 stimulation while allowing for treatment outside of the PICU or as an outpatient. There are conflicting data regarding the use of prophylactic clonidine and its ability to prevent withdrawal symptoms in patients who receive prolonged dexmedetomidine infusions.

Objective: The primary objective of this study was to characterize prophylactic clonidine use and compare the incidence of post-dexmedetomidine withdrawal between those patients who did and did not receive prophylactic clonidine.

Methods: A retrospective review of electronic medical records was completed at Upstate Golisano Children's Hospital in Syracuse, NY. A convenience sample was assembled via a report of pediatric patients who received dexmedetomidine between April 2014 and December 2017. Patients less than 18 years old who received dexmedetomidine for PICU sedation were included. Patients were excluded if they received dexmedetomidine for ≤ 48 hours, expired prior to discontinuation, or transferred facilities prior to discontinuation of dexmedetomidine. Dexmedetomidine withdrawal was defined as two consecutive episodes of hypertension or tachycardia, or agitation.

Results: pending

Conclusion: pending

IMPACT OF A CERTIFIED ASTHMA EDUCATOR PHARMACIST ON THE PERSISTENT ASTHMA MEDICATION MANAGEMENT MEASURE IN AN INNER-CITY PULMONARY CLINIC

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Background: The 2017 healthcare effectiveness data and information set (HEDIS) assesses adherence through the medication management for people with asthma (MMA) measure. BronxCare Health System (BCHS) pulmonary clinic provides asthma education services by an asthma educator certified (AE-C) pharmacist. A new "Action List" feature was recently incorporated into AllScripts to track the progress of patients' MMA measures over one year. This study was conducted to determine the impact of telephone follow-up by an AE-C pharmacist, determined by the Action List, on the MMA measure.

Objective: The primary outcome was the number of patients with a MMA >75%. Patients were excluded if they were <18 years of age and did not follow with a BCHS primary care physician or pulmonologist.

Methods: This was an Institutional Review Board approved retrospective, single-center, pre-post cohort study to assess the impact on the 2017 MMA measure. Patients were compared to a 2016 historical cohort who did not receive pharmacy intervention.

Results: There were 100 patients included in the pharmacy group and 55 patients included in the control group. There was not a statistically significant increase in the MMA >75% measure in the pharmacy group (46.0% vs. 34.6%, p=0.1667).

Conclusions: The AE-C pharmacist increased the number of patients with a MMA >75%, however it was not statistically significant.

IMPACT OF INFECTIOUS DISEASES CONSULTATIONS AND OUTPATIENT FOLLOW-UP ON CLINICAL OUTCOMES OF PATIENTS WITH VASCULAR LOWER EXTREMITY INFECTIONS

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Introduction/Background: Prior studies demonstrated that Infectious Diseases (ID) consultations improve patient outcomes, specifically in patients with *Staphylococcus aureus* bacteremia. However, outcome data is lacking for hospitalized patients with vascular lower extremity infections with ID consults.

Objective(s): This study was done to assess the impact of ID consultation upon length of stay, hospital readmission and outpatient follow-up in those patients with vascular lower extremity infections.

Methods: A single-center retrospective, observational analysis was performed at Mount Sinai St. Luke's/West Hospitals following institutional review board approval. Hospital and ICU length of stay were the primary outcomes evaluated. Secondary outcomes included readmission rates in relationship to outpatient clinic follow-up with surgery and/or ID.

Results: From the 141 patients hospitalized between June 1, 2015 to June 30, 2016, ID was consulted for 102 (72%), leaving 38 (28%) without consult. Median hospital length of stay (interquartile range) for those with ID consult was 8.5(6,14) days and 9(6,12) days for those without (p = 0.572). Median ICU length of stay was 3(2,6) and 3(1,6), respectively. Readmission rates between those with ID consults and those without are as follows: 53 (51.9%) and 14 (36.8%) (p = 0.132). The number of days until readmission did not differ significantly between groups who followed up at either outpatient surgery and/or ID clinic.

Conclusion: The presence of an ID consultant for patients hospitalized with vascular lower extremity infections did not significantly reduce the hospital or ICU length of stay. In addition, patient follow-up at surgery and/or ID clinic did not have a significant impact on readmission rates.

IMPACT OF A PHARMACY-DRIVEN TRANSITION-OF-CARE PROGRAM IN AN INPATIENT BEHAVIORAL HEALTH UNIT

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Background: In a small, urban medical center with a psychiatric emergency department and inpatient behavioral health services, a recent quality improvement initiative involves improving the discharge process by increasing the involvement of pharmacists to lessen readmissions and improve medication adherence in behavioral health patients.

Objective: The primary outcome was 30 and 90-day readmission rates of the behavioral health patients impacted by the transition-of-care (TOC) program.

Methods: This was a prospective, quality improvement study to evaluate behavioral health patients that were discharged through the transition-of-care program and compare 30 and 90-day readmission rates to those behavioral health patients that were admitted during the study period that did not go through the program. Cases were matched 1:1 to controls based on age, gender, time of month discharge occurred, and number of medications at discharge. The study was approved by the Institutional Review Board.

Results: There was a non-statistically significant reduction in 30-day readmission rates where 6 out of 9 matched pairs (67%) showed more readmission for the control group and 3 out of 9 matched pairs (33%) showed more readmission for the TOC group (p=0.5050). There was a non-statistically significant reduction in 90-day readmission rates where 8 out of 12 matched pairs (67%) showed more readmission for the control group and 4 out of 12 matched pairs (33%) showed more readmission for the TOC group (p=0.3865).

Conclusions: The implementation of a pharmacy TOC service was associated with a non-statistically significant reduction in 30 and 90-day readmission rates of behavioral health patients.

ASSESSING THE EFFECT OF PHARMACIST-DRIVEN MEDICATION RECONCILATION SERVICES ON MEDICATION ERRORS AT HOSPITAL DISCHARGE

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Introduction/Background: Accurate medication reconciliation in hospitalized patients has been correlated with improved patient outcomes and reduced hospital readmissions. These errors may affect both inpatient medication prescribing and prescribing upon discharge from the hospital. Although numerous healthcare professionals may support medication reconciliation services, pharmacy team members are ideal candidates given their medication expertise and experience.

Objective: To evaluate the effect of medication reconciliation completed by pharmacists on errors relating to discharge medications.

Methods: A retrospective, cohort study was conducted at Upstate University Hospital, a tertiary care academic medical center. All data were collected from the electronic medical records of adult patients admitted from October 2017 to February 2018. The study population was divided into 3 groups: Group 1 included patients without pharmacist-driven medication reconciliation completed at neither admission nor discharge, Group 2 patients received pharmacist-driven medication reconciliation at admission only, and Group 3 patients received pharmacist-driven medication reconciliation at both admission and discharge. Data collection included age, gender, admission service, reason for admission, length of stay, number of gold standard medications, and the number, types, and severity of medication errors on discharge. The severity of medication errors was categorized as minor, moderate, or severe. A standardized medication reconciliation sheet was used to collect and analyze data.

Results: Pending.

Conclusion: Pending.

EVALUATING PHARMACIST-LED INTERVENTIONS IN THE MANAGEMENT OF URINARY TRACT INFECTIONS

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EVALUATION OF SUGAMMADEX FOR NEUROMUSCULAR BLOCKADE REVERSAL IN THE OPERATING ROOMS OF A LARGE URBAN ACADEMIC HEALTH SYSTEM

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Background: Sugammadex is FDA-approved for reversal of rocuronium- and vecuronium-induced neuromuscular blockade (NMB). In November 2016, our Pharmacy and Therapeutics Committee approved sugammadex with specific guidelines for use. This evaluation was implemented to assess the appropriateness of sugammadex utilization within the operating rooms of a large urban academic health system.

Objective: The primary endpoint was appropriateness of sugammadex use. Secondary endpoints include rocuronium dosing and anesthesia time.

Methods: This medication use evaluation was a retrospective chart review of adults 18 years or older who received sugammadex for NMB reversal between November 2016 and May 2017. Criteria for appropriate use include: (1) ordered by the Department of Anesthesia, and (2) use as rescue therapy in life-threatening situations, (3) for prematurely terminated operations, (4) residual block that could lead to intubation, or (5) request for wake-up test. Data were also collected on demographics, body mass index, body surface area, American Society of Anesthesiologists physical status classification (ASA status), train of four (TOF) measurements, and procedure type.

Results: Eighty patients received sugammadex. Utilization was appropriate in only 35% (n=28) of these cases. Mean initial rocuronium dosing was 0.52 mg/kg while mean dosing one hour prior to reversal was 0.25 mg/kg. Median anesthesia time was 125.5 minutes with a range of 61 to 519 minutes.

Conclusions: Majority of sugammadex use was inappropriate. Proposed solutions include alteration of electronic documentation workflow and education to Anesthesiology staff. Further investigation on the impact of sugammadex on post-operative recovery time compared with neostigmine is warranted.

IMPACT OF A MULTIDISCIPLINARY CARE BUNDLE FOR PATIENTS PRESENTING TO THE EMERGENCY DEPARTMENT WITH ASTHMA OR CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Objective: The purpose of this study is to evaluate the impact of multidisciplinary care bundles in reducing future emergency department (ED) visits and hospital admissions for patients presenting with asthma and/or chronic obstructive pulmonary disease (COPD) exacerbations.

Methods: This was a retrospective, single-center study among patients presenting to the ED between September 18, 2017 and February 28, 2018. Patients with a primary diagnosis of asthma or COPD exacerbation and a home discharge disposition were analyzed. The primary endpoint was 30-day rate of recurrent ED visits and secondary endpoints included number of pharmacist interventions, rate of hospitalizations within 30 days, and percent of patients with discharge referrals.

Results: Data analysis is ongoing but preliminary results included 188 patients meeting inclusion criteria with 9 of these patients receiving pharmacist intervention as part the care bundle. Follow-up appointments were scheduled with 2 patients (22.2%) in the care bundle group and 7 patients (3.9%) in the standard care group. The percent of patients with recurrent ED visits within 30 days was 44.4% and 18.4% for the care bundle and standard care groups, respectively. Of 37 total patients with recurrent ED visits, there were 7 patients requiring hospitalization. No patients requiring hospitalization within 30 days received the care bundle at time of initial ED visit.

Conclusions: The implementation of a new quality improvement process provided many challenges and this process continues to evolve past the conclusion of this study. Further study of this multidisciplinary care bundle is needed to generate adequate samples and to produce meaningful data.

IMPACT OF TRANSITIONS OF CARE ANTIMICROBIAL PHARMACY SERVICES IN AN URBAN MEDICAL CENTER

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Introduction/Background: Antimicrobial stewardship programs (ASP) are interdisciplinary initiatives designed to combat the development and spread of multidrug-resistant organisms by promoting the appropriate use of antibiotics. Estimates of inappropriate antibiotic prescribing are as high as 30 to 50%. As of January 1, 2017, The Joint Commission enacted new Antimicrobial Stewardship standards requiring all hospitals to establish an ASP. In an effort to comply with the patient education elements of the ASP standards set forth by The Joint Commission, the Department of Pharmacy has implemented a transitions of care pilot program.

Objectives: The purpose of this study was to evaluate the impact of a pharmacist-driven antimicrobial stewardship service in the hospital discharge process in terms of 30-day hospital readmission rates and adherence to antibiotic therapy. The primary efficacy objective of this study was 30-day hospital readmission rates for patients discharged on oral antibiotic therapy for treatment of confirmed pneumonia or urinary tract infection.

Methods: This study was approved by the institutional review board. A retrospective control group was utilized as a comparator to the prospective cohort. A chart review of patients meeting study criteria was conducted and used to compare 30-day readmission rates prior to and following pharmacist intervention.

Results: Pending

Conclusions: Pending

IMPLEMENTATION OF A TRANSITION OF CARE PROTOCOL IN PATIENTS WITH INFECTIOUS DISEASES AT A COMMUNITY HOSPITAL

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Background: Improving the process of transition of care (TOC) has shown to reduce hospital readmission and improve patient health outcomes. There is limited data on implementation of a TOC program for the infectious disease population. This study was conducted to identify opportunities to improve TOC in patients with infectious diseases in an effort to decrease readmission and prevent medication errors.

Objective: To evaluate the impact of a pharmacist driven TOC protocol on hospital readmission due to infectious diseases and to increase patients' understanding of their medication regimens and disease states.

Methods: All infectious disease patients who were discharged on one or more oral antibiotics were included. Patients were excluded if antibiotic treatment was discontinued in the hospital or if they were unable to consent. Patient admitted from August 2017 to November 2017 served as the control group. Patients who were discharged between February and April 2018 on oral antibiotics were given discharge counseling, and a 72 hours post-discharge phone call. The primary outcome was 30 day all-cause readmission rate. The secondary endpoints measured were patients' knowledge and number of medication errors.

Results: The rate of 30-day readmission due to infectious diseases in the control group was 15% (n=150). A total of 27 patients were included in the interventional group; results pending.

Conclusions: Implementation of a pharmacist-led TOC program was associated with a decrease in readmission an increase in patients' understanding of medication regimens and disease states.

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TWICE VERSES THRICE DAILY UNFRACTIONATED HEPARIN FOR VENOUS THROMBOEMBOLISM PROPHYLAXIS IN CRITICALLY ILL PATIENTS

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Background: Venous thromboembolism (VTE) is a common complication associated with increased morbidity and mortality in critically ill patients. Unique risk factors, such as prolonged immobilization, mechanical ventilation, renal insufficiency, and invasive tests and procedures predispose this population to higher rates of VTE. Either twice daily dosing (BID) or thrice daily dosing (TID) of unfractionated heparin is commonly used for VTE prophylaxis, however, head to head trials comparing the different dosing strategies are lacking. A meta-analysis conducted in non-critically ill patients found no difference between the alternative dosing on rates of VTE, bleeding, or mortality, but it is unclear if this study could extrapolated to critically ill. The purpose of this study is to compare twice to thrice daily heparin dosing for VTE prophylaxis in critically ill patients.

Objective: The primary efficacy outcome will be symptomatic deep vein thrombosis or pulmonary embolism identified by imaging such as computed tomography or ultrasonography. Secondary safety endpoints include major and minor bleeding.

Methods: Patients receiving unfractionated heparin (BID or TID) for VTE prophylaxis will be identified if they were admitted to the medical ICU (MICU) from 2015 until 2017 at The Mount Sinai Hospital (MSH) or at Mount Sinai Beth Israel (MSBI). Adult patients (≥ 18 years of age) with an expected MICU stay of 72 hours or more will be included. Patients will be excluded if they receive alternative prophylaxis besides subcutaneous heparin, have a VTE diagnosis on admission, or are pregnant.

Results: Pending

Conclusion: Pending

EVALUATION OF A LONG-ACTING OPIOID RESTRICTION POLICY AND ITS EFFECTS ON OPIOID PRESCRIBING

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Introduction/Background: Opioids are powerful pain-reducing agents but are associated with serious risks. In 2015 alone, over 33,000 people died of opioid overdose. Of these deaths, 50% were caused by opioids that were prescribed to the patient. Long-acting opioids are generally not indicated for the treatment of acute pain due to the rapidly changing analgesic requirements in this setting. There was a detrimental patient case at our institution that occurred in early 2014 involving a long-acting opioid for acute pain. After a resulting root cause analysis, a restriction policy was implemented in July 2014. This restriction policy requires acute pain service approval in patients who are opioid-naïve.

Objective(s): The primary objective of this study is to characterize the use of long-acting opioids before and after policy implementation. The secondary objective of this study is to evaluate the effect of a long-acting opioid restriction policy on the rate of opioid-induced inpatient naloxone reversal.

Methods: This study will utilize a retrospective report of patients from March 1, 2013-December 11, 2017 that received naloxone while at Upstate University Hospital. Patient eligibility will include hospitalized adult patients at Upstate University Hospital that were administered naloxone for opioid reversal. Data collection will include patient demographics, primary reason for admission, hospital census data, opioid exposure before and during admission, concomitant targeted central nervous system depressing medications (i.e., benzodiazepines), characterization of naloxone reversal events, and documentation related to acute pain service approval and policy adherence.

Results: This project is currently ongoing.

Conclusions: This project is currently ongoing.

APPLYING DELTA-INR TO WARFARIN DOSING

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Background: Management of warfarin therapy is challenging as it involves variable dosing and continuous monitoring. An INR $\geq$ 4 has been associated with an increased risk of complications, such as intracranial hemorrhage. Northwell Health developed a dashboard which allows pharmacists to track delta-INR, calculated as the difference between 2 consecutive INRs, for patients on warfarin.

Objective: Our primary objective is to evaluate the utility of applying delta-INR to warfarin dosing in order to prevent supra-therapeutic INRs and associated adverse events.

Methods: A retrospective chart review of patients who received warfarin was conducted at Huntington Hospital. Based on a total of 671 patients, a delta-INR of 0.55 or greater was associated with increased risk of developing an INR $\geq$ 4. The investigator will screen and intervene on all patients with a delta-INR $\geq$ 0.55.

Results: Between October and March 2017, there were 91 delta-INRs $\geq$ 0.55, which required 50 interventions. All recommendations which were accepted or where a compromise was reached resulted in no INR $\geq$ 4. Of the 14 interventions which were not accepted, 11 resulted in an INR $\geq$ 4.

Conclusion: Patients with a delta-INR of 0.55 or greater are more likely to develop an INR $\geq$ 4 during their hospital stay and it appears that pharmacy monitoring of warfarin using delta INR reduced the rate of INR$\geq$4.

IMPACT OF A HIGH RISK MEDICATON DEPRESCRIBING PROCEDURE IN GERIATRIC PATIENTS IN A HOSPITAL BASED TRANSITIONAL CARE UNIT

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Background: The geriatric population is at high-risk for poor drug-related outcomes due to age-related physiological changes, multiple comorbidities, polypharmacy, and polyprescribing. Although the importance of prescribing practices in older adults is well known, the ideal practice setting in which evaluating and adjusting a medication regimen can be done safely and effectively is not well described.

Objective: Assess the impact of a pharmacist deprescribing procedure on reduction of target medications in a hospital based transitional care unit.

Methods: A retrospective, single center chart review was conducted in a hospital based transitional care unit. Patients 65 years and older admitted to the transitional care unit between 06/01/2017 – 12/15/2017 on one or more of the following high risk target medication/medication classes at admission were included: benzodiazepines, skeletal muscle relaxants, proton pump inhibitors, antihistamines, and hypnotic sleep aids. Reduction of target medications was assessed using descriptive statistics.

Results: Pending

Conclusion: Pending

SUSTAINED VIRAL RESPONSE RATES FOLLOWING POLICY CRITERIA CHANGE FOR THE TREATMENT OF CHRONIC HEPATITIS C

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Background: A policy change in March 2016 prompted new requirements for hepatitis C virus (HCV) coverage by a regional health plan in upstate New York. The previous policy prioritized patients based on severity of disease and treatment readiness as supported by clinical guidelines. The new policy eliminated the prioritization based on disease status and no longer required documentation of treatment readiness. This analysis was conducted to evaluate the clinical and public health impact of changing eligibility treatment criteria for chronic HCV.

Objective: The primary outcome was to compare sustained viral response rates (SVR) twelve weeks post- treatment of members with approved hepatitis C treatment under two different policy criteria. Secondary outcomes included medication adherence, abstinence of drug and/or alcohol use, HCV genotype, HCV RNA levels, duration of therapy and disease severity.

Methods: This was a retrospective analysis of members treated for hepatitis C during two time periods, the twelve months prior and following the policy change. Data was obtained from pharmacy claims, an internally maintained hepatitis C database, and the health information exchange of New York (Hixny). Exclusion criteria included ineligibility of coverage, incomplete treatment and/or missing SVR12 results.

Results: There were 86 members included in the previous policy and 174 members included in the new policy. Of those, 61 and 95 members had a documented SVR12, respectively. There was a statistically significant reduction of SVR12 between the two policies (70.9% vs. 54.6%, p=0.0306).

Conclusions: The implementation of the new policy criteria was associated with less achievable sustained viral response rates.

EFFICACY OF THE SINGLE ITEM LITERACY SCREENER QUESTIONNAIRE IN OPTIMIZING THE ROLE OF A CLINICAL PHARMACIST IN THE AMBULATORY CARE SETTING

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Background: Inadequate health literacy has been associated with a reduced ability to follow medical recommendations and take prescription medications correctly. Care provided by pharmacists has previously demonstrated improved clinical outcomes and medication adherence particularly among patients with inadequate health literacy.

Objective: The primary objective was to evaluate the efficacy of the Single Item Literacy Screener (SILS) questionnaire in identifying patients that would benefit most from a pharmacist consult.

Methods: This was a pre-post interventional, quality improvement, pilot study conducted at an outpatient ambulatory care clinic affiliated with a large community teaching hospital. Patients presenting to the clinic were asked to complete the SILS questionnaire. Those providing a score of 3 or greater were identified as having inadequate health literacy, and were included in the study. Included patients received pharmaceutical interventions that included: the collection and review of medication histories; recommendations to initiate, modify, or discontinue medications; and medication and disease state related counseling. The primary outcome measure was assessed by the ratio of pharmacist interventions provided per patient. This ratio was compared to a pre-intervention control group.

Results: Utilization of the SILS questionnaire resulted in fewer pharmacy-patient consults compared to the control group (12 vs. 48), however the ratio of pharmacist interventions per patient was greater in the study group compared to the control group (1.83 vs. 1.04).

Conclusions: The results of this study support the use of the SILS Questionnaire as a means of identifying patients that may benefit most from a pharmacist consult, and warrant further research.

EFFECT OF EARLY ELECTRONIC NOTIFICATION OF AN EMERGENCY DEPARTMENT PHARMACIST ON SEPSIS BUNDLE COMPLIANCE

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Background: Adherence to the Surviving Sepsis Campaign recommendations is critical in the management of septic patients and is correlated with decreased mortality rates. Despite this, there are difficulties in incorporating the guidelines into clinical practice.

Objective: The purpose of this study is to evaluate the effect of early electronic notification of an emergency department pharmacist on sepsis protocol compliance in patients presenting with a diagnosis of severe sepsis or septic shock. Pharmacist focus included timely administration of appropriate antibiotics, sufficient fluid resuscitation, and sepsis protocol compliance.

Methods: This study was approved by the Catholic Health System Institutional Review Board.
Retrospective data from a two-month time frame (January 2017 to February 2017) have been obtained (prior to pharmacist intervention). The 2-month intervention phase (December 2017 to January 2018) involved an electronic alert to a pharmacist when the sepsis protocol order set was initiated in the emergency department.

Results: There were 56 patients included in the control group. Recommendations were made for 46 patients during the intervention phase with more than half of recommendations being related to antibiotics (81% acceptance rate) and others related to fluid resuscitation, ordering of labs, and medication histories.

Conclusion: Preliminary results show early electronic notification of an emergency department pharmacist allows for successful intervention in severe sepsis or septic shock patients.

EVALUATING THE RISK OF NEPHROTOXICITY WITH HIGH DOSE VANCOMYCIN

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Background: Total daily doses of at least 4 grams of vancomycin have been reported to have nephrotoxicity rates ranging from 6% to 35%. Clinicians may be hesitant to dose vancomycin at higher doses because of concerns of nephrotoxicity as a result of these findings. Limited studies evaluate nephrotoxicity of high individual vancomycin doses. Therefore, there is no current consensus on a dosage cap for vancomycin. The objective of this study is to determine the rates of nephrotoxicity in patients receiving higher individual doses (>1.5 grams) compared to those receiving lower doses.

Objective: The primary outcome is incidence of acute kidney injury (AKI) after vancomycin initiation defined as an increase in serum creatinine ≥0.3 mg/dL within 48 hours or an increase in serum creatinine to ≥1.5 times the baseline. Secondary outcomes are length of stay and all-cause mortality during hospitalization.

Methods: This study was approved by the hospital's institutional review board. This was a retrospective, single-center, chart review comparing the incidence of acute kidney injury in patients receiving high (>1.5 grams) individual doses of vancomycin versus low (≤1.5 grams) doses in hospitalized patients. Patients who had received greater than 24 hours of vancomycin were included.

Results: There were 50 patients in the low dose group and 50 patients in the high dose group. There was not a statistically significant difference in rate of AKI between the low and high dose groups ($p = 0.2906$).

Conclusions: There was no association between on high or lose dose of vancomycin and risk of AKI.

OUTCOMES OF WEIGHT-BASED DOSING OF NOREPINEPHRINE IN OBESE PATIENTS WITH SHOCK

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Background: A lack of standardization currently exists in norepinephrine dosing, the first-line pressor for septic shock. Timely achievement of goal mean arterial pressure (MAP) is integral to treatment. Mercy Hospital of Buffalo currently uses a weight based dosing strategy for patients on norepinephrine (NE) therapy. This study was conducted to determine the effectiveness of weight based dosing versus standard dosing of norepinephrine in obese patients with shock.

Objective: The primary outcome was difference in time to goal MAP in obese patients versus non-obese patients on NE. Secondary outcomes included differences in cumulative NE dose, total administration time, and length of stay in the ICU.

Methods: This was a retrospective, single-center study to assess the efficacy of the current weight based dosing regimen for NE in patients with shock in the ICU at Mercy Hospital of Buffalo. Patients included were inpatients from February 1, 2017- June 30, 2017. Patients were excluded if they received NE in the open-heart unit (OHU) at Mercy Hospital of Buffalo or if NE was ordered but not given to the patient.

Results: A total of 50 patients were included in the study: 16 obese patients (BMI ≥ 30) and 34 non-obese patients BMI <30). There was not a statistically significant difference in time to goal MAP in patients that are considered obese (p=0.4086). There were no statistically significant differences between obese and non-obese patients in terms of cumulative NE dose (in mcg/kg) (p = 0.1631), total time receiving NE (p = 0.2725), or length of stay in the ICU (p = 0.2895).

Conclusions: More evidence is needed to evaluate the effectiveness of weight based dosing versus standard dosing of norepinephrine in obese patients with shock. This study was limited due to study size.

PHARMACIST DRIVEN MEDICATION RECONCILIATION PROGRAM DIRECTED AT PATIENTS WITH A PRIMARY DIAGNOSIS OF ACUTE HEART FAILURE EXACERBATION.

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Introduction/Background: Heart failure (HF) is a complex clinical syndrome which can place a large disease burden on patients and practitioners through complicated medication regimens.[1] Studies have shown that pharmacists can reduce medication discrepancies through medication reconciliation are limited.[2,3]

Objective: Does a pharmacist driven admission medication reconciliation program reduce readmission rates in patients with acute heart failure exacerbations?

Methods: This study is a non-interventional retrospective chart review evaluating the impact of adding pharmacist led admission medication reconciliation to an existing pharmacist interventional bundle. All patients who have been admitted for acute HF exacerbation either receiving reconciliation by a pharmacist with the pharmacy interventional bundle or only the pharmacy interventional bundle for four month periods in subsequent years. The primary endpoint is 30-day readmission rate and secondary endpoints are the identified interventions and medication errors. All research was approved by the hospitals system's institutional review board.

Results: Preliminary data analysis of 77 patients showed an 11.54% 30-day readmission rate in the pharmacist medication reconciliation group and 15.69% readmission rate in the pharmacy HF bundle only group (p = 0.69). In the study arm, 76 pharmacist interventions were documented with 67.1% of the interventions being accepted. The most frequent type of interventions were organ impairment dos adjustment (23.68%), therapeutic recommendation (18.42%), and dose adjustment (17.11%).

Conclusions: Readmissions in our interventional group were decreased; however, due to the sample size statistical significance could not be detected. Reasons for readmission are likely multifactorial, and rates may be confounded by variables outside of errors in medication reconciliation.

EVALUATION OF THE SAFETY AND EFFECTIVENESS OF A NEW VITAMIN D SUPPLEMENTATION PROTOCOL IN A CYSTIC FIBROSIS POPULATION

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Introduction/Background: Achieving and maintaining 25-hydroxyvitamin D [25(OH)D] levels between 30-60 ng/mL is recommended by the Cystic Fibrosis (CF) Foundation for all CF patients. Due to the difficulty of achieving and maintaining goal 25(OH)D levels in CF patients despite utilizing the recommended supplementation, the use of single high-dose vitamin D (STOSS) therapy has emerged as a possible alternative regimen.

Objectives: The purpose of this study was to evaluate the efficacy and safety of a high-dose vitamin D supplementation protocol to achieve 25(OH)D levels within 30-60 ng/mL, compliance to the high-dose protocol, and patient satisfaction with new vitamin D dosing strategy.

Methods: A retrospective, non-interventional chart review of all patients treated with the high-dose vitamin D protocol at Upstate University Hospital from October 2017 through February 2018 was conducted. Patients < 1 year of age and those without 25(OH)D levels obtained after the vitamin D load were excluded.

Results: Of the 90 patients that received the high-dose vitamin D therapy, 41 patients were included. Baseline 25(OH)D levels were within goal range in 21.9% (9/41) of the reviewed patients and changed to 19.5% (8/41) after the implementation of the high-dose vitamin D protocol. No adverse effects were noted with this therapy. Compliance to the protocol was 90.2% (37/41) and 51.2% (24/38) patients reported being satisfied or very satisfied with their vitamin D supplementation prior to the initiation of the protocol.

Conclusion: A single high-dose vitamin D may be effective at maintaining vitamin D levels with in goal range, but further study is required.

EVALUATION OF PATIENT PRIORITIZATION SCORING METHODS IN AN ADULT MEDICINE RESIDENCY CLINIC

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Background: Patients with higher clinical pharmacy priority (CP2) scores have been demonstrated to be more likely to receive a medication recommendation from a clinical pharmacist to resolve an identified medication related problem in a family medicine clinic. This score can improve efficiency and enhance delivery of effective care when utilized by pharmacists in an ambulatory care setting.

Objective: To validate the CP2 score, and compare it to a modified version, in an adult medicine clinic.

Methods: A cohort of randomly selected patients scheduled for visits in an adult medicine clinic had a comprehensive medication review (CMR) performed. All patients had both versions of the CP2 scores calculated retrospectively using information in the patient's chart prior to the clinic visit. The original and modified CP2 scores were compared using logistic regression to determine if either score was better associated with the need for recommendations from a clinical pharmacist.

Results: pending

Conclusions: pending

RISKS OF INTRACRANIAL HEMORRHAGE: A RETROSPECTIVE ANALYSIS OF ALTEPLASE USE FOR TREATMENT OF ACUTE ISCHEMIC STROKE IN PATIENTS 80 YEARS AND OLDER

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Objectives: Alteplase (r-tPA) is our only pharmacologic treatment option for acute ischemic stroke, but use in patients greater than 80 years is understudied and data is limited regarding which specific risk factors lead to increased risk of intracranial hemorrhage (ICH) in this patient population. Our objective is to determine which risk factors are associated with increased risk of ICH in patients ≥ 80 years of age within 7 days of r-tPA administration for acute ischemic stroke or at time of discharge, whichever is sooner.

Methods: We will identify patients 80 years or older at Long Island Jewish Medical Center (LIJMC) and North Shore University Hospital (NSUH) who received r-tPA for acute ischemic stroke from March 2015 through October 2017. Patients who experience ICH within 7 days of r-tPA administration will be considered cases, and those who did not experience ICH will be considered controls. All cases and controls identified that fit the inclusion criteria will be evaluated, and no matching will be done among cases and controls so that associations between risk factors and ICH may be detected. Potential risk factors being investigated include time from symptom onset to r-tPA administration, pharmacotherapy with antiplatelet agents, dual antiplatelet pharmacotherapy, anticoagulant pharmacotherapy, gender, National Institutes of Health Stroke Scale score, stroke location, infarct volume, blood pressure prior to and during r- tPA infusion, history of invasive medical procedure within 7 days preceding r-tPA administration, history of diabetes mellitus, and history of a transient ischemic attack or stroke.

Results: Pending

Conclusions: Pending

EVALUATION OF A MEDICATION EDUCATION TOOL IMPLEMENTED ACROSS GENERAL MEDICINE, SURGERY, AND CARDIOLOGY FLOORS

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Introduction/Background: The HCAHPS survey provides a standardized method for measuring and comparing patients' perspectives of care. These results influence hospital reimbursement from the Centers of Medicaid and Medicare Services. In July 2017, New-York/Presbyterian Hospital (NYP) implemented an education tool to improve HCAHPS scores pertaining to medication communication.

Objective: Describe the change in HCAHPS scores pertaining to medication communication after implementing an education tool across three NYP campuses.

Methods: This pre-post intervention study aims to compare 6 months of HCAHPS scores from July through December 2017 to the pre-intervention control period, July through December 2016. The primary end-point was HCAHPS performance on the three medication related survey questions. T-tests compared scores with a 95% confidence interval and p-value <0.05 set for significance. The research was exempt from IRB oversight.

Results: The post-intervention performance compared to pre-intervention performance regarding medication indication was *74.9 vs 73.6, P= 0.69* at Columbia University Irving Medical Center (CUIMC), *75.8 vs. 73.5*, *P= 0.44* at Weill Cornell Medical Center (WCMC), and *66.4 vs. 74, P= 0.40* at Lower Manhattan Hospital (LMH). Performance regarding medication side effects was *47.5 vs 45.5*, *P= 0.56* at CUIMC, *43 vs. 42.9*, *P=0.98* at WCMC and *41.5 vs. 48.1*, *P= 0.46* at LMH. Performance regarding medication purpose at discharge was *34.7 vs. 33.8*, *P= 0.78* at CUIMC, *34.9 vs. 31.2*, *P= 0.16* at WCMC, and *42.4 vs. 43.3, P= 0.90* at LMH.

Conclusion: There was no significant difference in the HCAHPS scores post-intervention vs. pre-intervention for the three medication communication questions after implementing the education tool.

EVALUATION OF ENOXAPARIN DOSING IN A PEDIATRIC CRITICAL CARE UNIT

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Background: Studies conducted by Bauman et al. and Schloemer et al. suggest critically ill pediatric patients may require higher than standard doses of enoxaparin to reach target anti-Xa levels for therapeutic anticoagulation.

Objective: The purpose of this medication use evaluation is to characterize the enoxaparin doses needed to achieve therapeutic anti-Xa levels among patients admitted to the Children's Hospital at Montefiore (CHAM) Pediatric Critical Care Unit (PCCU). These results are being used to develop an institutional enoxaparin dosing protocol.

Methods: Critically ill pediatric patients admitted to the CHAM PCCU were assessed for therapeutic enoxaparin use from June 10, 2016 to March 22, 2018. Patients were included in this evaluation if they had at least one corresponding anti-Xa level drawn between 4-6 hours after an enoxaparin dose.

Results: On initial review of the first 15 months of patient data, our review found that 75% of patients on enoxaparin have appropriately drawn anti-Xa levels within 4-6 hours after the enoxaparin dose. 56% of patients did not achieve therapeutic anti-Xa levels on the first blood draw. Of the patients without therapeutic initial anti-Xa levels, the median dose of enoxaparin at the time of therapeutic levels was 1.24 mg/kg/dose. Two to three levels on average were reported before patients reached a therapeutic level.

Conclusions: The majority of patients included in this review did not achieve therapeutic anti-Xa levels with an initial dose of 1 mg/kg subcutaneous every 12 hours.

IMPACT OF ANTIMICROBIAL STEWARDSHIP ON FLUOROQUINOLONE UTILIZATION IN THE OUTPATIENT SETTING AT AN ACADEMIC MEDICAL CENTER

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Background: Due to the increased risk of resistance and serious adverse effects the Food and Drug Administration warns against the use of fluoroquinolones for acute bacterial sinusitis, uncomplicated urinary tract infections, and acute bacterial exacerbation of chronic bronchitis. Utilization of clinical decision support systems or alerts integrated within the computerized physician order entry have been implemented in the inpatient setting to reduce fluoroquinolone use. However, there is limited data on the effectiveness of such strategies in the outpatient setting. The purpose of this study was to evaluate the impact of an antimicrobial stewardship initiative on fluoroquinolone utilization in the outpatient setting.

Objective: Reduction in days of therapy served as the primary endpoint. Secondary endpoints included prescribing patterns pre/post-intervention, and percent of appropriate fluoroquinolone use.

Methods: This was a single center, Institutional Review Board approved retrospective chart review study to assess fluoroquinolone use in the outpatient setting pre/post-intervention. The pre-intervention phase utilized Allscripts to review patients 18 years of age or greater, discharged on a fluoroquinolone from the outpatient clinics, emergency department, and the hospital. For the post-intervention phase a mandatory alert was implemented in Allscripts requiring prescribers to select an indication from a drop-down list to submit the order.

Results: There were 100 patients evaluated in each of the pre/post-intervention groups. Data analysis is underway.

Conclusions: N/A

IMPACT OF ROUND-THE-CLOCK PHARMACOTHERAPY CONSULTATION SERVICE IN THE EMERGENCY DEPARTMENT

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Introduction/Background: The emergency department (ED) is a main portal of entry for patients into the healthcare system. It is a fast-paced, frequently overcrowded environment that has a high risk of medication errors. The Brooklyn Hospital Center (TBHC) has a round-the-clock (24-hours, 7-days a week, 365-days a year) response to the ED by means of a pharmacotherapy consultation service that is provided by emergency medicine pharmacotherapy specialists or pharmacy residents.

Objective(s): To generate descriptive data to demonstrate the impact of a round-the-clock pharmacotherapy consultation service in the ED.

Methods: This was a single center, retrospective descriptive study that evaluated data from an electronic documentation database of interventions from November 1st, 2016 to October 31st, 2017.

Results: There was a total cost avoidance of $1,185,813 from the round-the-clock pharmacotherapy consultation service in the ED during the study period. There were a total of 776 consultations provided by emergency medicine pharmacotherapy specialists or pharmacy residents. A majority (78.7%) of the consultations were for patients who were not admitted to the hospital. Two-thirds of the total consultations were for emergency response to the ED.

Conclusions: The round-the-clock pharmacotherapy consultation service showed an impact of significant cost savings in the ED. This may justify the addition of pharmacists who are available to respond round-the-clock to the ED.

ASSESSING THE CHANGE IN RENAL FUNCTION FOR HEPATITIS B PATIENTS WHEN SWITCHING FROM TENOFOVIR DISOPROXIL FUMARATE TO TENOFOVIR ALAFENAMIDE

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Background: Tenofovir alafenamide (TAF) is a recently approved therapy for hepatitis B. TAF and tenofovir disoproxil fumarate (TDF) have the same active ingredient tenofovir but attached to different salts. TAF has higher hepatocyte delivery with less systemic exposure potentially being less toxic to the kidneys and bone. This study was conducted to determine the impact of renal function in our cohort of real world patients who were switched from TDF to TAF in our outpatient hepatology practice.

Objective: The primary outcome was measured serum creatinine after > 3 months of TAF therapy. Secondary outcomes included post-switch creatinine clearance (CrCl), aspartate aminotransferase (AST), and alanine aminotransferase (ALT) levels.

Methods: Our retrospective, single-center, cohort study assessed the change in renal function in patients treated with TDF for at least 6 months before switching to TAF and assessing renal function at 3 months on TAF. This study was Institutional Review Board approved.

Results: 45 patients were enrolled. Changes in serum creatinine ($p < 0.955$) and CrCl ($p < 0.601$) were not significant. Mean AST and ALT for post-TAF was significantly lower than for pre-TAF (mean difference = -5.91, SD of mean difference = 17.81; $p < 0.013$) and (mean difference = -12.93, SD of mean difference = 31.99; $p < 0.002$), respectively.

Conclusions: Changing from TDF to TAF did not result in significant improvements in renal function. A longer follow up period may be required to determine if a significant improvement in serum creatinine is seen following the change from TDF to TAF.

ENGRAFTMENT WITH FILGRASTIM-SNDZ VERSUS FILGRASTIM IN ADULT AUTOLOGOUS STEM CELL TRANSPLANT PATIENTS

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Background: High-dose chemotherapy followed by an autologous stem cell transplant (ASCT) remains a viable treatment options for several hematological malignancies. Traditionally, filgrastim was the gold standard of granulocyte colony-stimulating factor (G-CSF) used to accelerate engraftment. Filgrastim-sndz was the first biosimilar drug to be used in the United States with the same indications as filgrastim. Within the Northwell Health system, filgrastim-sndz replaced filgrastim on the formulary in February 2016. This study was conducted due to the limited data regarding the use of filgrastim-sndz rather than the traditionally used filgrastim to accelerate engraftment after ASCT.

Objective: To determine the efficacy between filgrastim-sndz and filgrastim in terms of days to neutrophilic engraftment.

Methods: This was a restrospective, single-center, institutional review board exempt, cohort study including patients diagnosed with a hematological malignancy and received an autologous peripheral blood stem cell transplant prior to receiving filgrastim-sndz or filgrastim. Exluded patients were those that received an allogenic stem cell transplant. The Mann-Whitney test and Fischer's exact test are used to compare continuous and categorical variables, respecively, between the comparator groups.

Results: There were 74 patients in each comparator group. The days to neutrophilic engraftment was 10 $\pm$ 1.5 with filgrastim as compared to 10.2 $\pm$ 1.2 with filgrastim-sndz group (P=0.23). The length of G-CSF use was 12.7 $\pm$ 3.5 with filgrastim as compared to 12.4 $\pm$ 2.3 with filgrastim-sndz (P=0.75).

Conclusion: There was no difference between the use of filgrastim-sndz or filgrastim in days to neutrophilic engraftment.

MANAGEMENT OF ACUTE HYPERKALEMIA USING A STANDARDIZED, EVIDENCE-BASED ORDER SET AND ITS ROLE IN REDUCING HYPOGLYCEMIC EVENTS

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Background: The management of acute hyperkalemia involves various medication modalities. While insulin remains a mainstay of acute hyperkalemia treatment, there is a potential for hypoglycemia. A standardized, evidence-based Hyperkalemia Management order set was developed in response to hypoglycemic events. At St. Francis Hospital (SFH), it was implemented into Epic on May 3, 2017.

Objective: To evaluate the incidence of hypoglycemic episodes (blood glucose less than or equal to 70 mg/dL) associated with the treatment of acute hyperkalemia prior to the Hyperkalemia Management order set implementation versus post-implementation.

Methods: This is a single-center, SFH Institutional Review Board exempted, retrospective chart review. Patients with acute hyperkalemia, defined as a potassium level greater than or equal to 5.5 mEq/L, were studied in January 2017 (pre-protocol implementation group) and from August to November 2017 (post-protocol implementation group). The primary outcome is the incidence of hypoglycemic events within 12 hours post-dextrose and insulin administration. Statistical analysis was performed using the Fisher's Exact Test through SAS 9.4. A p-value of less than 0.05 was considered significant.

Results: There were 47 incidences of hyperkalemia studied in the pre-protocol implementation group and 49 in the post-protocol implementation group. There was a reduction in total hypoglycemic events and clinically significant hypoglycemia in the post-protocol implementation group, however neither reached statistical significance (14.9% vs. 8.2%, p = 0.35; 4.3% vs. 0%, p = 0.24).

Conclusions: The use of the Hyperkalemia Management order set resulted in an overall reduction of hypoglycemic events, however it did not reach statistical significance.

IDENTIFICATION OF RISK FACTORS FOR PSEUDOMONAS AERUGINOSA IN PATIENTS WITH FOOT INFECTIONS RELATED TO DIABETES AND/OR PERIPHERAL VASCULAR DISEASES

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Background: *Pseudomonas aeruginosa* has traditionally been considered a prevalent pathogen in foot infections. However, whether empiric therapy is necessary, and in whom to consider this in, remains unclear. This study aims to evaluate potential risk factors and develop a predictive model to forecast the probability of isolating *Pseudomonas aeruginosa* in patients with foot infections.

Objective: The primary outcome was risk factors for Pseudomonas aeruginosa.

Methods: This was an Institutional Review Board approved retrospective, single-center study conducted at two teaching hospitals in New York City. Risk factors were chosen based on prior published studies and comorbidities proven to increase antibiotic resistance. Multivariable logistic regression analysis was used to identify statistically significant relationships between baseline subject characteristics and *Pseudomonas aeruginosa*.

Results: There were 140 patients included in the study. In the multivariable analysis, amputation (OR 5.75, 95% CI 1.48-27.63) and renal disease (OR 5.46, 95% CI 1.43-25.16) were identified as risk factors associated with higher *Pseudomonas aeruginosa* isolation, while diabetes (OR 0.07, 95% CI 0.01-0.34) and IDSA infection category > 3 (OR 0.18, 95% CI 0.03-0.65) were associated with lower odds of *Pseudomonas aeruginosa* isolation. The final models' ability to discriminate was found to be reasonable to strong (C statistic [area under the curve] 0.85).

Conclusion:
Infected chronic foot ulcers, amputation, and renal dysfunction were dominant predictors of *Pseudomonas aeruginosa*, whereas infection severity classification and diabetes were not associated with the presence of *Pseudomonas aeruginosa*. The final model may be used in clinical practice to determine the probability of isolating *Pseudomonas aeruginosa.*

DECREASED USE OF PROTON PUMP INHIBITORS FOR STRESS ULCER PROPHYLAXIS

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Objectives:
Studies have shown that enteral feeding may be just as effective at preventing gastrointestinal stress ulcers and gastrointestinal bleeds (GIBs) compared to proton pump inhibitors (PPIs). The objective of this study is to determine whether there is a difference in time to GIBs between patients receiving PPIs versus not receiving PPIs and being enterally fed in the Medical Intensive Care Unit (MICU) at Long Island Jewish Medical Center (LIJMC) in patients who have been mechanically ventilated for ≥ 48 hours.

Methods: Data was obtained through a retrospective chart review of patients who meet the inclusion criteria during a pre-specified time period between September 2016-January 2017 and September 2017- January 2018. Data collected includes but is not limited to age, gender, duration of mechanical ventilation, ability to receive feeds, fecal occult blood test (FOBT) if available, Clostridium Difficile (C. Diff) test results if available, hemoglobin levels, platelet count, patient care setting, use of PPIs, use of histamine-2 receptor antagonists (H2RAs), use of non-steroidal anti-inflammatory drugs (NSAIDS), use of steroids, hospital length of stay, ICU length of stay, and mortality if applicable. The presence of a GIB was determined by FOBT results and hemoglobin levels. The time to GIB (in hours) was calculated and compared between the two groups. Secondary endpoints including rates of C. Diff, pneumonia, thrombocytopenia, hospital length of stay, ICU length of stay, mortality, and PPI usage/cost in the two groups was also compared.

Results: In process

Conclusions: In process

CHARACTERIZING PRESCRIBING PRACTICES OF DAPTOMYCIN AND CEFTAROLINE FOSAMIL IN A TERTIARY CARE HOSPITAL

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Introduction/Background: Treating gram-positive pathogens continues to be a major healthcare burden due to increasing prevalence of multi-drug resistant organisms including methicillin-resistant *Staphylococcus aureus* and vancomycin-resistant *Enterococcus*. Concerns have been raised regarding inappropriate use of formulary restricted antibiotics at our institution. Improving prescribing practices of restricted antibiotics leads to decreased incidence of multi-drug resistant and *Clostridium difficile* infections, decreased antibiotic resistance, and improved patient outcomes.

Objective: The objective of this evaluation is to characterize prescribing practices to determine if patients are meeting restriction criteria for daptomycin and/or ceftaroline at St. Peter's Hospital.

Methods: This was a retrospective chart review approved by the institutional review board. Adult inpatients who received at least 1 dose of daptomycin and/or ceftaroline between June 30, 2016 and July 1, 2017 were included. Patient demographics, prescribing physician, antibiotic dose/duration/indication, previous vancomycin use, toxicity and microbiology data were collected and analyzed. The primary outcome was the percentage of patients prescribed daptomycin and/or ceftaroline who conformed to our institution's antimicrobial special use guidelines and restrictions.

Results: A total of 183 patients were included with 77/121 (63.6%) daptomycin orders and 30/62 (48.4%) ceftaroline orders deemed appropriate. Renal insufficiency concerns in 24/44 orders (55%) was the most common reason for inappropriate use of daptomycin while broad empiric coverage in 18/32 orders (58%) was the most common reason for inappropriate use of ceftaroline. An infectious diseases specialist initially prescribed 130/183 (71%) orders.

Conclusion: Current prescribing practices can be improved to ensure optimal patient care and limit potential for unintended consequences.

EVALUATION OF A STROKE STRETCHER AND ITS EFFECTS ON ALTEPLASE DOSING AND ASSOCIATED OUTCOMES

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Introduction/Background: Ischemic strokes remain one of the leading causes of serious disability in adults. Rapid restoration of blood flow is highly effective in reducing long-term morbidity. In the absence of contraindications, alteplase, a recombinant tissue plasminogen activator (TPA), is administered within 4.5 hours of stroke onset at a standard weight-based dose. With its narrow therapeutic range, an accurate measurement of weight is important. However, in most emergency departments, weight is estimated, which may lead to inaccurate dosing and associated clinical detriment. At our institution, a "stroke stretcher" with an integrated scale has been implemented with the intention of improving the accuracy of weight-based dosing. The objectives of this study are to evaluate the effect of an easily accessible stroke stretcher with an integrated scale on TPA dosing and to consider the effect of accurate weight-based dosing on clinical outcomes.

Methods: This retrospective study was conducted among adult patients with ischemic stroke who received alteplase at Upstate University Hospital, a level 1 comprehensive stroke center. A convenience sample of patients treated between March 2013 and December 2017 was assembled. Estimated, stated, and measured weights were compared between patients who did or did not have the stroke stretcher utilized for their care. Clinical outcomes including uncontrolled hypertension or bleeding events within three days of administration, length of stay, and the modified Rankin scale at discharge will be compared based on the weight used for dosing. Descriptive and comparative statistics will be utilized for data evaluation.

Results: Pending

Conclusions: Pending

EVALUATION AND CLINICAL OUTCOMES OF PERI-PROCEDURAL INTERRUPTION OF DIRECT ORAL ANTICOAGULANTS AND WARFARIN IN PATIENTS UNDERGOING INTERVENTIONAL RADIOLOGY PROCEDURES

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Background: Limited evidence is available to guide the peri-procedural management of the direct oral anticoagulants (DOAC) in the setting of interventional radiology (IR) procedures. The literature to date, including a consensus guideline from the Society of Interventional Radiology (SIR), recommends peri-procedural DOAC interruption based on medication half-life and procedural bleeding risk. Peri-procedural management of warfarin includes temporary interruption, INR monitoring, and possible peri-procedural bridging with parenteral anticoagulants for select patients. However, it is unknown if these recommendations apply to IR procedures and how therapeutic anticoagulation interruptions affect bleeding and thrombotic outcomes in different patient populations.

Objective: The objective was to evaluate the adherence to peri-procedural anticoagulation management according to the SIR consensus guidelines for rivaroxaban, apixaban, and warfarin. Furthermore, we assessed bleeding and thrombotic events within this setting.

Methods: We performed a retrospective, Institutional Review Board approved, observational study at NYU Langone Health of all patients who underwent an IR procedure from January 2015 – July 2017 and received rivaroxaban, apixaban, or warfarin. Patients younger than eighteen years old, pregnant, or with a mechanical heart valve were excluded.

Results: We evaluated 350 IR procedures; 174 of these were low bleeding risk and 176 of these were moderate to high bleeding risk. Peri-procedural management of anticoagulation occurred in 228 patients on rivaroxaban or apixaban, and 122 patients on warfarin. Within our study population there were 20 bleeding events, 2 venous thromboembolic events, 2 strokes, 1 transient ischemic attack and 2 myocardial infarctions within 30 days of the procedure.

Conclusions: Pending statistical analysis.

EMPIRIC TREATMENT OF CULTURE POSITIVE SKIN AND SOFT TISSUE INFECTIONS OF THE PEDIATRIC POPULATION IN A DOWNTOWN BROOKLYN HOSPITAL

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Background: Skin and soft tissue infections (SSTI) are commonly seen in the emergency department (ED) and inpatient care areas. Most patients are treated with antibiotics whether or not incision and drainage (I&D) occurs. However, the precise role of antibiotics, especially after I&D of the wound, is unclear. SSTIs can be caused by a variety of microorganisms, but the majority are Staphylococcus spp. or Streptococcus spp. Empiric antibiotic choices are aimed at these two types of bacteria. We have routinely used clindamycin as empiric therapy for SSTI with and without abscess at our institution. Anecdotally, we have seen very few cases of treatment failure. However, the use of clindamycin as empiric therapy in an urban pediatric population has not been formally assessed for appropriateness.

Objective: To assess the appropriateness of empiric antibiotic therapy of culture-positive skin abscesses in the pediatric population of an urban hospital.

Methods: This will be a retrospective chart review of pediatric patients (<18 years old) either seen in the pediatric ED or admitted to the general pediatrics floor. Information will be collected for patients seen between January 1, 2012 and December 31, 2017. All clinical research was approved by the institutional review board.

Results/Conclusion: TBD

PHARMACIST IMPACT ON DIABETES CARE IN A FAMLY MEDICINE CLINIC

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Background: Family medicine resident physicians (FMRP) provide outpatient primary care at St. Joseph's Health. A clinical pharmacist (CP) provides comprehensive diabetes care 1.5 days weekly encompassing glycemic control and medication therapy management.

Objective: Evaluate the impact of CP care on diabetes management.

Methods: This retrospective chart review was granted exempt status by the Institutional Review Board. Appointment records were utilized to identify patients. Adult type 2 diabetics with initial CP or FMRP visit January 1st-December 31st, 2016 were included if baseline hemoglobin A1C (HbA1C) ≥9% and repeat HbA1C available ≥90 days from baseline. All CP patients were included. FMRP patients were randomized to achieve a 2:1 ratio. The primary outcome was change in HbA1C at 12 months. The secondary composite outcome evaluated statin and antiplatelet use, achievement of target blood pressure, receipt of pneumococcal vaccine, and microalbuminuria screening. Patients met the secondary outcome if all components were optimized. Data collection included patient demographics, laboratory and vital sign data, and medication use. T-test and chi-square were performed.

Results: Baseline demographics were not significantly different between CP (n=33) or FMRP (n=64) patients. There was no difference in mean change in HbA1C at 12 months between CP (-0.4%) or FMRP(-0.8%) patients (p =NS). At 12 months, 10 of 28 (35.7%) CP patients met the secondary composite outcome as compared to 4 of 50 (8%) FMRP patients (p <0.01).

Conclusions: There was no difference in mean change in HbA1C. More CP patients met the secondary outcome compared to FMRP patients.

EVALUATION OF ADMINISTRATION DISCREPANCIES BETWEEN CHEMOTHERAPY AND SUPPORTIVE CARE PLANS IN A NEWLY ESTABLISHED COMPUTERIZED PHYSICIAN ORDER ENTRY (CPOE)

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Background: Oncology regimens consist of multiple drugs given at defined dosages, frequency, and duration in combination with supportive therapy plans. While, supportive care medications are not directly cytotoxic, they improve outcomes in certain types of cancers and it is crucial that patients receive them to optimize cancer care. In our institution's CPOE system, chemotherapy orders are placed within a treatment plan and supportive care medications are entered into a separate therapy plan.

Objective: The primary outcome was the number of patients that had missed at least one administration of a therapy plan medication with an active treatment during the past year. Secondary outcomes included medications most commonly associated with missed administrations and adverse outcomes, such as bone fractures and febrile neutropenia.

Methods: This was a retrospective, single-center, chart review study. Adult oncology patients with both active treatment and therapy plans were included in this study. Administration dates of all treatment and therapy plans were identified. Missed medications, the number of times medications were missed and the associated adverse outcomes were collected.

Results: There were 107 oncology patients included in this study. 60/107 (56%) of patients missed at least one administration of a therapy medication over the past year. The most commonly missed medications were zolendronic acid and denosumab, which were associated with fractures.

Conclusions: More than half of patients with both active treatment and therapy plans are missing at least one administration of their therapy plan medication in our CPOE system, which demand feasible solutions for better patient outcome.

IMPACT OF AUTOMATIC THERAPEUTIC SUBSTITUTION ON MEDICATION PRESCRIBING AT HOSPITAL DISCHARGE: A FOCUS ON LONG-ACTING INSULIN

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Background: Risk of medication errors at discharge may be increased following automatic therapeutic substitution (ATS), a common practice at hospital admission. At St. Joseph's Health, long-acting insulin (LAI) is the only high risk medication that undergoes ATS.

Objective: Evaluate if hospitalized patients converted to insulin glargine (Lantus®) via ATS are returned to prior to admission (PTA) LAI at discharge.

Methods: The Institutional Review Board granted exempt status to this retrospective, observational study. The electronic health record (EHR) was utilized to generate a report of patients with insulin on their admission medication reconciliation. Adults with admissions between April -August 2017 on the following insulins were included: Basaglar®, Toujeo®, Levemir®, Tresiba®, neutral protamine Hagedorn insulin, or mixed insulin (50/50, 70/30, 75/25). The primary outcome is percentage of patients not returned to PTA therapy following LAI ATS. The secondary outcomes are percentage of patients discharged with: Lantus® in addition to PTA LAI, Lantus® in place of PTA LAI, or PTA LAI discontinued without documented reasoning in the EHR.

Results: Of 416 patients included, 29 (6.97%) had duplicate LAI on admission medication reconciliation. The primary outcome occurred in 34/416 patients (8.17%). In addition to PTA LAI, one patient was prescribed Lantus®. There were 21 patients changed from PTA LAI without documented reasoning in EHR (alternate LAI prescribed n=12; LAI discontinued n=9).

Conclusions: Opportunity for improvement exists for discharge prescribing of long-acting insulin following ATS.

EVALUATING THE IMPACT OF A HEPARIN MONITORING SYSTEM ON NURSE-DRIVEN, AUTOMATED HEPARIN NOMOGRAM USE

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Background: Heparin is a rapid-acting anticoagulant that is widely used in hospitalized patients for thrombotic disorders. It must be closely monitored by measuring activated partial thromboplastin time (aPTT) due to its variable pharmacokinetics. North Shore University Hospital's nursing education and pharmacy developed educational material for our nursing staff and an auditing tool for our nurse managers to improve patient safety when this high risk medication is used. The study was conducted to evaluate the impact of this heparin monitoring system on patient outcomes as a quality improvement process.

Objective: The primary outcomes included time to therapeutic aPTT and aPTT at 24 and 48 hours. Secondary outcomes included incidences of bleeding, time to dose adjustments, and medication errors. Adults aged 18 years or older who received heparin for at least 24 hours on an automated heparin nomogram were included. Patients were excluded if they were on critical care floors, received patient-specific protocols, or switched nomograms.

Methods: This was an institutional review board exempt, retrospective, single-center chart review. Patients were divided into two groups: pre-nursing education and post-nursing education.

Results: There were 75 patients in the pre-education group and 78 patients in the "post-education" group. There were no statistically significant differences between groups in achieving time to therapeutic aPTT, aPTT levels 24 or 48 hours, or incidences of bleeding. However, results showed potential benefit on time to dose adjustment and medication errors found.

Conclusions: Overall results show a trend toward a positive impact the heparin monitoring system heparin nomogram appropriate usage.

DEFINING AREA UNDER THE CONCENTRATION-TIME CURVE THRESHOLDS FOR VANCOMYCIN EFFICACY AND NEPHROTOXICITY: A PRACTICAL APPROACH USING TWO-POINT PHARMACOKINETICS IN METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS BACTEREMIA.

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Background: Studies to date reporting the area under the concentration-time curve to minimum inhibitory concentration (AUC/MIC) ratio thresholds for efficacy and nephrotoxicity of vancomycin in the management of methicillin-resistant *Staphylococcus aureus* bacteremia (MRSA-B) have yielded variable results and pose methodological challenges for implementation into clinical practice.

Objective: To identify vancomycin AUC/MIC ratio thresholds for efficacy and nephrotoxicity in adult patients with MRSA-B when calculated using the modified trapezoidal rule and two-point pharmacokinetics.

Methods: This single-center, retrospective analysis included adult patients admitted between June 1st, 2016 and January 1st, 2018 with MRSA-B who received vancomycin therapy for ≥72 hours and had two post-distributional vancomycin serum concentrations obtained within the first 96 hours of therapy. AUC was calculated using the modified trapezoidal rule. Clinical success was defervescence and sterilization of blood cultures by day 7. Nephrotoxicity was an increase in serum creatinine of >0.5 mg/dL (or ≥50%) from baseline within the first 7 days of therapy. A classification and regression tree (CART) analysis was performed to identify AUC/MIC ratio thresholds for efficacy and nephrotoxicity.

Results: Forty-six adult patients treated with vancomycin for MRSA-B were included for analysis. Clinical success and nephrotoxicity were documented in 81.8% and 13.0%, respectively. In the CART analysis, the AUC/MIC ratio threshold for clinical success and nephrotoxicity was ≥297 and ≥710, respectively.

Conclusions: Our results support the traditional AUC/MIC ratio therapeutic range of 400 to 600 when utilizing the modified trapezoidal rule and two-point pharmacokinetics, however, some patients may achieve clinical success with an AUC/MIC ratio of <400.

EVALUATION OF THE EFFECTIVENESS OF IDARUCIZUMAB IN THE SUSTAINED REVERSAL OF ANTICOAGULATION IN PATIENTS WITH RENAL DYSFUNCTION

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Introduction/Background: Since its approval in 2015, idarucizumab has been the standard of care in emergency reversal of the direct oral anticoagulant, dabigatran. However, published case reports have found instances where the standard FDA-approved, 5 gram dose does not fully reverse anticoagulation. This is largely seen in patients with renal dysfunction, as the half-life of dabigatran increases as renal function decreases. Incomplete reversal may ultimately necessitate an excess of supportive therapies, such as blood products, prothrombin complex concentrate (PCC) and factor eight bypassing activity (FEIBA) to keep patients stable.

Objectives: The objective of this study is to compare the use of supportive therapies in patients treated with idarucizumab that have normal versus impaired renal function, as defined by creatinine clearance less than 40 ml/min.

Methods: This study is a retrospective chart review granted approval by Northwell Health's institutional review board. The primary combined endpoint is administration of packed red blood cells, plasma, and platelets within 24 and 48 hours of idarucizumab administration, as well as administration of PCC and/or FEIBA within 24 and 48 hours of idarucizumab administration.

Results: Data analysis is ongoing. Full analysis of data is scheduled to be completed by Spring 2018.

Conclusions: Full conclusions of primary and secondary endpoints will be completed in Spring 2018.

ASSESSING ANTIMICROBIAL PRESCRIBING PATTERNS FOR ASYMPTOMATIC BACTERIURIA IN THE EMERGENCY DEPARTMENT SETTING

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Introduction/Background: Asymptomatic bacteriuria is commonly over treated in adults. Due to the nature of the emergency department, many patients that do not have symptoms of a urinary tract infection (UTI) are still tested and treated. Therefore, an important opportunity exists to reduce antibiotic use and prevent the spread of bacterial resistance.

Objective: The objective of this evaluation is to identify opportunities to decrease inappropriate antibiotic use by assessing antimicrobial prescribing patterns in patients discharged from the emergency department with a UTI, without accompanied symptoms.

Methods: This was a retrospective review approved by the Institutional Review Board. Patients were randomly selected using a daily culture and sensitivity report generated by the hospital laboratory. Female patients over 18 years old who were discharged from the emergency department on antibiotics for the treatment of a UTI between July 2017-September 2017, were included in the study. The primary outcome is to characterize the percentage of patients with asymptomatic bacteriuria treated for a UTI. Descriptive statistics were used to analyze the data, and educational material was created for presentation to emergency department providers.

Results: Preliminary results showed that 93 of 156 patients met diagnostic criteria for a UTI. Of those treated, 40% were asymptomatic. Of note, fluoroquinolones were the most common antibiotics to which cultured organisms were resistant. This is consistent with the trend of decreasing susceptibilities in the hospital's antibiogram.

Conclusions: The treatment of asymptomatic bacteriuria is an important area for pharmacist intervention to limit unnecessary antimicrobial prescribing and potentially reduce increasing resistance patterns.

EFFICACY OF ORAL VANCOMYCIN FOR SECONDARY PROPHYLAXIS OF RECURRENT *CLOSTRIDIUM DIFFICILE* INFECTION

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Background: *Clostridium difficile* infections (CDI) are a major cause of morbidity, mortality, and healthcare expenditure in the U.S. CDI frequently causes recurrence after treatment, with rates of up to 50 percent. Despite this high risk, limited data are available on secondary prophylaxis, and current practice guidelines are unable to make recommendations on it. Recent retrospective studies demonstrated a benefit of oral vancomycin in reducing the rates of recurrence. We hypothesize that oral vancomycin reduces the risk of CDI recurrence in patients receiving antibiotics.

Objectives: The primary objective is to determine the incidence of recurrent CDI within three months after completion of antibiotics. Secondary objectives include length of ICU stay and hospitalization and severity of recurrence.

Methods: This study was approved by the IRB and is a prospective interventional study evaluating the effectiveness of oral vancomycin versus no additional therapy as prophylaxis for recurrent CDI in patients receiving systemic antibiotics. A sample size of 95 patients per group is needed in order to detect a 20% difference in CDI rates with an alpha of 5% and power of 80%. Data being collected includes patient demographics, concomitant proton pump inhibitor and probiotic use, prior CDI history and severity, systemic antibiotic therapy, and recurrence of CDI. Final data is analyzed using Chi-square and student t tests.

Results: The incidence of recurrent CDI with vancomycin versus placebo and secondary outcomes will be presented.

Conclusions: This study will help determine the efficacy of oral vancomycin in reducing the incidence of recurrent CDI.

IMPACT OF RECIPIENT AND DONOR CYP3A5 and ABCB1 GENOTYPE ON WEIGHT-ADJUSTED TACROLIMUS TROUGH/DOSE CONCENTRATIONS IN INTESTINAL TRANSPLANT RECIPIENTS

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Background: Intestinal transplantation is one of the least common and most technically difficult forms of organ transplantation. Due to the high volume of lymphoid tissue present in the intestinal graft, recipients of intestinal transplant are at a relatively high risk of rejection compared to recipients of other transplanted organs. Standard immunosuppression post-transplant consists of tacrolimus, a calcineurin inhibitor, and tapering corticosteroids. Despites it well-documented efficacy in preventing the onset of acute allograft rejection, tacrolimus can be difficult to manage due to its narrow therapeutic and large between patient pharmacokinetic variability. Pharmacokinetic variability stems from incomplete intestinal absorption and variation in the CYP450 class of hepatic enzymes. Currently transplant centers do not conduct genetic testing to determine donor and recipient genotypes prior to tacrolimus initiation.

Objective: Elucidate the influence of genetic polymorphisms in CYP3A5 and ABCB1 on the pharmacokinetics of tacrolimus in intestinal transplant recipients to help guide future tacrolimus dosing

Methods: This is a retrospective, single-center chart review of intestinal transplant recipients from 2011 – 2017. Donor and recipient ABC1 and CYP3A5 polymorphisms are determined by genotyping retrospectively collected tissue samples. The primary outcome is the weight-adjusted tacrolimus trough/dose ratio at weeks 1, 4, 12, and 52 weeks post-transplant

Results: Pending

Conclusion: Pending

OUTCOMES ASSOCIATED WITH ORAL VANCOMYCIN DOSING IN PATIENTS WITH *CLOSTRIDIUM DIFFICILE* INFECTION

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Background: *Clostridium difficile* infection (CDI) is an increasingly common infection in hospital and community settings. Infectious Diseases Society of America guidelines recommend oral vancomycin 125 mg four times daily for 10-14 days for treatment of CDI. However, both 125 mg and 250 mg doses are used in practice despite lack of clear evidence supporting the higher dose.

Objective: The objective of this study is to assess outcomes associated with the use of oral vancomycin 125 mg versus 250 mg four times daily for treatment of CDI.

Methods: Patients will be identified by a central search of pharmacy records of oral vancomycin doses dispensed from January 2013 to August 2017. Hospitalized patients will be included if: age $\geq$ 18 years, confirmed CDI via positive polymerase chain reaction test, symptomatic infection, and received $\geq$ 48 hours of oral vancomycin four times daily. Patients will be excluded upon receipt of $\geq$ 48 hours of metronidazole prior to vancomycin initiation, vancomycin per rectum, surgical intervention within 48 hours of treatment, or history of fecal microbiota transplant. Participants will be assessed for the primary outcome of 90-day CDI recurrence. Categorical data will be compared between groups using Chi squared or Fisher's exact test and continuous data will be compared using Student's t-test or Wilcoxon rank-sum, as appropriate. Multivariate logistic regression will be performed to identify independent variables associated with the outcomes of interest. This study received approval from the Institutional Review Board at St. Peter's Hospital.

Results: Results are pending.

Conclusions: Conclusions are pending.

EVALUATION OF AN EMERGENCY DEPARTMENT PHARMACY DISCHARGE ASSISTANCE PILOT PROGRAM IN AN URBAN MEDICAL CENTER

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Introduction/Background: Providing safe and effective care during a patient's transition between healthcare settings has been a growing area of concern among health systems. Communication between providers and patients is crucial for successful transitions of care. Poor communication has been shown to account for 56% of all hospital medication errors. Medication-related errors have also been shown to account for 66% of all adverse events following hospital discharge and subsequently lead to 11% of emergency department visits. To address these issues an Emergency Department Pharmacy Discharge Assistance Pilot Program was implemented at Brookdale Hospital Medical Center. This program was focused on streamlining patient discharge medication review, reconciliation, counseling, and outpatient pharmacy assistance. The goal being to prevent medication errors, improve medication education and patient satisfaction. A retrospective review of the data collected from this program will be used to assess the impact of pharmacist intervention in this setting.

Objective(s): To assess the number, rate, and types of interventions provided by a pharmacist and to evaluate the number of patients returning to the emergency department for discharge medication related complications.

Methods: This was an IRB approved retrospective study analyzing the data collected from patients enrolled in the Emergency Department Pharmacy Discharge Assistance Pilot Program. Data was collected from January 2018 to March 2018.

Results: Pending

Conclusions: Pending

PROTOCOLIZED APPROACH TO THE MANAGEMENT OF ALCOHOL WITHDRAWAL

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Background: There are over 17 million adults in the United States with alcohol use disorders and nearly 20% of admissions to an intensive care unit (ICU) are due to alcohol withdrawal syndrome (AWS). Benzodiazepines are considered first line in the treatment of AWS but 5 to 10% of patients will experience withdrawal that is not responsive to benzodiazepines. Different treatment strategies, including the use of phenobarbital in a protocolized manner, has been shown to decrease benzodiazepine requirements, decrease the need for mechanical ventilation, and potentially decrease ICU length of stay.

Objectives: The primary objective was to determine if implementation of an alcohol withdrawal protocol decreases ICU length of stay. Secondary outcomes included total benzodiazepine usage, duration of alcohol withdrawal symptoms, need for mechanical ventilation due to withdrawal, need for continuous infusion sedation, and overall hospital length of stay.

Methods: This was a retrospective observational study conducted at an academic medical center looking at the effectiveness of implementing a new alcohol withdrawal protocol for ICU patients. Patients at least 18 years of age who were admitted to the medical ICU for management of alcohol withdrawal were included. Patients were excluded if they were under the age of 18 or had evidence of other illicit drug use determined by urine toxicology screen. All patients receiving the Clinical Institute Withdrawal Assessment for Alcohol (CIWA) protocol were reviewed for inclusion. Included patients then underwent further investigation to retrieve all required data points for this study.

Results: In progress

Conclusions: In progress

EVALUATION OF TOLVAPTAN IN HOSPITALIZED PATIENTS

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Background: Hyponatremia is a risk factor for morbidity and mortality in hospitalized patients. U.S. guidelines include tolvaptan as a treatment option, while European guidelines do not. Tolvaptan carries the risk of sodium (Na^+) overcorrection (increase greater than 8–12 mEq/L in 24 hours) which has been reported in 2% - 25% of patients. Risk appears higher in syndrome of inappropriate antidiuretic hormone (SIADH) patients, serum $Na^+ \leq 121$ mEq/L and BUN ≤ 10 mg/dl. Congestive heart failure (CHF) patients may carry a lower risk of overcorrection than SIADH patients.

Objective: To determine the risk of Na^+ overcorrection following tolvaptan use in acutely ill patients.

Methods: Retrospective, observational chart review of patients administered tolvaptan between August 1, 2015 to August 1, 2017. Patient demographics, pertinent clinical information and laboratory values were collected. Primary outcome was the change in serum Na^+ at 24 hours and 48 hours.

Results: Ninety-three patients were included in the study. Eighty patients received only a single dose, and 13 received multiple doses. The average rise in Na^+ in 24 hours and 48 hours were 7.6 mEq/L and 8.5 mEq/L, respectively. An increase in $Na^+ \geq 8$ mEq/L in 24 hours occurred in 36.6% of patients and 9.7% increased $Na^+ \geq 12$ mEq/L in 24 hours.

Conclusion: Tolvaptan is associated with a considerable risk for overcorrection. To reduce the risk of overcorrection and its consequences, we recommend tolvaptan orders be limited to single doses with mandatory sodium monitoring (every 6 hours for 36 hours, then every 12 hours).

SEDATION REQUIREMENTS IN VENOVENOUS AND VENOARTERIAL EXTRA CORPOREAL MEMBRANE OXYGENATION (ECMO)

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Background: Pharmacokinetic and pharmacodynamic principles are altered in patients on Extra Corporeal Membrane Oxygenation (ECMO) due to increased volume of distribution and sequestration of drugs in the ECMO circuit.

Objective: The primary objective was to evaluate dosing requirements of sedatives and analgesics in patients undergoing ECMO support stratified by the number of days on ECMO.

Methods: In this retrospective, Institutional Review Board approved study at NYU Langone Health (NYULH), we included all patients on venovenous (VV) or venoarterial (VA) ECMO for more than 24 hours. Patients who died within 48 hours of ECMO initiation, or who were cannulated at an outside hospital for 24 hours prior to transfer to NYULH were excluded.

Results: There were 12 patients in the VV group and 11 patients in the VA group. The most commonly utilized sedatives and analgesics included fentanyl, dexmedetomidine, and propofol. During the first week of ECMO, the median number of patients on fentanyl, dexmedetomidine, and propofol were 19, 11, and 5 with median daily doses of 2843 mcg, 1416 mcg, and 1898 mg, respectively. After the initial 48 hours of ECMO support, patients were maintained at a median Richmond Agitation Sedation Scale (RASS) of 0 to -1.5. The length of ECMO support was 6.2 days in the VV group compared to 3.6 days in the VA group. The median length of stay was 19 days in the VV group compared to 17 days in the VA group.

Conclusions: Pending statistical analysis.

IMPACT OF DELAYING FLUOROQUINOLONE PROPHYLAXIS IN ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION FROM DAY 0 TO NEUTROPENIA ON PATIENT OUTCOMES

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Purpose: Allogeneic hematopoietic stem cell transplant (HSCT) recipients are at an increased risk of developing infection following HSCT and the question of when to initiate antibacterial prophylaxis is controversial. In July 2017, a practice change was implemented at our institution for patients receiving allogeneic HSCT, delaying antibacterial prophylaxis from day 0 to an absolute neutrophil count (ANC) <500 cells/mm^3. This study aims to evaluate the impact of delaying prophylaxis on patient outcomes.

Methods: This retrospective study was approved by the institutional review board. The electronic medical record will be used to identify adult allogeneic HSCT patients admitted prior to (PRE) and after (POST) the practice change from January 2016 to December 2018. Those who received or were planned to receive fluoroquinolone prophylaxis during admission will be included. The primary outcome is the proportion of patients with febrile neutropenia. Secondary outcomes include incidence of infection and graft-versus-host disease (GVHD).

Results: Based on our interim analysis, conducted from January 2016 to December 2017, there were higher risk HSCT patients in the POST arm. Despite this, patients in both arms had a similar incidence of febrile neutropenia (PRE, 59.3% vs. POST, 58.8%; p=0.97). Incidence of infection and GVHD were similar between the two arms as well.

Conclusions: The initiation of fluoroquinolone prophylaxis at neutropenia showed no difference in febrile neutropenia, infection, and GVHD. As more allogeneic HSCT recipients are admitted, the dataset will be expanded to include patients until December 2018. With increased sample size, our hope is to confirm the trends seen in patient outcomes.

EVALUATING THE IMPACT OF AMBULATORY CARE CLINICAL PHARMACISTS ON MEDICATION UNDERSTANDING AND ADHERENCE

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Introduction/Background: Studies have shown mixed results regarding whether medication education correlates with medication adherence and ultimately, improved health outcomes. Pharmacists are well-suited as medication educators but it is unclear whether this education translates to better medication understanding. This study evaluates the impact of visits with an ambulatory care clinical pharmacist at an adult medicine clinic on patients' self-reported medication understanding.

Objectives: The primary outcome is patients' self-reported medication understanding as described by responses to a survey developed for this study.

Methods: This study is a survey-based, single-center, descriptive study. Returning patients with at least one visit with the ambulatory care clinical pharmacist will be asked to complete a post-visit survey, while new patients presenting for their first visit will complete a pre- and post-visit survey. Trends in survey responses pre- and post-visit, as well as patterns between patients' views on their interactions with pharmacists and their self-described medication understanding will be evaluated.

Results: This study is under IRB review. Results are expected by May 2018.

Conclusions: This study is under IRB review. Conclusions are expected by May 2018.

POSACONAZOLE VERSUS VORICONAZOLE AS ANTIFUNGAL PROPHYLAXIS DURING INDUCTION THERAPY FOR ACUTE MYELOGENOUS LEUKEMIA OR MYELODYSPLASTIC SYNDROME

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Background: Patients with acute myelogenous leukemia (AML) or myelodysplastic syndrome (MDS) undergoing induction chemotherapy are at increased risk of invasive fungal infection (IFI) due to prolonged, severe neutropenia. Due to this risk, national guidelines recommend IFI prophylaxis in this population until the resolution of neutropenia. Although posaconazole has demonstrated superiority over fluconazole and itraconazole, there is limited evidence for voriconazole for IFI prophylaxis in this population. Even less data is available comparing posaconazole and voriconazole directly.

Objective: The study objective was to investigate the efficacy and safety of delayed-release (DR) posaconazole tablets versus voriconazole for primary IFI prophylaxis. The primary outcome was rate of discontinuation of either agent. Secondary outcomes included specific rates of discontinuation due to adverse events and drug-drug interactions, and 30-day and 100-day mortality rates.

Methods: This was a retrospective chart review of adult patients admitted to NYU Langone Health between January 2014 and August 2017 and initiated on IFI prophylaxis for induction or re-induction chemotherapy for AML or MDS.

Results: In total, 77 patients were included in the study: 43 using posaconazole DR tablets and 34 using voriconazole tablets. In the posaconazole group, 30% of patients discontinued therapy for any reason compared with 35% of patients in the voriconazole group.

Conclusions: Pending statistical analysis.

REDUCING THE INAPPROPRIATE USE OF INTRAVENOUS HEPARIN WITH PHARMACIST INTERVENTION

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Background: At Huntington Hospital, patients who take an oral anticoagulant at home are often bridged with intravenous (IV) heparin prior to procedures. The BRIDGE trial found not bridging with low-molecular-weight heparin in selected surgical patients was non-inferior to bridging for the prevention of arterial thromboembolism and decreased the risk of major bleeding. Heparin is associated with a high percentage of medication errors which may lead to adverse effects including bleeding. The purpose of this study is to implement pharmacist interventions based on the BRIDGE trial, as well as to reduce inappropriate use of intravenous heparin in patients newly diagnosed with venous thromboembolism or atrial fibrillation/atrial flutter.

Objective: The primary objective was to compare the length of stay between patients on IV heparin with and without pharmacist monitoring and intervention. Secondary objectives include 30-day emergency department visits, 30-day readmissions, and adverse anticoagulant related side effects.

Methods: This was an IRB-exempt quality improvement study. The retrospective and prospective groups consist of patients on IV heparin without and with pharmacist monitoring/intervention, respectively.

Results: Of 100 patient charts reviewed retrospectively, 30 patients fit inclusion criteria and 29 out of 164 patients were included from the prospective group. Of the 29 included prospective cases, 7 required pharmacist intervention. The average length of stay in the prospective group was 333 hours vs. 315 hours in the control group.

Conclusions: Based on the data collected, it appears prescribers are using IV heparin less often and primarily in cases in which its use is warranted.

EVALUATION OF DIGOXIN CONCENTRATION AFTER LOADING DOSE IN CRITICALLY ILL PATIENTS

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Background: Digoxin is a cardiac glycoside used in the treatment of refractory atrial fibrillation (AF). An intravenous (IV) loading dose (LD) is typically calculated using weight-based or pharmacokinetic formulas. It is postulated that altered distribution and impaired clearance may predispose the critically ill population to toxic effects of digoxin. However, there is little data to guide digoxin LD adjustments in this population.

Objective: This study evaluated LD strategies of IV digoxin for AF in the intensive care unit (ICU) for safety and efficacy.

Methods: This was a retrospective, single-center study approved by the Institutional Review Board. Patients included were admitted to the ICU, received an IV digoxin LD for AF, and had serum drug levels collected between 4 and 24 hours after LD completion. The primary outcome was the incidence of supratherapeutic digoxin levels (≥2 ng/mL). Secondary outcomes included the ratio between the pharmacokinetically calculated LD and the administered LD, efficacy, and incidence of adverse effects.

Results: Of the 92 patients included in this study, 11 patients had levels greater than 2 ng/mL and 81 had levels less than or equal to 2 ng/mL. The administered LD was 1.7 fold higher than the calculated LD (calculated to target a level of 1 ng/mL). Rate control was achieved in 85.9% of all patients, with recurrence occurring in 27.2%. Symptoms of digoxin toxicity were more likely to occur in patients with supratherapeutic digoxin levels (36.4% vs 16%), with the most common adverse effects being nausea and bradycardia.

Conclusions: Pending statistical analysis.

EVALUATION OF DIABETES PATIENT CARE INDICATORS IN A PRIMARY CARE CLINIC

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Background: At Wegmans Food Markets Inc, the pharmacy department is in a unique position to collaborate with primary care providers due to the access of care we can provide for patients. Pharmacists can complete chart reviews for patients with diabetes to determine if each patient is being treated according to the American Diabetes Association (ADA) Diabetes guidelines and meeting the Pharmacy Quality Alliance (PQA) measures for quality care. Upon completion of the chart review, the pharmacist can make recommendations to the provider to improve patient care and compliance with the standards. This effort will help free up provider time, improve patient outcomes and facilitate care coordination between community pharmacists and providers.

Objective(s):
The objectives of this study are to:

1. Determine the proportion of patients on guideline directed therapy.
2. Determine the proportion of prescribers following guideline directed therapy.
3. Determine the proportion of patients meeting PQA quality measures

Methods: We aim to conduct chart reviews of diabetic patients to find the number of uncontrolled diabetics (A1C >8%) that are not on guideline directed therapy based on the ADA Guidelines and the PQA quality measures. Participants are mutual patients of both Wegmans Pharmacy and Highland Family Medicine. They have voluntarily enrolled in the Rochester Regional Health Information Organization. Currently pending IRB approval.

Results: Pending

Conclusions: Pending

LOW-DOSE HEPARIN INFUSIONS FOR ACUTE ISCHEMIC STROKE

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Purpose: Current guidelines for the management of Acute Ischemic Stroke (AIS) recommend against initiation of heparin within 24 hours of symptom onset. Early trials demonstrated a significantly reduced risk of recurrent ischemic stroke within this period, however the benefit was offset by the risk of hemorrhage. Due to the considerable heterogeneity that exists between trials evaluating anticoagulation following AIS it is difficult to discern whether there is a role in the acute period. Additionally, certain subsets of patients require continuous anticoagulation. The objective of this study is to identify populations where a low-dose heparin protocol may be of benefit.

Methods: This will be a retrospective chart review of AIS patients at Buffalo General Medical Center. The electronic medical record system will identify patients who have received a low-dose heparin infusion within 24 hours of symptom onset. The primary endpoint will be a composite of hemorrhagic conversion or death. Secondary endpoints include microhemorrhage and bleeding requiring discontinuation of anticoagulation. Included in analysis will be location of stroke and indication for anticoagulation.

Results: in progress

Conclusions: in progress

A RETROSPECTIVE EVALUATION OF PHARMACIST-DRIVEN ENOXAPARIN DOSING FOR VTE PROPHYLAXIS IN CRITICALLY ILL TRAUMA PATIENTS

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Background: Critically ill trauma patients frequently receive enoxaparin 30 mg twice daily (BID) as venous thromboembolism (VTE) prophylaxis. These doses commonly produce lower than recommended anti-factor Xa trough concentrations (0.11 – 0.20 IU/mL), which increases risk for VTE. Pharmacists at our institution have a unique role in monitoring and recommending dose adjustments for enoxaparin VTE prophylaxis in critically ill trauma patients based on anti-factor Xa trough levels. Currently, there is no information available describing the pharmacist's role in therapeutic drug monitoring for enoxaparin chemoprophylaxis in critically ill trauma patients.

Objective(s): The primary objective is to determine the frequency that critically ill trauma patients receiving pharmacist-driven enoxaparin dosing achieve recommended anti-factor Xa trough levels. The secondary objectives are to characterize the frequency that trauma providers accept pharmacist recommendations for enoxaparin dosing and to determine the frequency that standard prophylactic enoxaparin dosing results in lower than recommended anti-factor Xa levels.

Methods: Adult patients (≥ 18 years of age) who had an anti-factor Xa trough concentration drawn after at least three consecutive prophylactic enoxaparin doses between June 1, 2017 and March 1, 2018 were identified through chart review and included in this study. Patients were excluded if they had incorrect trough level collection, non-trauma based enoxaparin dosing, hospital length of stay less than 2 days, pre-existing VTE, or were pregnant. Data collection included demographics, initial and final enoxaparin dosing, pharmacist dosing recommendations, and anti-factor Xa trough concentration and collection times. This study was exempt from IRB review.

Results: In progress.

Conclusions: In progress.

CHOICE OF ORAL STEPDOWN THERAPY EFFECT ON READMISSION RATES IN *ESCHERICHIA COLI* BACTEREMIA

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Background: *Escherichia coli* (*E.coli*) is the most common cause of community-acquired bloodstream infections. Fluoroquinolones and sulfamethoxazole/trimethoprim are preferred oral stepdown therapy due to high bioavailability. Antimicrobial stewardship programs commonly restrict fluoroquinolones, promoting consideration of non-fluoroquinolone agents for treatment of sensitive organisms.

Objective: Compare readmission and infection related outcomes in patients using fluoroquinolones or sulfamethoxazole/trimethoprim versus β-lactams.

Methods: This retrospective non-inferiority study was granted exempt status by the Institutional Review Board. The electronic health record was utilized to identify patients diagnosed with *E.coli* bacteremia January 1st, 2016 - December 31st, 2017. Exclusion criteria included hospital acquired infections, death during hospitalization and concomitant infections. Patient demographics, Charleston Comorbidity Index, antibiotic regimen, and readmission were collected. We hypothesized β-lactams would be non-inferior to fluoroquinolones and sulfamethoxazole/trimethoprim for the primary outcome of 30-day all-cause readmission; a pre-trial non-inferiority margin rate was set at 3% in which the upper limit of the 95% CI for absolute risk difference should not exceed 15%. Secondary outcomes included superiority testing of 30-day infection related and *E.coli* readmission between antibiotic groups.

Results: Fifty-seven patients received fluoroquinolones or sulfamethoxazole/trimethoprim and 151 received β-lactams; 30-day-all cause readmission rate was 16% and 29%, respectively (absolute risk difference 13%, CI 1-25). There was a statistically significant difference in infection related readmission rate (22% versus 45%, p=0.04). *E.coli* accounted for 100% of infection related readmissions in the fluoroquinolones and sulfamethoxazole/trimethoprim group and 70% in the β-lactam group.

Conclusions: Stepdown oral therapy to β-lactams resulted in higher rates of 30-day-all cause and infection related readmissions in patients with *E.coli* bacteremia.

OPTIMAL DIURETIC DOSING STRATEGY IN ACUTE DECOMPENSATED HEART FAILURE PATIENTS

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Introduction/Background: Intravenous (IV) loop diuretics are a critical part of the treatment regimen for patients with Acute Decompensated Heart Failure (ADHF). To date, limited prospective data guides its use.

Objective(s): We aim to explore how various IV furosemide dosing strategies impact length of stay (LOS) of hospitalized ADHF patients in our institution.

Methods: Data was collected for 72 patients who received high dose (≥ 80 mg) or low dose (< 80 mg) IV furosemide during their first hospitalization for heart failure. We analyzed the effect of high dose vs. low dose IV furosemide on LOS.

Results: High dose group had shorter LOS (5.6 ± 3.9 days) vs. low dose group (6.6 ± 3.3 days); however, this finding was not significant (p=0.27). Elevation in SCr > 0.3 mg/dL was 2.7% in both groups. High dose group (-6.5 ± 4.6 kg) experienced more weight loss when compared to the low dose group (-4.1 ± 4.2 kg); however, the difference was not significant (p=0.26).

Conclusion: Among patients with ADHF, high dose IV furosemide did not significantly reduce LOS. Future studies should be conducted with larger sample size to identify the true impact of high dose furosemide on LOS.

TIME TO SEPTIC SHOCK RESOLUTION IN PATIENTS ON OUTPATIENT ANTIHYPERTENSIVE MEDICATIONS

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Background: Approximately seventy-five million people in the United States have hypertension and about seventy-six percent are on antihypertensive medications. Antihypertensives may potentiate shock and pharmacologically oppose the effect of vasopressors. Outpatient use of calcium channel blockers and beta-blockers prior to septic shock episode have demonstrated reduced 30-day and 90-day mortality. However, the effect of chronic antihypertensive use on time to septic shock resolution is not well understood. This study was conducted to evaluate the effect of chronic antihypertensive use on time to septic shock resolution.

Objective: The primary outcome was time to shock resolution. Secondary outcomes include cumulative vasopressor requirements, duration of mechanical ventilation, and duration of renal replacement therapy. Patients were excluded if they expired prior to vasopressor discontinuation.

Methods: This was a retrospective, single-center, propensity matched cohort study to assess time to septic shock resolution in adult patients (≥ 18 years old) in the medical intensive care unit (MICU) who received norepinephrine.

Results: Pending

Conclusions: Pending

EFFECT OF ORAL VANCOMYCIN DOSING ON CLINICAL OUTCOMES OF *CLOSTRIDIUM DIFFICILE* INFECTION

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Introduction: *Clostridium difficile* infection (CDI) is one of the most common nosocomial infections. Recurrence is common, occurring in up to 30% of patients. Few studies have evaluated the effect of different doses of oral vancomycin across illness severities.

Objective: The aim of this study is to determine if differences in clinical outcomes exist based on oral vancomycin dose for the treatment of CDI.

Methods: Patients were included based on positive *C. difficile* toxin PCR and receipt of oral vancomycin for ≥48 hours. Patients who receive surgical intervention within 48 hours, vancomycin per rectum, or expire within the first 48 hours of treatment will be excluded. Past medical history, clinical data and severity of illness data were collected. The primary outcome is CDI recurrence within 90 days. Secondary outcomes include readmission, length of stay following positive PCR and 30-day all-cause mortality.

Results: To date, 126 patients have been enrolled in the study, with 59 (46.8%) receiving 125mg four times daily and 67 (53.2%) receiving ≥250mg four times daily. Patient demographics were similar at baseline with the exception of diabetes and chronic liver disease. There was no significant difference between 125mg and ≥250mg groups with respect to CDI recurrence within 90 days (10.2% vs. 9.0%, p=0.82). Additionally, there was no significant difference in hospital readmission within 90 days (27.1% vs. 28.4%, p=0.88), 30-day all-cause-mortality (6.8% vs. 11.9%, p=0.33) or average infection-related length of stay (median: 6 days vs. 8 days, p=0.35).

Conclusion: Preliminary analyses suggest no difference in CDI outcomes between standard and high dose vancomycin.

ASSESSING PRESCRIBING TRENDS AND FINANCIAL IMPACT POST UPGRADE OF COMPUTERIZED PHYSICIAN ORDER ENTRY SYSTEM IN A TERTIARY HOSPITAL WITHIN A LARGE HEALTHCARE NETWORK

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Background: In October 2015, Lenox Hill Hospital converted to the Northwell Health system CPOE platform which resulted in the addition of 926 medications to formulary and an increase in inventory cost of $200,000.

Objective: The objective of this retrospective study was to assess if a shift in prescribing practice could be correlated to the financial impact on pharmacy budget by comparing pre and post-integration data.

Methods: Variables that were analyzed included inpatient prescription orders, number of medication orders per patient, average length of stay, number of discharges, and case mix index (CMI) in 2015 and 2016, respectively. In order to determine impact on pharmacy operations, the actual drug administration records were examined as well the number of medication orders that pharmacy intervened on.

Results: The analysis showed that compared to 2015, the patient census decreased by two-percent and the average cost of medications per patient by one-percent in 2016. Conversely, there was an increase in the amount of medication orders per patient, overall pharmacy cost and CMI. However, the rise in medication cost was not found to be a result of the increases in number of orders per patient or CMI since there was no change in average length of stay.

Conclusions: The additional expenses were attributed to prescriber adjustment to new items within the system because medication related interventions made by pharmacy dramatically rose by thirty-eight percent. Therefore it was concluded that the increase of cost of maintaining the new formulary medications did not have a positive impact on overall hospital outcomes.

IMPLEMENTATION OF A PHARMACY RESIDENT REFERRAL SYSTEM TO IMPROVE PNEUMOCOCCAL VACCINATION RATES IN A COMMUNITY HOSPITAL

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Background: Pneumococcal disease is a serious infection that can lead to pneumonia, meningitis, sepsis, extended hospitalization and death. Approximately 5-7% of the 900,000 Americans infected each year die. To combat this, the Centers for Disease Control and Prevention (CDC) established pneumococcal vaccination recommendations to prevent disease. The purpose of this study is to build a pharmacy resident driven referral system to increase awareness and facilitate vaccinations of inpatients in a community hospital.

Objective: The objective of this study is to determine the impact of a pharmacist referral system on pneumococcal vaccination rates and nurses' knowledge of pneumococcal vaccination.

Methods: Patients admitted between September 2017 and March 2018 were included. Patients were excluded if they were under 19 years old, pregnant, receiving chemotherapy, had a history of allergy to the vaccine, or a transplant within the past 12 months. CDC vaccination recommendations were utilized to identify candidates for vaccination. A pharmacy resident contacted providers for possible vaccination from January to March 2018. Data from September to November 2017 served as the control. Nurses' knowledge was assessed before and after education.

Results: The rate of pneumococcal vaccination was significantly higher in the interventional group (8.2%, n=303) than the control group (3.9%, n=428) ($p=0.019$). Nurses' knowledge of pneumococcal vaccination increased by 16% ($p<0.0001$). A positive correlation between nurses' knowledge and vaccination rate was observed ($r=1$).

Conclusions: Implementation of a pharmacy resident referral system improved pneumococcal vaccination rates and nurses' knowledge of the vaccine.

EVALUATION OF PRESCRIBING PATTERNS AND DEVIATIONS IN APIXABAN DOSING SECONDARY TO RENAL DYSFUNCTION IN AN URBAN ACADEMIC MEDICAL CENTER

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Introduction/Background: Despite lack of safety and efficacy data, apixaban is the only direct-acting oral anticoagulant (DOAC) approved for use in severe renal impairment, including hemodialysis. Dose adjustments are indicated only in atrial fibrillation patients with serum creatinine (SCr) >1.5mg/dL, who are >80 years or <60kg. Current prescribing practices in the setting of renal impairment at our institution are not well understood.

Objective(s): The objective was to evaluate the appropriateness of current apixaban prescribing practices in order to implement standardized treatment guidelines within our institution.

Methods: A retrospective chart review was conducted to identify renally impaired patients (SCr >1.5mg/dL) prescribed apixaban over a 3-month period. The following data was collected: age, weight, renal function, indication, dosing, and history of bleeding/thromboembolism. Dosing rationale, if documented, was reviewed. The appropriateness of apixaban use at the time of order entry was ascertained according to predefined dosing criteria by the manufacturer. The primary endpoint was the proportion of orders with any deviation from standard dosing based on established manufacturer recommendations.

Results: There were 201 apixaban orders in renally impaired patients identified from August 1, 2017 – October 31, 2017. Any deviation from standard dosing was observed in 54 (26.9%) cases. Rationale for dosing deviation was documented in 11 cases.

Conclusions: Apixaban is often prescribed differently than current manufacturer recommendations in patients with renal dysfunction. Misconceptions related to apixaban dosing persist among prescribers. The health system would benefit from implementation of dosing guidelines upon computerized order entry to enhance standardization and appropriateness of apixaban prescribing practices.

EVALUATING THE ACCURACY OF HOME MEDICATION HISTORY COLLECTION AND RECONCILIATION AT A TERTIARY HOSPITAL

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Introduction/ Background: Medication error is estimated as the third highest cause of death in the United States. Medication history and reconciliation are associated with up to 27% of all medication errors. Literature indicates that pharmacists are most qualified to produce the best possible home medication history.

Objectives: The objective was to evaluate discrepancies in home medication collection of pharmacy versus non-pharmacy staff at a tertiary teaching hospital.

Methods: This was an IRB approved, prospective, qualitative evaluation. Randomly selected patients were included from Oct. 2017 – Jan. 2018 if they met the following criteria: age 18 years or older, admitted within 36 hours, presence of at least one chronic disease, taking a minimum of five Leapfrog® Gold standard medications (defined as all medications excluding most topical, OTC, and PRN medications), and prior completion of the medication history by non-pharmacy staff. Included subjects had a second medication history collected by pharmacy staff. The primary outcome was the number and type of discrepancies from home medication history collection of pharmacy staff versus non-pharmacy staff. Types of medications involved, number of pharmacy interventions, 30-day readmission rates, and comparison of discrepancies identified between pharmacists and student pharmacists were also evaluated. Descriptive statistics was used.

Results: Of 110 included patients, 241 discrepancies were identified (2.18 ± 2.75 discrepancies per patient). The most common discrepancy was the omission of a medication (55, 22.8%) with cardiac medications (42, 22.4%) having the most discrepancies.

Conclusions: Pharmacy staff members continue to be an immense resource for medication history collection and reconciliation.

EFFICACY OF IV ACETAMINOPHEN COMPARED TO IV KETOROLAC ON PAIN SCORES WHEN USED FOR THE MANAGEMENT OF PAIN IN THE EMERGENCY DEPARTMENT

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Introduction/Background: Acute pain is a major indication for patient presentation in the emergency department. With the rise in the opioid epidemic and opioid-related drug abuse, non-opioid pain management options such as nonsteroidal anti-inflammatory drugs (NSAIDs) and acetaminophen are being brought into the forefront of care. Currently, there are no studies directly comparing the use of parenteral acetaminophen to parenteral ketorolac in the scope of acute pain management. The results of this study could be used in the development of an institution-specific protocol focused on cost-effective non-opioid driven pain management for the Emergency Department.

Objective: The objective of this study is to compare the clinical efficacy on pain of parenteral acetaminophen vs parenteral ketorolac administration in the Emergency Department.
Methods: This study is a retrospective chart review and was approved by the ethics committee and IRB. The primary endpoint is the change in pain scores before and after administration of the interventional agent. Appropriate statistical analysis will be determined by the biostatisticians at the Northwell Health Feinstein Research Institute.

Results: Data collection and analysis is currently in-progress. Full analysis of primary and secondary endpoints will be completed in Spring 2018.

Conclusions: Conclusions cannot be drawn at this point as data collection and analysis is currently in progress. Full conclusions of primary and secondary endpoints will be completed in Spring 2018.

EVALUATING THE IMPACT OF TECHNOLOGY UTILIZATION BY PROVIDERS ON REDUCING MEDICATION ERRORS ON ADMISSION

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Background: The Joint Commission developed a set of National Patient Safety Goals to help improve patient safety through accurate medication reconciliations. However, obtaining accurate medication lists continues to be a problematic issue.

Objectives: The primary objective is to determine if the implementation of an electronic health information (EHI) exchange system is effective in improving the accuracy of medication reconciliations. The secondary objective is to assess providers' utilization of the system, identify gaps in usage and potential areas of improvement to increase accuracy of medication lists.

Methods: This is a prospective study conducted at Lenox Hill Hospital through the emergency department (ED), and will include 200 patients. Pharmacists will complete medication reconciliations for patients in the ED. This list will be compared to those documented by the ED team on the EHI system, as well as medications prescribed upon admission by providers. The three comparator groups will be analyzed to assess for discrepancies. A survey will be conducted to evaluate EHI system utilization between different providers.

Results: Medication discrepancies were evident when comparing those obtained by pharmacists to those obtained by the ED team, and to medications prescribed upon admission by providers. Missing medications remain the highest type of discrepancy between all comparator groups. Surveys indicate that providers are aware of the EHI system, and that technology has not improved accuracy in documenting medication reconciliations.

Conclusions: Implementation of an EHI system continues to result in inaccurate medication reconciliations, resulting in missed doses or incorrect medications ordered for patients upon admission.

VITAMIN C, THIAMINE, AND HYDROCORTISONE BUNDLE FOR THE TREATMENT OF SEPTIC SHOCK

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Background: The overall mortality of sepsis has decreased from previous years with increased recognition and rapid management, yet the mortality still remains as high as 50%. There have been many studies attempting to identify additional therapeutic targets to decrease sepsis-related mortality. A recent study in 2016 found a significant decrease in mortality with a regimen of hydrocortisone, ascorbic acid, and thiamine. Further studies are needed to replicate this outcome in a larger number of patients.

Objective: The objective of this study is to evaluate the outcome and clinical course of septic shock patients treated with hydrocortisone, ascorbic acid, and thiamine.

Methods: This is a single-center clinical study with a retrospective control group and a prospective group for the treatment of and septic shock. Included are patients who received the standard of care for septic shock and patients who received the sepsis bundle: ascorbic acid, hydrocortisone, and thiamine within 48 hours upon initial suspicion of septic shock. Patients will be evaluated on a daily basis to be included in the study. Primary outcomes of the study are hospital survival and ICU length of stay. The secondary outcomes are duration of vasopressors and time on mechanical ventilation.

Results: Treatment outcomes in both groups will be presented and compared. Patients receiving the standard of care or the sepsis bundle will be evaluated.

Conclusion: It is anticipated that this evaluation will provide data that may guide clinicians in choosing an appropriate treatment regimen for septic shock and may improve the standard of care.

EVALUATION OF A PHARMACIST-DRIVEN PNEUMOCOCCAL VACCINATION PROTOCOL

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Background: *Streptococcus pneumoniae* remains a leading cause of serious illness in adults age 65 years and older. Both conjugate and polysaccharide pneumococcal vaccines have proven efficacy in the prevention of pneumococcal disease in clinical trials. The involvement of a pharmacist in a hospital-based vaccination protocol has been proven to increase immunization rates in multiple studies. Kaleida Health reported 826 pneumonia patients over 3 years to Medicare resulting in an average 30-day cost of $16,680 per patient. Buffalo General Medical Center (BGMC) introduced a pharmacist-driven pneumococcal vaccination protocol. This study was conducted to evaluate the pre- and post-involvement of a pharmacist on pneumococcal immunization rates.

Objective: The primary endpoint is the change in pneumococcal vaccination rate after the involvement of a pharmacist-driven protocol in patients 65 years and older admitted under the care of a medicine team. The secondary endpoint is a cost-benefit analysis.

Methods: This was a retrospective, pre-post chart review of patients 65 years and older admitted to BGMC between December 1, 2016 and January 31, 2017 for the pre-protocol group, and between December 11, 2017 and February 9, 2018 for the post-protocol group. Patients were excluded if they had a documented history of up-to-date pneumococcal vaccination. Pharmacists involved in the protocol documented their time spent per patient which will be used in a cost-benefit analysis to determine the utility of this protocol. This study was approved by the University at Buffalo Institutional Review Board and the BGMC Pharmacy and Therapeutics committee.

Results: In progress

Conclusions: In progress

EFFECTS OF HYPOALBUMINEMIA ON RISK OF BLEEDING IN PATIENTS TREATED WITH RIVAROXABAN

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Background: Hypoalbuminemia is a known risk factor for bleeding, likely partially because it is an indicator of liver dysfunction. Warfarin is 99% protein bound and low albumin seems to affect the degree of anticoagulation of warfarin. Rivaroxaban is a direct acting oral anticoagulant that is 92-95% protein bound, but no recommendations are provided for the management of patients with low albumin.

Objectives: This study aimed to determine the effects of hypoalbuminemia on bleeding risk in patients treated with rivaroxaban. The primary objective was the average albumin in patients who experienced a bleeding event on rivaroxaban compared to patients who did not experience a bleed on rivaroxaban. Secondary endpoints include the average albumin in patients who experienced major bleeds and in those with minor bleeds.

Methods: Patients at least 18 years of age who received rivaroxaban at an adult inpatient facility and had at least one albumin level reported were included in this retrospective cohort study. Patients who received rivaroxaban from July 2013 to October 2017 were identified by a computer generated electronic report and then evaluated for inclusion. Patients were excluded if they had experienced a stroke within fourteen days of a bleeding event and those with recent exposure to therapeutic anticoagulation.

Results: In progress.

Conclusion: In progress.

EVALUATING THE APPROPRIATENESS OF INTRAVENOUS BETA-LACTAM ANTIBIOTICS CLEARED BY INTERMITTENT HEMODIALYSIS

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Objectives: Intermittent hemodialysis (IHD) is able to extract and clear certain antibiotics in those requiring renal replacement therapy, increasing the risk of subtherapeutic levels. The administration timing of antibiotics dosed every 24 hours or greater, with respect to IHD, is critical. The objective of this study is to assess the appropriate timing of antibiotic orders in patients receiving hemodialysis.

Methods: The study was determined to not be human subject research by the IRB. Data was obtained through a retrospective, observational chart review of patients who completed IHD and received at least one dose of cefazolin, cefepime, ertapenem or meropenem during the study period of January to August 2017. The primary outcome of the study was to assess the appropriate timing of doses with respect to dialysis sessions. Doses were considered inappropriate if given within 6 hours prior to or during dialysis. Secondary outcomes include treatment failure, length of stay (LOS) and determination if an issue in prescribing upon order entry exists. Appropriate statistical analysis will be performed.

Results: A total of 100 patients were included in the study. Of the 257 hemodialysis sessions analyzed, 83% of the antibiotics administered were timed appropriately. The most commonly administered antibiotic in the study was meropenem (35.4%), followed by cefepime (25.7%), cefazolin (24.8%) and ertapenem (14.1%). The mean LOS in the inappropriate group was longer than the appropriate group (23.7 vs. 17.5 days).

Conclusions: Appropriate timing of antibiotics in IHD patients was found to be inconsistent. Education amongst prescribers, pharmacists and nurses is warranted to improve patient outcomes.

EFFECT OF VOCERA® ON DECREASING STAT MEDICATION ADMINISTRATION TIME

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Background: Delays in STAT medication delivery and administration are common concerns in hospitals. Timely administration of STAT medication (within 30 minutes) is critical for patient care. Many steps are involved in the medication process including: physician order entry, pharmacy verification, filling, delivering and ultimately, medication administration by nurses. Inadequate communication may play a role in delaying medication administration. The use of Vocera® (a voice-directed technology) has the potential to improve communication between healthcare providers, therefore improving patient care.

Objective: Primary outcome was to evaluate the timing of STAT medication administration before and after the implementation of Vocera®.

Methods: Data on STAT medication processes at Lenox Hill Hospital were collected and analyzed for August 2016 and 2017: total number of orders, time to order verification, time to medication administration, and medication origin (floorstock vs. non-floorstock). Orders were excluded if the time of administration were negative or greater than 500 minutes. Vocera® was implemented in the pharmacy to be used by our ED, IV and main distribution pharmacists to contact nurses on the status of STAT medications ordered. A comparison was done to evaluate the effectiveness before and after the implementation of this technology.

Results: Two months of data were collected post-Vocera® implementation. No significant reduction in administration time were found when compared to pre-Vocera® data (Pre→ Aug. 2016: 63.63 mins, 2017: 70.41 mins; Post→ November: 53.53 mins, December: 60.38 mins).

Conclusions: Upon data collected, communication with nurses on the status of STAT medications was unsuccessful in attaining appropriate medication administration times.

EVALUATION OF A PHARMACIST-MANAGED CULTURE REVIEW PROCESS IN THE EMERGENCY DEPARTMENT

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Background: Current literature demonstrates that pharmacist involvement in the culture review process results in more appropriate antimicrobial therapy and reduced Emergency Department (ED) readmissions. A pharmacist-led culture review process was implemented at Buffalo General Medical Center (BGMC) in October 2017 targeting patients discharged from the ED with pending cultures. As part of this process, pharmacists review these patients' cultures on a daily basis for potential antibiotic optimization. This study was conducted to determine the impact of the newly implemented ED culture review process on patient antimicrobial regimens.

Objective: The objective was to compare the incidence of required interventions made by pharmacists as compared with a mid-level managed, historical cohort for patients with urine cultures drawn in the BGMC ED. The primary outcome evaluated the number of required interventions made relating to the utilization of susceptible, guideline-recommended antibiotics. The secondary outcome evaluated the number of required interventions made relating to antibiotic dosing regimens. Patients were excluded if they did not receive any antibiotics, were transferred to another hospital, or left against medical advice.

Methods: This was a retrospective, single-center, pre-post observational cohort study to assess the newly implemented ED culture review process at BGMC.

Results: In progress

Conclusions: In progress

3% HYPERTONIC SALINE VERSUS HYPERTONIC SALINE WITH SODIUM ACETATE FOR INTRACRANIAL PRESSURE REDUCTION: A RETROSPECTIVE ASSESSMENT OF SAFETY AND EFFICACY

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Background: In patients with neurologic injury, uncontrolled intracranial pressure (ICP) elevations are often treated with 3% hypertonic saline (3% HS) to prevent complications; however, hyperchloremia has been associated with adverse events. Our institution uses hypertonic saline solution with sodium acetate (HSwSA) to minimize chloride addition in select patients.

Objective: To investigate whether HSwSA is as effective as 3% HS in maintaining hypernatremia and whether HSwSA decreases hyperchloremia, acute kidney injury, and hyperchloremic metabolic acidosis.

Methods: This was a single-center retrospective chart review on neurologically injured patients receiving 3% HS or HSwSA for ICP control from August 1, 2014 to August 1, 2017. Exclusion criteria included patients given more than one bolus of 23.4% hypertonic saline or received hyperosmolar therapy for hyponatremia. Descriptive statistics were utilized to assess efficacy and safety outcomes.

Results: Patients receiving strictly 3% HS required an average of 378 mEq of sodium per day while patients receiving strictly HSwSA required an average of 494 mEq of sodium per day. The average maximum chloride level was 121 mEq/L in 3% HS and 121 mEq/L in HSwSA. When hypertonic therapy was stopped, the average time to normal chloride was 64 hours in the group switched from 3% HS to HSwSA compared to 103 hours in those receiving only 3% HS. No incidences of acute kidney injury and hyperchloremic metabolic acidosis were observed.

Conclusions: Patients receiving HSwSA appeared to require more sodium to maintain hypernatremia but appeared to reach normal chloride levels faster than those receiving 3% HS.

SUCCESSFUL IMPLEMENTATION OF VASOPRESSIN STEWARDSHIP AT MONTEFIORE MEDICAL CENTER

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Background: In 2014, Par Pharmaceuticals gained FDA approval for vasopressin in the treatment of vasodilatory shock. As the only FDA-approved vasopressin injection, the costs increased from $44 to $182 per vial. In January 2017, the clinical pharmacy managers at Montefiore Medical Center implemented cost effective strategies to address appropriate use of vasopressin based on the 2016 Surviving Sepsis Campaign recommendations.

Objective: To evaluate vasopressin use in septic shock with respect to
dose, concomitant vasopressors,and expenditures before and after implementation of strategies in July 2016 versus July 2017, respectively.

Methods: Institution-wide education, development of criteria for vasopressin initiation, reduction of default dosing to 0.03 units/min, and a 24 hour automatic stop-order were implemented across three hospitals of the Montefiore Health System. Of the 85 vasopressin orders evaluated, 44 were from July 2016 and 41 were from July 2017. Categories of inappropriate vasopressin use included: vasopressin monotherapy, dose > 0.03 units/minute, and concomitant low dose vasopressors.

Results: In 2016, 86% orders written for a dose > 0.03 units/min and in 2017, 80% orders were written. Monotherapy decreased from 16% to 2%. Use with concomitant low dose vasopressors decreased from 48 to 15%. Vasopressin expenditure declined from $192,293 to $120,000 in July 2016 to July 2017, respectively.

Conclusions: Combined education, guideline development, and drug waste minimization strategies significantly decreased vasopressin monotherapy, concomitant low dose vasopressors, and expenditures.

EVALUATION OF EMPIRIC INSULIN GLARGINE DOSE REDUCTION ON INPATIENT HYPOGLYCEMIC EVENT RATES

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Introduction/Background: Insulin is one of the leading causes of adverse drug events among hospitalized patients. Patients with diabetes who are hospitalized for an acute illness may experience variations in insulin needs. Hypoglycemia has been associated with worse outcomes including prolonged length of stay, increased mortality, and increased risk for hospital readmissions. In 2017, our institution enacted a new policy to empirically reduce a patient's home insulin glargine dose by 20% upon admission. The aim of this policy is to reduce inpatient hypoglycemic events.

Objective: The objective of this study is to evaluate the effect of empiric insulin glargine dose reductions on the rate of inpatient hypoglycemic events.

Methods: A retrospective chart review is being conducted at Upstate University Hospital, a tertiary care academic medical center. An electronic medical record report was created to identify all patients who received insulin glargine from September 2016 to December 2017. Patients were included in the dose adjustment arm if they had an empiric insulin glargine dose reduction of 20% ± 5% and in the non-dose adjustment arm if the same home dose was continued upon admission. Data collected includes patient demographics, diabetes regimen, dose reduction percentage, and serial blood glucose measurements. Per hospital policy, severe hypoglycemia and hypoglycemia is defined as a blood glucose level below 50 and 70 mg/dL, respectively. Research was granted exemption from IRB. Categorical bivariate analysis will be used for data evaluation.

Results: Pending.

Conclusions: Pending