2023 Eastern States Conference

Program Book

MAY 7 • SUNDAY

11:30am – 12:30pm	S	**Arrival/Registration Group 1** Hotel check in is at 4pm, please arrive in presentation attire.	Great Lobby
12:30pm – 12:50pm	S	**Welcome & Brief Opening Remarks - Group 1** How to evaluate/moderate a platform PowerPoint session.	Crystal A
1:00pm – 1:15pm	A	**Impact of a pharmacist-led intervention on outpatient provider deprescribing of proton-pump inhibitors in patients seen at a primary care clinic** *Presenters: Amanda Smith* *Evaluators: Bryan Wood* *Evaluators 3: Lindsay Arnold, Matthew Brodock* *Evaluators 2: Erin Slazak* TITLE: Impact of a pharmacist-led intervention on outpatient provider deprescribing of proton pump inhibitors in patients seen at a primary care clinic. AUTHORS: Amanda Smith, PharmD; Iain Pritchard, PharmD, BCACP; Nicole Slater, PharmD, BCACP; Marcia Brackbill, PharmD, BCPS OBJECTIVE: To assess the effectiveness of a pharmacist-led intervention on PPI deprescribing at a rural independent primary care clinic and determine if deprescribing measures should be implemented clinic wide. METHODS: A retrospective chart review occurred that evaluated long-term PPI use in patients seen between October 15th, 2022 to February 15th, 2023 at an outpatient primary care clinic. The pharmacists at the site "flagged" patient charts to notify providers that the patient coming in for a clinic visit currently did not have an indication for a PPI and the patient is a candidate for PPI deprescribing. Providers evaluated the pharmacistâ€™s recommendation and made a decision on the therapy. The pharmacist followed up one week after the visit to see if any changes to the PPI regimen were made by the provider. Endpoints included the number of patients that have successfully deprescribed from PPI therapy after pharmacist intervention, and the type of deprescribing that occurred. RESULTS: Out of 496 patients screened, 156 patients were included in this study. Most patients using PPIs long-term were around 65 years of age, female (60%), on a high dose PPI (72.4%), and were using therapy for GERD (91.7%). Roughly 80% of providers accepted the pharmacists recommendation to deprescribe. The majority of the providers that fell into the category of â€œnot acceptedâ€□ were from those that did not address the deprescribing at the visit. About 35% of patients successfully deprescribed with the majority discontinuing therapy completely. CONCLUSIONS: A pharmacist-led intervention on PPI deprescribing was successful. Providers assessed the appropriateness of PPI use after pharmacists flagged the patientâ€™s chart and recommended deprescribing at the patient's visit.	Empire B

1:00pm – 1:15pm C **Disparities in Septic Shock Management and Outcomes** Magnolia C

Presenters: Meghna Basnet
Evaluators: Brandon Snyder
Evaluators 3: Alison Sabados
Evaluators 2: Michael Armahizer

TITLE: Disparities in septic shock management and outcomes

AUTHORS: M. Basnet, A. Dzierba, J. Muir, A. Ammar; NewYork-Presbyterian Hospital (NYP), New York, NY

OBJECTIVE: Health disparities exist across various clinical contexts, including the critical care setting. The objective of this study is to evaluate time to initiation of interventions for the management of septic shock among various socio-demographic groups.

METHODS: This is a retrospective cohort study of patients admitted to NewYork-Presbyterian/Columbia University Irving Medical Center (CUIMC) intensive care units (ICU) who experienced septic shock between January 2021 and August 2022. Adult patients with a billing code for sepsis and initiated on vasopressors in the emergency department (ED) were included. Patients were excluded if they were not directly admitted to the ICU, did not receive antimicrobials in the ED, received less than four days of antimicrobials, maintained on vasopressors for less than three hours, had life-sustaining measures withdrawn, or were pregnant or incarcerated. Patients were stratified into the following socio-demographic groups: sex, race, and ethnicity. The primary endpoint was time to initiation of antimicrobials, vasopressors, and corticosteroids from the onset of the first episode of septic shock. Secondary endpoints included ICU/hospital length of stay, disposition and in-hospital mortality.

RESULTS: The time to initiation of antimicrobials, vasopressors, and corticosteroids between socio-demographic groups will be compared and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate that all patients admitted to the ICU, regardless of race, sex, or ethnicity at NYP/Columbia, will receive timely guideline-concordant interventions to reduce the risk of septic shock-related morbidity and mortality.

1:00pm – 1:15pm C **Impact of Increased Pharmacist Monitoring on Heparin Infusion Nomogram Compliance** Empire C

Presenters: Angela Martoccia Grabazs
Evaluators: Kavitha Dalal
Evaluators 3: Nina Yousefzadeh
Evaluators 2: Brad Heidenthal

TITLE: Impact of increased pharmacist monitoring on time in therapeutic range for heparin infusions

AUTHORS: A. Martoccia Grabazs, PharmD; P. Nguyen, PharmD, R. Santiago, PharmD, BCPS, BCIDP; Brigham and Womenâ€™s Faulkner Hospital (BWFH), Boston, Massachusetts

OBJECTIVE: Heparin infusions are titrated to goal ranges of partial thromboplastin time (PTT) and expedited time to therapeutic PTT improves clinical outcomes. The objective is to measure impact of focused pharmacist monitoring on time in therapeutic range.

METHODS: This single center, pre-post study examines two 3-month intervals of data. Included patients were admitted to BWFH receiving heparin infusion therapy following a nurse-driven protocol. Patients were excluded from analysis if the heparin infusion was initiated prior to arrival or if â‰¤2 PTTs were collected prior to discontinuation. The standard monitoring group was examined through retrospective chart review and compared to the intensive monitoring arm, which included currently admitted patients receiving heparin infusions, reviewed in time by a designated monitoring pharmacist. The primary outcome is the percentage of time in therapeutic range (TTR). Secondary outcomes include the number of pharmacist interventions relative to potential interventions, as well as protocol deviations from the defined nomogram. Data analyzed through independent t and Chi-square tests assesses the impact of focused pharmacist monitoring on safety and efficacy outcomes.

RESULTS: In the retrospective group TTR was 51.7% versus 52.1% in the interventional arm ($p = 0.38$). Completed pharmacist interventions increased from 12.5% in the pre intervention group (10 out of 80) to 71% in the post intervention group (86 out of 121) ($p < 0.00001$). Protocol deviations decreased from 17.4% to 4.16% in the interventional period ($p < 0.00001$). Safety was assessed by incidence of significant bleed events. Two patients in the pre interval (4.0%) exhibited bleeding requiring transfusion, with one requiring drip discontinuation. One patient in the interventional phase (1.6%) experienced bleeding on heparin therapy.

CONCLUSIONS: This research demonstrates impact of focused pharmacy monitoring with significant increases in completed interventions and overall nomogram compliance. The primary outcome of TTR was not significantly improved despite protocol actions being completed correctly at a rate of 96% in the interventional period. Although the data suggests the increased monitoring improved protocol compliance, additional areas for improvement regarding nomogram adjustment may be necessary to increase TTR.

1:00pm – 1:15pm D **Analysis of chronic obstructive pulmonary disease (COPD) inhaler optimization at discharge following acute exacerbation of COPD** Magnolia A

Presenters: Nasim Mavahebitabatabaei
Evaluators: Danielle Davis
Evaluators 3: Jenna Barnes
Evaluators 2: Angelika Krevat

TITLE: Analysis of chronic obstructive pulmonary disease (COPD) inhaler optimization at discharge following acute exacerbation of COPD

AUTHORS: N. Mavahebitabatabaei, M. Moghimi, M. Smith, C. Muskelly; MedStar Harbor Hospital (MHH), Baltimore, MD

OBJECTIVE: Five-year mortality rate associated with COPD exacerbation is estimated to be around 50%. Prevention of COPD exacerbations can be achieved by multidisciplinary collaboration and implementing best practices recommended by The Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines.

METHODS: Medical records of patients who were hospitalized for COPD exacerbations at MedStar Harbor Hospital for the months of October and September in 2022 will be reviewed. Patients who have heart failure, interstitial lung disease, lung cancer, will be excluded. Baseline characteristics, including age, sex, weight, smoking status, eosinophil count on admission, any respiratory infection (viral or bacterial), home and discharge inhalers, anti-infective and anti-inflammatory prophylactic medications will be collected. Each patient's discharge COPD medications will be reviewed to evaluate inhaler optimization following COPD exacerbation. Also, as part of this chart review, the number of patients who received pharmacist clinical interventions will be collected. We will classify Inhaled corticosteroids (ICS) prescribing patterns per eosinophil count at the time of discharge. Total number of patients who received discharge counseling by a pharmacist and if readmitted will also be reported.

RESULTS: The percentage of patients who were discharged without proper COPD inhaler optimization per GOLD guidelines will be recorded and results will be presented . We will classify ICS prescribing patterns per eosinophil count at the time of discharge. Total number of patients who received discharge counseling by a pharmacist along with readmission rate will also be reported.

CONCLUSIONS:This chart review study will demonstrate a role for appropriate inhaler management in collaboration with pharmacists to increase compliance with GOLD guidelines in the management of COPD exacerbation at discharge.

1:00pm – 1:15pm G **Analyzing the Differences in Bleeding and Thrombosis Utilizing Activated Partial Thromboplastin Time versus Anti-Factor-Xa Activity For Unfractionated Heparin Monitoring in High-Risk Surgical Patients** Magnolia B

Presenters: Victoria Russell
Evaluators: Oliwia Welton
Evaluators 3: Jessica Damon
Evaluators 2: Fletcher Aldrich Nehring

TITLE: Analyzing the differences in bleeding and thrombosis utilizing activated thromboplastin time versus anti-factor Xa activity for unfractionated heparin monitoring in high-risk vascular surgery patients
AUTHORS: Victoria Russell, PharmD, Devin Holden, PharmD, BCPS, BCCCP
OBJECTIVE: Analyze and compare the differences in bleeding and thrombosis outcomes, and continuous unfractionated heparin (UFH) performance characteristics when utilizing aPTT versus anti-factor Xa protocols.
METHODS: Vascular surgery patients who were administered UFH in the last 3 years were retrospectively reviewed. Patients were included if they were 18 years of age or older, received continuous UFH for 24 hours or more, and an aPTT or anti-Xa protocol was used. The primary endpoint was major or minor bleeding. Secondary outcomes were rates of thrombosis, as well as heparin protocol performance characteristics. Data collected included documented bleeding, thrombosis, time to therapeutic level, number of rate adjustments, and amount of heparin administered in units.
RESULTS: 85 patients were included, 47 (55.3%) in the aPTT group, 38 (44.7%) in the anti-Xa group. 41 (87.2%) patients were on standard-dose (SD) aPTT regimen, and 29 (76.3%) were on SD anti-Xa regimen. The median time of heparin infusion was 75 hours in the aPTT group, 94 hours in the anti-Xa group. The median time to therapeutic level was 1080 minutes in the aPTT group, 930 minutes in the anti-Xa group. The median number of rate changes per day was 0.79 in the aPTT group, 0.73 in the anti-Xa group. Levels were therapeutic 55.6% of the time in the aPTT group, 59.2% in the anti-Xa group. Median amount of heparin units per hour was 1234.3 U/hr (SD), 982.4 U/hr (low-dose) in the aPTT groups, 1332 U/hr (SD), 767.6 U/hr (low-dose) in the anti-Xa groups.
CONCLUSIONS: It appears there were no differences in heparin performance when utilizing the aPTT vs anti-Xa protocol. These results will be statistically analyzed and presented. Additionally, any resulting differences regarding bleeding and thrombosis will be analyzed and presented.

1:00pm – 1:15pm | **COVID-19 Monoclonal Antibody (mAb) Administration Outcomes in a Rural Health-system** Empire D

Presenters: Nicole Kozlowski
Evaluators: Natalie Snyder
Evaluators 3: Melinda Martland
Evaluators 2: Jeff Huntress

TITLE: COVID-19 monoclonal antibody (mAb) administration outcomes in a rural health-system: a pragmatic study

AUTHORS: Nicole Kozlowski, PharmD; Nicole Crawford, PharmD; Kelly Sawyer, PharmD, BCIDP; Kyle Massey, PharmD, BCIDP

OBJECTIVE: To assess if outpatient COVID-19 mAb administration within the Northern Light Health System reduced the risk of hospitalization and death for patients meeting Emergency Use Authorization (EUA) criteria.

METHODS: This retrospective cohort study included patients â‰¥ 18 years with a confirmed positive SARS-CoV-2 test determined to meet EUA criteria for mAb administration between August 2021 and December 2021. Patients were separated into 2 groups to compare outcomes: those who consented and received mAb and those who did not receive mAb. The primary outcome assessed patients admitted for COVID-related complications within 28-days of their positive SARS-CoV-2 test. The secondary outcomes included all-cause 28-day hospitalization, all-cause 28-day inpatient death rates, and the percentage of patients requiring escalation to Non-Invasive Positive Pressure Ventilation (NIPPV) or mechanical ventilation from time of admission. Data was expressed using a 95% confidence interval with 80% power and analyzed using Fisherâ€™s exact Chi square analysis.

RESULTS: There were 463 patients included. 246 patients were included in the mAb group, and 217 patients were included in the did not receive mAb group. COVID-19 related 28-day hospitalization occurred in 5 (2.0%) in the received mAb group and 3 (1.4%) in the did not receive mAb group (relative risk 1.47; 95% confidence interval, 0.85 â€“ 2.53; p = 0.73). All-cause 28-day hospitalization occurred in 5 patients (2.0%) in the received mAb group and 6 patients (2.8%) in the did not receive mAb group (p=0.76). There were no inpatient deaths. Two patients (40%) in the received mAb group and 1 patient (16.7%) in the did not receive mAb group were escalated to NIPPV. Baseline characteristics were equivalent between groups.

CONCLUSIONS: Among patients with COVID-19 meeting EUA criteria, there was not a difference in hospitalizations seen between patients who did or did not receive mAb. The overall hospitalization rate was lower than the COVID-19 hospitalization rate in Maine and the United States during this period.

1:00pm – 1:15pm I **Evaluation of anti-MRSA antibiotic treatment duration before and after implementation of PCR-based blood culture identification for Gram-positive bacteria** Magnolia D

Presenters: Caleb Bolger
Evaluators: Ashley Stetsenko
Evaluators 3: Quynh Ha
Evaluators 2: Eric Pitts

TITLE: Evaluation of anti-MRSA antibiotic treatment duration before and after implementation of PCR-based blood culture identification for Gram-positive bacteria

AUTHORS: C Bolger, M Martland, J Damon, M Dorobisz

OBJECTIVE: The purpose of this study is to assess the impact of PCR-based Blood Culture Identification (BCID) Gram-positive assay implementation on anti-methicillin-resistant Staphylococcus aureus (MRSA) antibiotic use and timing of optimal therapy.

METHODS: This single-center retrospective quasi-experimental study was conducted at a 359-bed community teaching hospital, before and after implementation of a PCR-based BCID for quality improvement in Gram-positive blood cultures (GPBC). Pre-PCR and post-PCR data were collected on all GPBC from December 2021 to March 2022 and December 2022 to March 2023, respectively. The primary outcome was average excess anti-MRSA antibiotic days, defined as total duration of treatment for contaminants, time from organism identification to de-escalation for susceptible pathogens, and zero days for organisms requiring anti-MRSA therapy due to susceptibility, drug allergy or another infection not related to the blood culture. Secondary outcomes included time to organism identification, susceptibility, active therapy, optimal therapy, and pharmacist intervention in pre-PCR vs post-PCR groups. Percent agreement between PCR and traditional blood culture were also assessed.

RESULTS: 136 patients were included in the final analysis (100 in the pre-PCR and 36 in the post-PCR groups). Average excess anti-MRSA days significantly decreased by 0.56 days (pre-PCR 0.62 versus post-PCR 0.06; p=0.001), which was primarily driven by possible contaminant cultures. Time from Gram stain to optimal therapy was significantly reduced by 1.3 days (p=0.0001). Time from Gram stain to organism identification was also reduced by 2.1 days (p=0.0003). There was no significant difference in time to active therapy, hospital length of stay, in-hospital mortality, 30-day readmission, and pharmacist intervention between the groups. The PCR did not identify a target when it should have in 4 out of 36 cultures, all of which were common contaminants.

CONCLUSIONS: Implementation of a PCR-based BCID with an established antimicrobial stewardship program led to a reduction in excess anti-MRSA usage and reduced time to optimal therapy in patients with Gram-positive blood cultures.

1:00pm – 1:15pm M **Initiation of a Harm Reduction Project through the Implementation of a Syringe Serve Program at the VA Maine Healthcare System** Wild Rose A

Presenters: Elizabeth Earle
Evaluators: Nancy Doherty
Evaluators 3: Sylvia Slattery
Evaluators 2: Jennifer Kunkel

TITLE: Initiation of a harm reduction quality improvement project through the implementation of a syringe service program at the Veteran Affairs Maine Healthcare System

AUTHORS: Elizabeth R. Earle, PharmD; Hailey Stark, PharmD; Allison Spaulding, PharmD, CDE; Gabrielle Hill, PharmD, BCPS

OBJECTIVE: The primary purpose of this project is to enhance harm reduction and improve safety measures through the implementation of a syringe service program (SSP) at the VA Maine Healthcare System.

METHODS: Overall program utilization data will be collected by the primary and co-investigators. Data collected will include age and gender of participant, substance use history, human immunodeficiency virus testing history, sexually transmitted infection testing history, education provided, number of fentanyl test strips and injection kits provided, naloxone prescriptions dispensed, and referrals made at the time of distribution. The standardized substance use disorder (SUD) harm reduction template will be used to document SSP utilization and referrals to care. The usage of Veterans Health Information Systems and Technology Architecture reports will provide the investigators with information to complete manual chart review in CPRS to evaluate the standardized SUD harm reduction note template and program utilization. The investigators will evaluate outcomes with frequencies and percentages through univariant, descriptive analysis.

RESULTS: Overall program utilization data will be collected and presented.

CONCLUSIONS: It is anticipated that the results of this study will expand knowledge regarding utilization of a SSP in the VA Maine Healthcare System and provide valuable quality improvement information for program expansion.

1:00pm – 1:15pm Q **Quality assessment study of the nonformulary prescribing and dispensing process at a community hospital system** Wild Rose B

Presenters: Denise Breeze
Evaluators: Maryam Moghimi
Evaluators 3: Anthony Trona
Evaluators 2: Brian Grover

TITLE: Quality assessment study of the nonformulary prescribing and dispensing process at a community hospital system

AUTHORS: D. Breeze, K. Freid, C. Williams

OBJECTIVE: This study aimed to analyze nonformulary medication orders at a community health system and assess whether the established nonformulary policy was followed.

METHODS: This was a retrospective multi-center quality assessment study examining the prescribing and dispensing process for nonformulary medications at a community health system. Patients who had a nonformulary medication ordered and who were admitted for greater than 24 hours during the three-month study period were included; while patients less than 18 years of age, taking a nonformulary medication at home not continued upon admission, taking insulins, or taking specialty medications were excluded. The primary outcome was the percentage of nonformulary medication orders in compliance with the established nonformulary policy. Secondary outcomes included the number and percentage of nonformulary medication orders that had potential harm.

RESULTS: The number of nonformulary medication orders in compliance with the established nonformulary policy will be recorded and the results will be presented.

CONCLUSIONS: It is anticipated that this quality assessment will reveal opportunity areas to improve compliance with the established nonformulary policy.

1:00pm – 1:15pm T **Assessing the impact of a pharmacist-led transition of care service in a heart failure population** Empire A

Presenters: Jennifer Wine
Evaluators: Kristi Burdette
Evaluators 3: Michelle Opipari, Vani Thiyagarajan
Evaluators 2: Taylor Rider

TITLE: Assessing the impact of a pharmacist-led transition of care service in a heart failure population

AUTHORS: Jennifer Wine, PharmD; Amber Carter, PharmD; Lori-belle Slone, PharmD, BCPS; Amber Gross, PharmD

OBJECTIVE: Pharmacists involved in transition of care can reduce costs and readmission rates. The purpose of this study is to assess interventions made after implementation of a new transition of care service.

METHODS: A chart review will be performed for patients with heart failure with reduced ejection fraction (HFrEF) who received treatment for a heart failure exacerbation from January 1 to March 31, 2023. The primary outcome will be the number and type of interventions made by the transition of care pharmacist. Types of interventions include medication dose changes, medication addition or discontinuation, resolution of insurance concerns, discharge medication reconciliation, utilization of the organizationâ€™s meds to beds service, referrals made to the heart failure clinic, and completed medication histories. Secondary outcomes include 30-day readmission rate, percent of patients receiving Guideline-Directed Medical Therapy (GDMT) per the AHA/ACC/HFSA guidelines on admission compared to discharge, counseling provided, and the number of post-discharge follow up phone calls completed. Descriptive statistics will be used to measure data collected.

RESULTS: The number and type of interventions, the 30-day readmission rate, percent of patients receiving GDMT on admission compared to discharge, counseling provided, and post-discharge follow up phone calls will be recorded, and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate the role for pharmacist-led transition of care service and interventions in order to decrease 30-day readmission rates.

1:20pm – 1:35pm A **The Evaluation of GLP-1 Agonists on Lipid Profiles of Diabetic Patients** Empire B

Presenters: Ariel Francis
Evaluators: Bryan Wood
Evaluators 3: Lindsay Arnold, Matthew Brodock
Evaluators 2: Erin Slazak

TITLE: Evaluation of the impact of glucagon-like peptide 1 (GLP-1) receptor agonists on the lipid profiles of patient with diabetes

AUTHORS: A.Francis, M. Douglas, N. Hernandez; University Hospital at Downstate, Brooklyn, NY 11203

OBJECTIVE: To evaluate lipid profile changes amongst patients with diabetes who utilize GLP-1 agonists as part of their regimen, as well as the cardiovascular outcomes and adverse effects associated with their use.

METHODS: This is a single-center retrospective chart review from January 2019 to December 2021 to evaluate the lipid profiles of patients with type 2 diabetes. Adults, 18 years of age or older, who were taking a GLP-1 agonist for at least 60 days were included in the study. Patients were excluded if they were on a PCSK9 inhibitor, had only one lipid profile collected, were lost to follow-up before one year, had active cancer, HIV, pregnant, familial hypercholesterolemia, defective apoB, familial combined hyperlipoproteinemia, dysbetalipoproteinemia, triglyceride levels of 500 mg/dL or higher, genetic lipoprotein lipase or apo-CII deficiency, type 1 diabetes, ESRD on HD or eGFR < 15, on Saxenda or Wegovy, using GLP-1 agonists off-label for weight loss, or prescribed 2 or more GLP-1 agonists at the same visit.

RESULTS: The absolute change in lipids from baseline over 2 years as well as atherosclerotic cardiovascular events, and safety outcomes will be recorded, and results will be presented.

CONCLUSIONS: It is anticipated that this project will provide evidence for GLP-1 receptor agonists use to prevent atherosclerotic cardiovascular disease events based on their effects on lipids.

1:20pm – 1:35pm C **Addition of phenobarbital to the Minnesota Detoxification Scale protocol for patients with acute alcohol withdrawal syndrome in the intensive care unit** Magnolia C

Presenters: Alexandria Lehman
Evaluators: Brandon Snyder
Evaluators 3: Alison Sabados
Evaluators 2: Michael Armahizer

TITLE: Addition of phenobarbital to the Minnesota Detoxification Scale protocol for patients with acute alcohol withdrawal syndrome in the intensive care unit

AUTHORS: A. Lehman, T.D. Lewis-Wolfson, K. Morgan, K. Joyner; Winchester Medical Center (WMC), Winchester, Virginia

OBJECTIVE: There is minimal data evaluating phenobarbital use within the Minnesota Detoxification Scale (MINDS) protocol. This study aims to determine if adjunctive phenobarbital to the MINDS protocol shows clinical benefit in alcohol withdrawal syndrome (AWS).

METHODS: A single-center, retrospective chart review was conducted at Winchester Medical Center (WMC) from January 1st, 2019, through January 1st, 2021, to assess the differences in outcomes between phenobarbital use and non-use within the intensive care unit (ICU) MINDS protocol. Patients aged 18 years or older who were treated with the MINDS protocol for AWS in the ICU were included. Patients were excluded if they were incarcerated, pregnant, previously diagnosed with cognitive impairment, previously received phenobarbital within 6 months, or those mechanically intubated prior to MINDs protocol. The primary endpoint of the study is ICU length of stay (LOS). Secondary endpoints include hospital LOS, benzodiazepine utilization, incidence and duration of mechanical ventilation, transfer rate back to the ICU, readmission rates, adjunctive medication utilization, duration of the MINDS protocol, incidence of aspiration or seizure, incidence of delirium tremens (DT), and incidence of oversedation.

RESULTS: Of the 253 patients included, 126 patients received phenobarbital. The phenobarbital group was more likely to have a prior hospitalization with alcohol withdrawal ($p<0.007$), history of seizures ($p<0.043$), history of DT ($p<0.002$), and home benzodiazepine use ($p<0.012$). ICU length of stay was shorter in the non-phenobarbital group (2.54 days vs 4.36 days, $p<0.001$). The phenobarbital group received significantly more midazolam over a longer period by several outcome measures. More patients in the phenobarbital group were intubated ($p<0.001$) but ventilation duration was similar between the two groups ($p<0.172$). ICU readmission within the same encounter, 30-day readmission, and in-hospital mortality were similar between both groups.

CONCLUSIONS: Patients in the phenobarbital group received more midazolam and had longer ICU stays than patients in the non-phenobarbital group. However, patients in the phenobarbital group had more risk-factors for severe withdrawal than their non-phenobarbital counterparts. Despite this, ventilation duration and 30-day readmission were similar between the groups.

1:20pm – 1:35pm C **Milrinone versus Dobutamine in Patients with Impaired Renal Function** Empire C

Presenters: Nisha Surti
Evaluators: Kavitha Dalal
Evaluators 3: Nina Yousefzadeh
Evaluators 2: Brad Heidenthal

TITLE: Mirlinone versus Dobutamine in Patients with Impaired Renal Function

AUTHORS: N. Surti, M. Hasbrouck, B. Aningalan

OBJECTIVE: The purpose of this study is to determine the safety of using milrinone, compared with dobutamine, in patients with renal impairment.

METHODS: This is a multi-centered, retrospective review across a five hospital, comprehensive community health system of acute decompensated heart failure or post-cardiac surgery patients with renal impairment who received an inotrope. Patients included in the study received either milrinone or dobutamine from July 2021 to June 2022. Patients included had renal impairment (creatinine clearance less than 50 mL/min) and were administered inotropes for at least 24 hours. Patients were excluded if both inotropes were given simultaneously or if the patient was on milrinone prior to hospital admission. The primary outcome was the incidence of arrhythmias requiring intervention for each medication. Secondary outcomes included rates of hypotension, worsening renal function, ICU and hospital length of stay, duration of infusion, mean dose, highest tolerated dose, and in-hospital mortality. Nominal data was analyzed using a Chi-squared test and continuous data was analyzed using a Mann-Whitney test.

RESULTS: A total of 313 patients were identified having received an inotrope. Twenty-two were excluded for being on home milrinone, 69 were excluded for having CrCl >50 mL/min, 103 were excluded for less than 24 hours of inotrope use or receiving both simultaneously, and 72 were excluded for having a different inotrope indication. A total of 47 patients, 20 on milrinone and 27 on dobutamine were included in the study. Tachyarrhythmias occurred in 21 patients (10 in the milrinone group and 11 in the dobutamine group; p=0.82). Hypotension occurred 10 times in the milrinone group and 9 in the dobutamine group (p=0.52). Both milrinone and dobutamine had similar rates of worsening renal function (15% vs 37%; p=0.25) and mortality (30% vs. 15%; p=0.45).

CONCLUSIONS: In patients with impaired renal function, milrinone did not have a higher incidence of arrhythmias than dobutamine. Due to risk of accumulation and hypotension, the highest suggested dose of milrinone in patients with renal impairment is 0.375 mcg/kg/min. In this study, patients tolerated doses of milrinone up to 0.5 mcg/kg/min (mean max dose = 0.224 mcg/kg/min) without additional adverse effects, which provides rationale for safe dose escalation, even with renal insufficiency.

1:20pm – 1:35pm D **Implementation of a Standardized Approach to Pharmacist Intervention for Second Generation Long-Acting Injectable (LAI) Antipsychotics** Magnolia A

Presenters: Tenley Merrett
Evaluators: Danielle Davis
Evaluators 3: Jenna Barnes
Evaluators 2: Angelika Krevat

TITLE: Implementation of a standardized approach to pharmacist intervention for second generation long-acting injectable (LAI) antipsychotics
AUTHORS: Tenley Merrett Pharm.D.
OBJECTIVE: The objective of this study is to determine if a standardized approach to pharmacy interventions related to second-generation LAI antipsychotics could have an impact on clinical appropriateness and drug expenditures.
METHODS: A review of the current site-specific processes for pharmacist interventions related to second generation long-acting injectable antipsychotic will be conducted. A process map guiding pharmacists will be implemented across all sites for patients that are initiated or are currently utilizing a second-generation long-acting injectable antipsychotic. A data review will be conducted to see if there was a change in the number of patients who have been transitioned from a LAI to an oral antipsychotic equivalent as well as interventions made to LAI therapy. With the new data, a review of the cost savings and clinical appropriateness can be assessed. Clinical appropriateness will be based on patient response, adverse events, and patient specific factors. This assessment will be based on the data from the previous process compared to the data collected after the implementation of the new standardized process.
RESULTS: The number of interventions based on clinical appropriateness and cost savings will be reported and presented in the results.
CONCLUSIONS: The project will demonstrate the role of a pharmacist-led standardized approach for the initiation and use second-generation LAI based on interventions based on the appropriateness of therapy.

1:20pm – 1:35pm G **Weight-Based Sliding Scale Insulin: Do Two Sizes Fit All** Magnolia B

Presenters: Chukwunyere Umeh
Evaluators: Oliwia Welton
Evaluators 3: Jessica Damon
Evaluators 2: Fletcher Aldrich Nehring

TITLE: Weight-Based Sliding Scale Insulin: Do Two Sizes Fit All
AUTHORS: Chukwunyere Umeh
OBJECTIVE: The objective of this study is to determine how effective TidalHealthâ€™s weight-based sliding scale insulin orders are at managing hyperglycemia and to assess how appropriate sliding scale insulin is administered in our facility based on the results.
METHODS: A retrospective study conducted through a review of information obtained from electronic medical records of TidalHealth Peninsula Regional that assessed charts of noncritically ill patients who are 18 years old and older with a history or newly diagnosed diabetes who received sliding scale insulin every 4 hours or every 6 hours. Charts between March 2022-August 2022 were assessed, and 200 patients' charts were reviewed. Other factors that were considered are BMI, hyperglycemia or hypoglycemia causing agents, history of renal disease, Charlson comorbidity index, insulin dependent diabetes, correct following of sliding scale insulin instructions, and sex. Intervention group was between low-dose sliding scale and intermediate-dose sliding scale group. The primary endpoint was the rate of hyperglycemia. Secondary outcomes included rate of normoglycemia and hypoglycemia, use of D50W, rapid-acting insulin use and hyperglycemic complications. Data to be analyzed with Chi-square and average.
RESULTS: TBD
CONCLUSIONS: TBD

1:20pm – 1:35pm | **Cefiderocol-containing regimens compared to other regimens for the treatment of carbapenem-resistant Acinetobacter baumannii infections** Magnolia D

Presenters: Nardine Karam
Evaluators: Ashley Stetsenko
Evaluators 3: Quynh Ha
Evaluators 2: Eric Pitts

TITLE: Cefiderocol-containing regimens compared to other regimens for the treatment of carbapenem-resistant Acinetobacter baumannii infections

AUTHORS: Nardine Karam, BPS, PharmD; Joanna DeAngelis, PharmD, BCIDP

OBJECTIVE: The objective of this study is to evaluate the efficacy and safety of cefiderocol-containing antimicrobial regimens as compared to other regimens for the treatment of carbapenem-resistant Acinetobacter baumannii (CRAB) infections.

METHODS: This study is a retrospective chart review of adult patients initiated on CRAB-directed antimicrobial therapy at Staten Island University Hospital from January 1, 2018 to February 28, 2023. Patients were included if they received at least 48 hours of CRAB-directed therapy. Patients were excluded if they received cefiderocol monotherapy, but susceptibility results showed resistance. Data collected will include age, sex, comorbidities, ICU admission, septic shock, and SOFA/APACHE II scores. The site of CRAB infection, presence of polymicrobial or concomitant infections, and choice of targeted therapies will be reported. The primary endpoints are in-hospital, 30-day, all-cause and infection-related mortality. Secondary endpoints are treatment failure, length of stay, and therapy-related adverse events. Descriptive statistics, chi-square test (categorical variables), student t-test (continuous parametric variables), and Mann-Whitney U test (continuous non-parametric variables) will be used to analyze results.

RESULTS: The number and percentage of patients who received cefiderocol-containing therapy and other treatment regimens who reached the primary and secondary endpoints will be reported and compared.

CONCLUSIONS: This study may provide more information to guide treatment decisions for carbapenem-resistant Acinetobacter baumannii infections, and it will evaluate whether the choice of agent impacts outcomes.

1:20pm – 1:35pm | **Impact of syndrome-driven antimicrobial stewardship on management of Gram-negative bacteremia** Empire D

Presenters: Ryan Shou
Evaluators: Natalie Snyder
Evaluators 3: Melinda Martland
Evaluators 2: Jeff Huntress

TITLE: Impact of syndrome-driven antimicrobial stewardship on management of Gram-negative bacteremia

AUTHORS: R. Shou, P. Jen, D. Serao, A. Clouser, E. Stone; Newark Beth Israel Medical Center, Newark, New Jersey

OBJECTIVE: Antimicrobial stewardship programs are designed to promote appropriate antimicrobial use. The objective of this study was to evaluate the impact of pharmacist-driven stewardship initiatives on antibiotic utilization for Gram-negative bacteremia.

METHODS: This was a single-center, two-phase, quality improvement study in adult patients admitted with Gram-negative bacteremia from January 1, 2021 to March 15, 2023. In Phase I, a pharmacist retrospectively reviewed patientsâ€™ charts to evaluate the empiric and definitive antibiotic therapy for the treatment of Gram-negative bacteremia without active study intervention. In Phase II, a pharmacist prospectively conducted regular electronic health record reviews of patients who were started on empiric antibiotic therapy within 48 hours of positive blood cultures for Gram-negative bacteria and made clinical recommendations related to antibiotic therapy. The primary outcome measurement was the utilization of broad-spectrum antibiotic therapy (days of therapy per 1000 patient days). Secondary outcome measurements included antibiotic prescribing practices and clinical outcomes as well as pharmacist intervention characteristics. Results were analyzed using descriptive and univariate statistics.

RESULTS: The impact of pharmacist-driven stewardship initiatives on antibiotic utilization and clinical outcomes will be collected and presented.

CONCLUSIONS: It is anticipated this study will demonstrate that pharmacist-driven stewardship initiatives reduce broad-spectrum antibiotic utilization and duration of therapy for Gram-negative bacteremia.

1:20pm – 1:35pm M **Retrospective Analysis of Revised Hyperkalemia Protocol to Assess Incidence of Hypoglycemic Events** Wild Rose A

Presenters: Sean Dempter
Evaluators: Nancy Doherty
Evaluators 3: Sylvia Slattery
Evaluators 2: Jennifer Kunkel

TITLE: Retrospective analysis of revised hyperkalemia protocol to assess the incidence of hypoglycemic events

AUTHORS: S. Dempter, PharmD, J. Gwin, PharmD; Lankenau Medical Center (LMC), Wynnewood, Pennsylvania

OBJECTIVE: The purpose of the study was to determine the incidence of hypoglycemia and severe hypoglycemia in patients receiving intravenous (IV) regular insulin for hyperkalemia treatment after implementation of a revised hyperkalemia protocol at LMC.

METHODS: This was a retrospective chart review of patients given IV regular insulin to treat hyperkalemia from June 1 - November 30, 2022. Patients were included if they received IV regular insulin from the revised protocol and were excluded if they received it for other indications. The protocol guides treatment based on the blood glucose (BG) before IV regular insulin is given. Group A includes those with a BG less than 150mg/dL and requires a dextrose 10% (D10) infusion after 25g of dextrose and 10 units of IV regular insulin are given. Group B includes those with a BG of 151-250mg/dL who receive 25g of dextrose and 10 units of IV regular insulin. Group C includes those with a BG greater than 250mg/dL who receive 10 units of IV regular insulin. Primary outcomes were hypoglycemia incidence (BG less than 70mg/dL) and severe hypoglycemia incidence (BG less than 50mg/dL). Secondary outcomes were non-compliance with BG monitoring and D10 infusion. A chi-squared test analyzed the primary outcomes.

RESULTS: In this review of 245 administrations of IV regular insulin for the treatment of hyperkalemia, there were 22 (9%) hypoglycemic occurrences of which 5 (2%) were severe. 20 of the hypoglycemic occurrences happened in Group A (n=177). The remaining 2 hypoglycemia occurrences happened in Group B (n=51). There were no hypoglycemia occurrences in Group C (n=17). The patients who developed severe hypoglycemia were in Group A. Regarding compliance, a total of 113 patients in Group A failed to receive the required D10 infusion or it was stopped prematurely. 7 of the 113 developed hypoglycemia. Compliance with all 5 blood draws was 22%. Compliance rates in those that developed hypoglycemia and those that did not were 18.2% and 22.4% respectively.

CONCLUSIONS: The revised hyperkalemia protocol reduced hypoglycemia incidence from 19% in the previous review to 9% in this study. This was a significant reduction (p=0.0026) in hypoglycemia in our LMC patients, thus supporting the implementation of our revised hyperkalemia protocol. Identified opportunities for improvement from this study include ensuring D10 administration in Group A and improvement in BG monitoring in all groups through additional nursing education.

1:20pm – 1:35pm

Q **Increasing Utilization of Appropriate Heparin Monitoring Protocol in a Surgical Population**

Wild Rose B

Presenters: Waad Alrohily
Evaluators: Maryam Moghimi
Evaluators 3: Anthony Trona
Evaluators 2: Brian Grover

TITLE: Increasing utilization of appropriate heparin monitoring protocol in a surgical population
AUTHORS: Waad Alrohily, PharmD; Mirembe Reed, PharmD, BCPS, BCCP, BCCCP
OBJECTIVE: Anti-Xa heparin monitoring is less affected by biological and analytical factors than activated partial thromboplastin time (aPTT). This project aimed to increase compliance with our hospitalâ€™s heparin monitoring protocol.
METHODS: The project involved identifying root causes of inappropriate monitoring, providing continuing education to pharmacists and surgical providers, creating a guidance algorithm, and pharmacist intervention if the prescribed protocol was deemed inappropriate. The project aim was to have â‰¥ 80% of surgical patients on appropriate heparin monitoring by March 15th, 2023. Each PDSA cycle added a group of surgical patients, including cardiothoracic (CT), vascular, and those in the intensive care unit (ICU). The outcome measure assessed was the percentage of surgical patients with appropriate heparin monitoring protocol. Process measures included time to therapeutic heparin range and the number of dose adjustments by nursing. The balancing measure was the number of patients with thromboembolism or major bleeding events within 30 days.
RESULTS: The percentage of appropriate heparin monitoring protocol utilization for surgical patients increased from 8% to 80% with multiple interventions. Heparin infusions monitored by anti-Xa reached therapeutic range faster than those monitored by aPTT (22.7 hours vs. 32.89 hours). There was no difference in the average number of nursing dose adjustments between the 2 groups. Major bleeding events occurred in 6 patients monitored by aPTT and 3 patients in the anti-Xa group. There were no thromboembolic events.
CONCLUSIONS: This project achieved its goal of increasing the use of appropriate heparin monitoring protocols to 80% of surgical patients. Our results also reflect previous studies showing a faster time to therapeutic range in patients using the Anti-Xa protocol. From a safety standpoint, major bleeding events occurred less in patients with Anti-Xa compared to aPTT protocol. Future directions include reinforcing education for providers and pharmacists and continued monitoring.

1:20pm – 1:35pm T **Impact of Pharmacist-Led Intervention in Veteran Patients with Alcohol Use Disorder on Access to Care** Empire A

Presenters: Michael Gregory
Evaluators: Kristi Burdette
Evaluators 3: Michelle Opipari, Vani Thiyagarajan
Evaluators 2: Taylor Rider

TITLE: Impact of pharmacist-led intervention in veteran patients with positive alcohol use disorder identification test on access to care

AUTHORS: Michael Gregory, PharmD; Tanvi Patil, PharmD, BCPS; Emily Halsey, PharmD; Kezia Timmons, PharmD; Michelle Radtke, PharmD, BCPP; Philip Lehman, Ph.D; Sarah Buyck, Ph.D; Meghan Akridge, PharmD

OBJECTIVE: We aim to evaluate the impact of pharmacist-led intervention (PLI) on access to care in veterans with a positive alcohol use disorder identification test (AUDIT-C) using the VHA academic detailing (AD) dashboard for alcohol use disorder (AUD).

METHODS: This prospective cohort study included veterans aged 18 years or older with a positive AUDIT-C screening between 2/1/22 and 10/31/22. Patients with a positive AUDIT-C screen in the past year, defined as a score of five or greater, and without a completed brief intervention (BI) were identified using the AUD dashboard. Primary outcome was the impact of PLI at 90-days on patients with successfully completed BI and increased access captured as patients receiving documented follow up with provider. Secondary outcomes included: patients who accepted and completed referral to a primary care mental health integration provider and change in the mean AUDIT-C score at 90-days after a successful PLI telephone encounter. Descriptive data was used for primary outcomes and paired t-test was used to analyze change in AUDIT-C performed using Stata version 17, College Station, TX: StataCorp LLC.

RESULTS: At baseline, 675 patients were screened; 143 were included. Of these, 91 answered phone calls. The median age was 60 years with majority white male population and mean AUDIT-C of 6.74. PLI resulted in completed BI in 41.26% (59/143) patients. Successful follow up with providers to assess alcohol use was noted in 46.15% (66/143) patients within 90-days of PLI. Of 91 patients who answered, 19 (20.88%) accepted a referral to MH provider, 17 completed psychotherapy, of whom 6 also completed pharmacist follow up resulting in trialed pharmacotherapy in 3 patients. Significant decrease in mean AUDIT-C at 90-days was noted in 38 patients [baseline v. post PLI: 6.74+2.65 v. 3.95+3.08; mean difference of 2.79 with 95% CI (1.52-4.06); p-value

1:40pm – 1:55pm A **Impact of Beta-Blocker Selection on Hospital Admissions for Heart Failure** Empire B

Presenters: Guanhui Chen
Evaluators: Bryan Wood
Evaluators 3: Lindsay Arnold, Matthew Brodock
Evaluators 2: Erin Slazak

TITLE: Impact of Beta-Blocker Selection on Hospital Admissions for Heart Failure

AUTHORS: Guanhui Chen PharmD RPh, Julianne Martine PharmD RPh BCPS, Sini Philip PharmD RPh BCPS BCGP MTM-C, Craig Sastic PharmD MBA BS RPh BCPS

OBJECTIVE: To assess the relationship between carvedilol versus metoprolol succinate with hospital admission for ambulatory patients who were previously established on either one of the beta blockers with HF based on data collected from Inspira Health Network.

METHODS: A retrospective, cohort study assessing the impact of carvedilol vs metoprolol succinate on hospital admission. Data from 01/01/2019 going forward collected from patientsâ€™ EMR, who were previously established on either one of the beta blockers for â‰¥ 2 months before study, within Inspira Health Network. Patients were randomized into two groups: carvedilol versus metoprolol succinate. Patientsâ€™ baseline characteristics were collected, such as age, number of patients on target dose of beta blocker (carvedilol 25-50 mg twice daily; metoprolol succinate 200 mg once daily) and Left Ventricular Ejection Fraction. Primary outcome: All cause hospital admission during study period. Secondary Endpoints: Admission for heart failure exacerbation. a minimum of 145 medical records needed to for 95% powered result using a chi-square test with one degree of freedom and estimating a moderate effect size (w=0.3).

RESULTS: 73 patients in carvedilol group (mean age 69.5, mean EF of 41.2%); 72 patients in metoprolol succinate group (mean age 73.8, mean EF of 48.8%). 14 patients on Entresto and 68.5% (50/73) of patients on â‰¤ 2 GDMT medications in carvedilol group; 6 patients and 84.7% (61/72) of patients in metoprolol succinate group during study period. No significant difference in primary outcome (carvedilol 59/73 (80.8%) vs metoprolol 61/72 (84.7%), (RR, 0.95; 95% CI, 0.81 to 1.11; P=0.66)) and secondary outcome (carvedilol 35/73 (47.9%) vs metoprolol 37/72 (51.4%), (RR, 0.93; 95% CI, 0.67 to 1.30; P=0.74)). Patients in metoprolol succinate group were less likely to be on target dose (5.6% vs 42.5%, RR, 7.64; 95% CI, 3.03 to 20.08; P

1:40pm – 1:55pm C **Early Ventilator Liberation Assessment in Patients with Low-Dose Vasopressors (VAPORS)**

Empire C

Presenters: Jim Fattal

Evaluators: Kavitha Dalal

Evaluators 3: Nina Yousefzadeh

Evaluators 2: Brad Heidenthal

TITLE: Early Ventilator Liberation Assessment in Patients with Low-Dose Vasopressors

AUTHORS: Jim Fattal, PharmD; Soo Kang, PharmD, BCCCP; Mitesh Patel, PharmD, BCCCP; Mona Philips, RPh, MAS

OBJECTIVE: The objective of the study is to evaluate the impact of an updated Spontaneous breathing trial (SBT) protocol on ventilator liberation outcomes.

METHODS: A prospective analysis evaluated implementation of the updated protocol, which provides guidance on hemodynamic stability. The definition of hemodynamic stability now included a single low-dose vasopressor use with pre-specified dose cutoffs. Education was provided to the care team for early liberation strategies. Pharmacists were required to complete screening of intubated patients with utilization of web-based surveillance. A collaborative effort between intensivist, respiratory, and pharmacy teams evaluated patients to determine eligibility for SBTs. Analysis will review mechanically ventilated patients admitted or transferred to the intensive care unit (ICU) and compare the impact pre-implementation versus post-implementation. Data will be analyzed using inferential statistics. This study was submitted to the Institutional Review Board for approval.

RESULTS: Complete analysis is pending. The primary outcome is total ventilator time (days). Secondary outcomes include: spontaneous breathing trial (SBT) screening failure due to vasopressors (%), time to initial successful SBT screening (days), reintubation within 48 hours (%), and ICU length of stay (days). We expect that the ventilator time, SBT screening failures due to vasopressors, time to initial successful SBT screening, and ICU length of stay to all decrease in time or respective percent. We expect that reintubations within 48 hours will be similar between the two cohorts.

CONCLUSIONS: It is anticipated that implementation of a protocol defining hemodynamic stability in combination with pharmacist interventions resulted in improved outcomes for patients on mechanical ventilation. A systematic process implementation and multi-disciplinary education can help assist in earlier identification of patients ready for extubation.

1:40pm – 1:55pm C **Implementing a Revision in Anticoagulation Consult for Patients on Warfarin Being Discharged**
Magnolia C

Presenters: Elizabeth Rightnour
Evaluators: Brandon Snyder
Evaluators 3: Alison Sabados
Evaluators 2: Michael Armahizer

TITLE: Implementing a revised anticoagulation consult for patients on warfarin being discharged from a Veterans Affairs medical facility

AUTHORS: Elizabeth Rightnour Pharm.D., Danielle Davis Pharm.D.

OBJECTIVE: The purpose of this quality improvement project is to update the anticoagulation consult order to decrease the amount of incorrect consults placed and to standardize the consult ordering process to decrease unnecessary follow up post-discharge.

METHODS: Areas identified for standardization of the consult order included distinction of patients receiving anticoagulation care from the VA versus a non-VA facility and the period from discharge to follow up visit. These areas were standardized by implementing an automatic message provided by the electronic medical record to prompt the discharging provider to verify the patient receives care from the VA anticoagulation clinic. After implementation, the number of anticoagulation consults placed post-discharge for INR monitoring were collected. This data was compared with the data using the previous consult order to determine if the updated consult order decreased the overall number of incorrectly placed consults. The pre-implementation period was defined as 3/1/2022 to 10/13/2022. The post-implementation period was defined as 10/14/2022 to 3/14/2023.

RESULTS: There were 33 admissions from the pre-implementation period. Five admissions in this group were excluded due to circumstances that did not require a post-discharge anticoagulation consult. There were 19 consults that were placed correctly, and 6 admissions had no consults placed at all post-discharge. Of the 33 admissions, 3 of the patients had a consult placed incorrectly. A total of 26 admissions were pulled from the post-implementation period. Five admissions in this group were excluded. There were 16 consults that were placed correctly, and 5 admissions had no consults placed at all post-discharge. Of the 26 admissions in the post-implementation period, there were no incorrectly placed anticoagulation consults.

CONCLUSIONS: The results suggest a successful improvement to decrease incorrect or unnecessary follow up post-discharge with the new consult order. There was a decrease in the number of incorrectly placed post-discharge anticoagulation consults after implementation of the new consult order compared to the pre-implementation period. A future direction for quality improvement of the consult could be addressing the amount of anticoagulation consults not being placed after discharge in warfarin patients.

1:40pm – 1:55pm D **Impact of Multi-Disciplinary Heart Failure Rounds on 30- and 90-Days Heart Failure Related Readmission Rates at a Community Teaching Hospital**
Magnolia A

Presenters: Faezeh Azizi
Evaluators: Danielle Davis
Evaluators 3: Jenna Barnes
Evaluators 2: Angelika Krevat

TITLE: Impact of multi-disciplinary heart failure rounds on 30-day and 90-day heart failure related readmission rates at a community teaching hospital

AUTHORS: Faezeh Azizi, PharmD; Casey Kern, PharmD, BCPS

OBJECTIVE: Heart failure (HF) readmission rates remain high with 21% nationally and 23% in New York State. This study aims to assess the impact of multi-disciplinary HF rounds on 30- and 90-day HF related readmission rates at a community teaching hospital.

METHODS: This is a retrospective, single center study of patients with primary admission for HF exacerbation from January 1, 2022 to June 30, 2022. Patients admitted prior to April 1, 2022 (initiation of HF multi-disciplinary rounds) are included in the pre-implementation group and patients admitted after April 1, 2022 are included in the post-implementation group. The primary outcome is 30-day and 90-day HF related readmission rates from the index admission. The secondary outcome is to identify the most common pharmacy interventions during the HF rounds and the rate of acceptance. Continuous data are reported as mean and categorical data are reported as percent. Chi-square test is used to compare categorical data with P-value < 0.05 considered statistically significant.

RESULTS: 30-day and 90-day readmission rates will be compared to detect for significant difference since implementation of the multi-disciplinary HF rounds. Pharmacy recommendations will be grouped as initiation of HF guideline directed therapies and renal dose optimization.

CONCLUSIONS: The findings of this study will be utilized to identify the effectiveness of HF multi-disciplinary rounds and improve services offered during the rounds.

1:40pm – 1:55pm G **Evaluation of bolus dose pantoprazole versus continuous infusion for management of gastrointestinal bleed** Magnolia B

Presenters: Austin Aronica
Evaluators: Oliwia Welton
Evaluators 3: Jessica Damon
Evaluators 2: Fletcher Aldrich Nehring

TITLE: Evaluation of bolus dose pantoprazole versus continuous infusion for management of gastrointestinal bleed

AUTHORS: Austin Aronica, PharmD; Jessica Morales PharmD; Ilsim Kim, PharmD, BCCCP; Margaret Gorlin, MS.

OBJECTIVE: Proton pump inhibitors (PPI) are recommended for the treatment of upper gastrointestinal bleeding (UGIB). The aim of this study will be to compare the efficacy of intermittent bolus versus continuous infusion pantoprazole in the setting of UGIB.

METHODS: This study was a retrospective chart review from July 2019 to July 2022. Inclusion criteria consisted of patients >18 years old admitted with a diagnosis of UGIB who received either intravenous (IV) intermittent bolus pantoprazole (80mg bolus, followed by 40mg every 12 hours) or IV continuous infusion pantoprazole (80mg bolus, followed by 8mg/hr). Patients were excluded if they did not have an initial endoscopy upon presentation, did not have an initial mechanical intervention for the purpose of hemostasis, had a history of coagulation disorders, or had active GI cancer. The primary objective was incidence of upper GI rebleeding resulting in death or requiring additional intervention during hospital admission. Secondary objectives included incidence of death related to upper GI rebleeding, incidence of repeat endoscopic hemostatic therapy, incidence of readmission with a diagnosis of UGIB within 30 days, and average post-surgical intervention blood requirements.

RESULTS: Primary and secondary outcomes comparing the efficacy of IV intermittent bolus versus IV continuous infusion will be analyzed and findings will be presented.

CONCLUSIONS: It is anticipated that this project will add to the current body of evidence surrounding IV pantoprazole for the management of UGIB and will help guide providers on which regimen to utilize.

1:40pm – 1:55pm I **Comparison of Vancomycin Dosing Practices with AUC/MIC vs Traditional Dosing** Empire D

Presenters: Michaela Davis
Evaluators: Natalie Snyder
Evaluators 3: Melinda Martland
Evaluators 2: Jeff Huntress

TITLE: Comparison of Vancomycin Dosing Practices with AUC/MIC vs Traditional Dosing

AUTHORS: Michaela Davis, PharmD; Jessica Robinson, PharmD, BCPS, BCIDP; Daniel Cox, PharmD, MBA; Stacie Deslich, MA, MSHCA

OBJECTIVE: In 2022, Charleston Area Medical Center adopted AUC/MIC vancomycin dosing after previously using trough-based dosing. This study aims to evaluate the benefits of a vancomycin dosing protocol in terms of patient outcomes and healthcare costs.

METHODS: This is a retrospective descriptive, observational study of adult patients admitted to CAMC Memorial and General Divisions who received intravenous vancomycin during their admission. The study examines patients monitored by trough-based dosing from May to July 2021 and patients monitored by AUC/MIC dosing from May to July 2022. Patients were identified from an internal report of Pharmacy-to-Dose vancomycin consults and evaluated for pre-defined inclusion and exclusion criteria. Comparisons were drawn from intravenous vancomycin exposure per day for patients being monitored with AUC/MIC guideline implementation versus traditional trough monitoring.

RESULTS: Our analysis indicates that patients within the AUC/MIC group are receiving similar doses of vancomycin when compared to those in the trough monitoring group (2746 mg vs 2865 mg, P=0.4569). Number of patients with acute kidney injury based on KDIGO guidelines is similar between AUC/MIC and trough-based dosing strategies (6 vs 10, P=0.2845). On average, more concentrations were obtained for patients per day within the AUC/MIC group as compared to patients who received trough-based dosing (3 vs 2, P=0.0006).

CONCLUSIONS: Change in dosing protocol from trough-based to AUC/MIC dosing resulted in similar vancomycin doses and increased number of average concentrations obtained per day for the patient. Acute kidney injury was found to be similar between dosing strategies. This study provides baseline information regarding the usage of vancomycin after changing the dosing protocol.

1:40pm – 1:55pm I **Evaluating risk factors and social determinants of health in return rates of bacteremias** Magnolia D

Presenters: Justina Salib
Evaluators: Ashley Stetsenko
Evaluators 3: Quynh Ha
Evaluators 2: Eric Pitts

TITLE: Evaluating social and clinical risk factors for returning to the hospital in patients with blood stream infections

AUTHORS: J. Salib, C. Amoako, M. Mehta, C. Kubin, S. Mazur; NewYork-Presbyterian Hospital (NYPH), New York, New York

OBJECTIVE: The purpose of this study is to identify social and clinical risk factors associated with returning to the hospital after a bloodstream infection.

METHODS: This is a retrospective, cohort study evaluating patients with bacteremia from July 2021 to June 2022. Adult patients (â‰¥ 18 years) with a positive blood culture were included . Patients who were discharged to hospice or transitioned to comfort care were excluded. The first aim of this study is to determine the return rate to the hospital within a ninety-day period after discharge following a bloodstream infection. The second aim is to determine risk factors associated with returning to the hospital. A secondary analysis will be conducted on patients who returned as a complication of their initial bacteremia (e.g., recurrence of infection or adverse event). Descriptive statistics and SPSS will be utilized for statistical analysis. The primary outcome will be analyzed using Chi-square testing. Subgroup analysis will be reported through a logistic regression model. A p-value < 0.05 will be considered statistically significant.

RESULTS: The return rate and characteristics of patient who returned will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate both social and clinical risk factors related to ninety-day return rates among patients with blood stream infections.

1:40pm – 1:55pm M **Postoperative Discharge Opioid Prescriptions at a Community Hospital: a Patient-Centered Approach** Wild Rose A

Presenters: Leanne Crawford
Evaluators: Nancy Doherty
Evaluators 3: Sylvia Slattery
Evaluators 2: Jennifer Kunkel

TITLE: Postoperative discharge opioid prescriptions at a community hospital: a patient-centered approach

AUTHORS: L. Crawford, E. Lau; Inova Alexandria Hospital, Alexandria, Virginia

OBJECTIVE: Recent guidelines recommend a patient-centered approach to postoperative pain management. This study aims to decrease the average number of opioid pills prescribed at discharge after total knee and hip surgery utilizing this approach.

METHODS: Patients admitted to the hospitalâ€™s postoperative unit after total hip or knee replacement surgery were included in this study. Data was collected on weekdays starting February 1, 2023 until March 31, 2023. Eligible patients were screened for intervention based on their opioid risk score and their daily morphine milligram equivalent (MME) requirements. The primary outcome is the average number of opioid pills prescribed after researcher intervention based on patient-specific factors, including an opioid risk score of â‰¥4 and/or the patientâ€™s total MME

1:40pm – 1:55pm Q **Comparison of Aripiprazole Lauroxil Extended-Release Injectable Suspension and Aripiprazole for Extended-Release Injectable Suspension at the Coatesville VA Medical Center** Wild Rose B

Presenters: Peyton Woloszyn
Evaluators: Maryam Moghimi
Evaluators 3: Anthony Trona
Evaluators 2: Brian Grover

TITLE: Comparison of Aripiprazole Lauroxil Extended-Release Injectable Suspension and Aripiprazole for Extended-Release Injectable Suspension at the Coatesville VA Medical Center
AUTHORS: Peyton Woloszyn, PharmD & Tamara Bystrak, PharmD, BCPS, BCPP
OBJECTIVE: The aim of this study is to compare the safety and efficacy of Aristada with Abilify Maintena in the treatment of schizophrenia, schizoaffective disorder, or bipolar disorder.
METHODS: Data will be pulled from the Veterans Affairs electronic health record system, Computerized Patient Record System (CPRS), to identify all patients that were prescribed Aristada or Abilify Maintena at CVAMC for at least six consecutive months during the study period (01/01/2015-03/01/2023). Patients that maintained at least 80% adherence will be included and assessed for the primary endpoint: change in psychiatric hospitalization rates after initiation of Aristada versus Abilify Maintena. All patients that received at least one dose of Aristada or Abilify Maintena during the study period will be assessed for secondary endpoints related to side effects and duration of use. Baseline demographics will be collected and analyzed for these patients as well.
RESULTS: During the study period, a total of 51 patients received an Aristada or Abilify Maintena injection in the outpatient behavioral health clinic at the Coatesville VA Medical Center. The mean number of hospitalizations before and after initiation of either long-acting injectable antipsychotic will be determined. However, results of the study are still pending. Upon completion, results will be formally reported and evaluated.
CONCLUSIONS: Following data analysis, more information will be provided regarding potential differences between both LAIA products, Aristada and Abilify Maintena. This information will be beneficial for ensuring patient safety and optimal medication therapy for those with psychiatric illness.

1:40pm – 1:55pm T **Impact of a new pharmacist based education initiative for new start direct oral anticoagulant therapy** Empire A

Presenters: Kene Aniagboso
Evaluators: Kristi Burdette
Evaluators 3: Michelle Opipari, Vani Thiyagarajan
Evaluators 2: Taylor Rider

TITLE: Impact of a new pharmacist-based education initiative for new start direct oral anticoagulant therapy
AUTHORS: Kene Aniagboso, PharmD; Amrita Shahani, PharmD, MS; Thomas Moniz, PharmD, MHA
OBJECTIVE: A pharmacy education service was implemented in June 2022 for all patients newly started on a direct oral anticoagulant (DOAC) during admission. The objective of this analysis is to understand the impact of the service on patient safety and quality.
METHODS: This is a single-center, prospective quality improvement analysis approved by the Investigational Review Board (Protocol #: 2022P002179). Adult inpatients newly initiated on a DOAC were identified for discharge education using a system generated report from the medical health record. Between July 1, 2022, and December 31, 2022, patients who received education and patients who did not (refused or not completed) were contacted 30 days after discharge by phone call for an internally developed study team questionnaire. Patients discharged to hospice, rehab, or neurocognitively impaired were excluded from contact. The major outcome includes unplanned interactions with the healthcare system (emergency room visit, urgent care, physician phone call or gateway messages) within 30 days of discharge. Minor outcomes include adherence, satisfaction, DOAC comprehension, and adverse events. The medical health record was used for unsuccessful outreach. Chi-square test will be used for nominal data.
RESULTS: The incidence of unplanned interactions with the healthcare system within 30 days of discharge between patients who received education and patients who did not will be presented. Adherence, DOAC comprehension, and adverse events for both groups, along with satisfaction for just the patients who received education will also be presented.
CONCLUSIONS: The impact and success of pharmacist-based discharge education on DOAC therapy for patients will be better understood with results of this analysis and could be a cornerstone for optimizing the service and justifying its expansion.

2:00pm – 2:15pm

A **Expansion of Hospital-based Antimicrobial Stewardship Programs into Ambulatory Health-system Clinics**

Empire B

Presenters: Emma Camara
Evaluators: Bryan Wood
Evaluators 3: Lindsay Arnold, Matthew Brodock
Evaluators 2: Erin Slazak

TITLE: Expansion of hospital-based antimicrobial stewardship programs into ambulatory health-system clinics
AUTHORS: Emma Camara, PharmD; Monica Dorobisz, PharmD BCIDP; Catherine Li, PharmD BCIDP
OBJECTIVE: The purpose of this initiative was to pilot an ambulatory antimicrobial stewardship program (ASP), facilitated by inpatient antimicrobial stewardship (AMS) teams, to determine the effect of interventions and identify barriers to outpatient AMS.
METHODS: This quality-improvement initiative was designed as a quasi-experimental study before and during the pilot of an ambulatory ASP led by hospital-based AMS teams. Clinics serving family care and internal medicine received provider education detailing the ambulatory care Centers for Disease Control (CDC) Core Elements and the Joint Commission (TJC) Standards. Resources provided will include guidelines, commitment posters for display, a â€œhotlineâ€ for AMS prescribing advice, and an analysis of prescribing trends. AMS champions were identified and assisted with setting specific goals and timelines for implementation at their practice site. The primary outcome of percent of visits with systemic antibiotic prescriptions before (January 1-March 31, 2022) and during (January 1-March 31, 2023) implementation was analyzed. Secondary outcomes included percent of total visits with total antimicrobial prescriptions, differentiated by select antibiotics or classes, clinic, and provider.
RESULTS: Pre-implementation data revealed that providers ordered 582 systemic antibiotic prescriptions across 7,583 visits (7.7%). Prescribing rates amongst individual providers ranged from 1.2% to 29.8%. The most common antibiotic classes prescribed were penicillins (25%), followed by tetracyclines (14%) and cephalosporins (13%). The most common antibiotics were amoxicillin/clavulanate (13%), doxycycline (13%), metronidazole (12%) and nitrofurantoin (11%). Macrolides (10%) and quinolones (5%) were the least prescribed classes. Data collected during implementation will be presented and is anticipated to demonstrate a decrease in the percent of visits with systemic antibiotic prescriptions.
CONCLUSIONS: Anticipated results are expected to denote the benefit of a health-system OASP led by inpatient AMS teams. These findings will provide the framework and guidance for further expansion of these services to all health-system clinic sites and provide an example for other hospital AMS teams looking to expand services into their ambulatory practices.

2:00pm – 2:15pm

C **Assessing the bleeding risk of patients on high dose aspirin following bioprosthetic aortic valve replacement**

Empire C

Presenters: Jeremy Wirick
Evaluators: Kavitha Dalal
Evaluators 3: Nina Yousefzadeh
Evaluators 2: Brad Heidenthal

Abstract Title Assessing the bleeding risk of different aspirin dosing strategies following surgical bioprosthetic aortic valve replacement
Authors J. Wirick, C. Williams; Bayhealth Medical Center, Dover, Delaware
Objective The purpose of this study was to evaluate the bleeding risk of aspirin 325 mg (high dose) versus aspirin 75-100 mg (low dose) after bioprosthetic surgical aortic valve replacement (SAVR).
Methods This was a single center, retrospective, cohort study conducted from January 2017 to January 2022 which evaluated the bleeding risk of high dose aspirin compared to low dose aspirin after bioprosthetic SAVR. Patients were included if they received an isolated SAVR; while exclusion criteria were concomitant coronary artery bypass graft or the presence of arrhythmias following the procedure. The primary safety endpoint was the occurrence of bleeding events in the first 90 days after SAVR; while the secondary outcome was the number of modified Bleeding Academic Research Consortium (BARC) events in the first 90 days after SAVR.
Results Overall, 16 patients receiving high dose and 4 patients receiving low dose aspirin therapy were analyzed. A total of 0 bleeding events occurred in each group in the 90 days following SAVR. Secondary endpoints which included length of stay and embolic events were also analyzed and were not significantly different.
Conclusion Low dose and high dose aspirin therapy after bioprosthetic surgical aortic valve replacement displayed similar safety in regards to bleeding events. Further studies with larger patient populations are required to better characterize the safety profile of each aspirin dosing strategy after surgical aortic valve replacement.

2:00pm – 2:15pm C **Effects of Antihypertensive Agents on Blood Pressure Management in Severe Traumatic Brain Injury** Magnolia C

Presenters: Maria Kinani
Evaluators: Brandon Snyder
Evaluators 3: Alison Sabados
Evaluators 2: Michael Armahizer

TITLE: Effects of antihypertensive agents on blood pressure management in severe traumatic brain injury
AUTHORS: M. Kinani, D. Schulingkamp, R. Hoffner, J. Cheng; Jefferson Abington Hospital, Abington, Pennsylvania
OBJECTIVE: Current guidelines do not provide guidance on controlling blood pressure in patients presenting with traumatic brain injury (TBI). This study compared the use of antihypertensive agents in patients with severe TBI who are experiencing hypertension.
METHODS: This single-center, retrospective chart review consisted of adult patients 18 years of age and older, who presented with severe TBI and admitted to the trauma service at Jefferson Abington Hospital between March 2022 and November 2022. Patients had to receive at least one study medication, which included intravenous (IV) antihypertensive agents, such as beta blockers, calcium channel blockers, vasodilators, or combination therapy. The primary outcome was to compare time to systolic blood pressure control of < 140 mmHg, following the administration of different antihypertensive medications. Secondary outcomes were antihypertensive agent used and dose administered, the use of adjunct antihypertensive medication, worsening deficits, effects on length of stay, and in-hospital mortality.
RESULTS: Overall, 43 patients were evaluated and divided into two groups based on the first antihypertensive agent used. A total of 26 patients were started on IV push of metoprolol, labetalol, or enalaprilat. Meanwhile, 17 patients were started on a titratable nicardipine infusion. Metoprolol was faster by twelve minutes (p = 0.044) when compared to other agents in achieving the primary end point.
CONCLUSIONS: The use of a one-time dose metoprolol in patients with TBI lead to a faster time to achieve blood pressure control when compared to other IV antihypertensive agents. However, there were no statistically significant differences in time to SBP control when metoprolol or labetalol were compared to nicardipine infusion.

2:00pm – 2:15pm D **Implementation of a Pharmacy-Based Warfarin Consultation Service and Computerized Provider Order Entry (CPOE) in a State-Funded Hospital** Magnolia A

Presenters: Kelsey Ryan
Evaluators: Danielle Davis
Evaluators 3: Jenna Barnes
Evaluators 2: Angelika Krevat

TITLE: Implementation of a Pharmacy-Based Warfarin Consultation Service and Computerized Provider Order Entry (CPOE) in a State-Funded Hospital
AUTHORS: Kelsey Ryan, Pharm.D., Julia Last, Pharm.D.
OBJECTIVE: Eliminating warfarin paper orders for warfarin CPOE, which standardizes dosing based on INR and includes a pharmacy consultation service, will increase time in therapeutic INR range and reduce dosing errors for patients on warfarin therapy.
METHODS: An electronic medical record system will be used to identify patients on warfarin therapy. Records of paper orders will be reviewed to identify concerns with paper order entry. Patientsâ€™ records will be analyzed to determine how well their warfarin is managed, represented by a percentage of time in therapeutic INR range. A warfarin CPOE order set and a pharmacy-based anticoagulation consultation service will be developed and implemented in coordination with a multidisciplinary team involving providers, nursing staff, dietary, informatics, and Quality Management. The consultation service will be available for all providers to utilize and all patients on warfarin will be enrolled. Records for warfarin paper orders will be collected retrospectively and will be compared to those orders that are entered via CPOE. Effectiveness of the study will be measured by an increased time in therapeutic INR range and fewer number of errors.
RESULTS: The number of dosing errors and time in therapeutic INR after the initiation of a pharmacy consultation service and warfarin CPOE will be measured and compared to dosing errors and time in therapeutic range prior to initiation.
CONCLUSIONS: It is anticipated that this project will demonstrate a role for pharmacist involvement in warfarin dosing in order to increase time in therapeutic INR range, and warfarin CPOE will decrease the number of dosing errors.

2:00pm – 2:15pm G **Evaluation of a Pharmacist-Driven Sleep Promotion Program in Internal Medicine Patients**

Magnolia B

Presenters: Alyssa Castillo

Evaluators: Oliwia Welton

Evaluators 3: Jessica Damon

Evaluators 2: Fletcher Aldrich Nehring

TITLE: Evaluation of a pharmacist-driven sleep promotion program in internal medicine patients

AUTHORS: Alyssa Castillo, PharmD; Asha Tata, PharmD; Hyunuk Seung, MS; Matt Bathula, PharmD; Nidhi Goel, MD; Mojdeh Heavner, PharmD; Sean Kelly, PharmD; Jennifer So, MD; Brian Grover, PharmD

OBJECTIVE: Sleep in the hospital is frequently disrupted. The purpose of this initiative is to determine if utilizing a non-pharmacologic sleep promotion order set improves quality of sleep in an adult internal medicine population.

METHODS: This is a prospective, single-center, before-and-after quality improvement project. Patients admitted to internal medicine with an active order for a pharmacologic sleep aid are considered for inclusion. Pharmacists conduct a baseline sleep assessment using a modified Richards Campbell Sleep Questionnaire (mRCSQ). Pharmacists then recommend initiation of the sleep promotion order set. A second mRCSQ is conducted after 2 to 5 nights with the sleep promotion order set activated. The mean difference in mRCSQ between individual patients before and after sleep promotion order set utilization will be compared using paired t-test. P-values less than 0.05 will be considered statistically significant.

RESULTS: This project is still ongoing, and results are pending. Preliminary data on the mean difference in mRCSQ score between pre- and post-intervention will be analyzed and presented. Individual components of the mRCSQ score between pre- and post-intervention will also be analyzed.

CONCLUSIONS: It is anticipated that this project will demonstrate the utility of a non-pharmacologic sleep promotion order set on improved quality of sleep in an adult internal medicine population.

2:00pm – 2:15pm I **Outcomes of gram stain guided antimicrobial de-escalation for ventilated pneumonia in the intensive care unit**

Empire D

Presenters: Radha Patel

Evaluators: Natalie Snyder

Evaluators 3: Melinda Martland

Evaluators 2: Jeff Huntress

TITLE: Outcomes of Gram stain guided antimicrobial de-escalation for ventilated pneumonia in the intensive care unit

AUTHORS: Radha Patel, PharmD; Steven Smoke, PharmD, BCIDP; Francesco Ciummo, PharmD, BCCCP

OBJECTIVE: The purpose of this study was to observe the outcomes of patients before and after the implementation of the Gram stain guided de-escalation protocol in patients with ventilated pneumonia in the intensive care unit (ICU).

METHODS: This was a pre- and post-interventional single center study. Medical records were reviewed from March 1, 2022 to April 30, 2023. Gram stain guided de-escalation protocol was implemented in patients at least 18 years of age and on mechanical ventilation. Patients were excluded if they had confirmed or suspected non-pulmonary co-infection, were immunosuppressed, had an ineligible Gram stain or antibiotic regimen, or had an increase in vasopressor requirements. Primary endpoint was presence of de-escalation prior to final culture result. Secondary outcomes included ICU or hospital readmission within 30 days, ICU length of stay, 30-day mortality, therapeutic failure, and adverse events.

RESULTS: The rate of de-escalation, along with the secondary outcomes, of the two groups will be recorded and the results will be presented.

CONCLUSIONS: This study will help determine the utility of an antibiotic stewardship intervention using a Gram stain guided de-escalation protocol for ventilated pneumonia in the ICU.

2:00pm – 2:15pm I **The Impact of BiofireÂ® FilmarrayÂ® on Antibiotic Selection for Gram-Positive Blood Cultures of Patients With Bacteremia in a Community Teaching Hospital** Magnolia D

Presenters: Michelle Do
Evaluators: Ashley Stetsenko
Evaluators 3: Quynh Ha
Evaluators 2: Eric Pitts

TITLE: Impact of BiofireÂ® FilmarrayÂ® on antibiotic selection for gram-positive blood cultures of patients with bacteremia in a community teaching hospital

AUTHORS: Michelle Do, PharmD; Justin Andrade, PharmD, BCIDP; John Cerenzio, PharmD, BCIDP; and Vera Bulakhova, PharmD 2024 Candidate

OBJECTIVE: The objective of this retrospective study is to evaluate the impact of BioFire FilmArrayÂ® on the appropriateness of antibiotic use in hospitalized patients with gram-positive cocci bacteremia.

METHODS: A retrospective, single-center experimental study with the primary outcome of median time to optimal treatment in the first 96 hours after blood culture positivity and time to de-escalation (hours). Secondary outcomes include time to first antibiotic modification (overall and gram-positive), duration of unnecessary methicillin-resistant Staphylococcus aureus coverage, length of stay and in-hospital mortality. The data will include admitted patients with positive blood cultures that grew gram-positive cocci within August 25, 2021 to February 20, 2023. REDcap and MedKeeper, documentation and record keeping tools will be used for data collection. All patients will be assessed to see if their therapy selection was optimized with the introduction of BioFireÂ® FilmArrayÂ® by the measurement of time to optimal treatment. Patients will also be assessed to see if those post-implementation of BioFire had improved outcomes versus those pre-implementation of BioFire.

RESULTS: The primary and secondary outcomes of this study will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate the benefits of BioFire FilmArrayÂ® with decreased time to optimal treatment in the first 96 hours after gram-positive cocci blood culture positivity and time to de-escalation. As well as the decrease in duration of unnecessary MRSA coverage, incidence of adverse events, length of stay, and mortality.

2:00pm – 2:15pm M **Evaluation of CPOE-assisted pharmacist interventions on reducing feeding tube medication errors** Wild Rose A

Presenters: Jenny Chen
Evaluators: Nancy Doherty
Evaluators 3: Sylvia Slattery
Evaluators 2: Jennifer Kunkel

TITLE: Evaluation of CPOE-assisted pharmacist interventions on reducing feeding tube medication errors

AUTHORS: Jenny Chen, Jennifer Ofori-Kyerewah, Kyoung-Ki Kang

OBJECTIVE: The objective of this study is to evaluate computerized physician order entry (CPOE)-assisted pharmacist interventions in reducing the incidence of feeding tube medication errors.

METHODS: A computerized tube feeding alert and descriptive drug administration techniques were inputted into the electronic medical record in August 2022. Retrospective analysis of patients admitted from two separate time periods were included to compare pre- and post implementation of tube feeding alert. One month post-implementation, September 2022, was compared to pre-implementation, September 2021. Five-month post-implementation was assessed in January 2023 compared to pre-implementation January 2022. Patients on tube feeding who required oral medications that are exempt from manipulation or require special administration techniques was included. In addition, the type of enteral feeding tube and pharmacist interventions related to feeding tube oral medications was analyzed.

RESULTS: The number of FTMEs before and after implementation will be recorded and results will be presented.

CONCLUSIONS: Preliminary data suggest that the implementation of CPOE tube feeding alert and order set changes increased the number of pharmacist interventions that lead to a decrease in FTMEs.

2:00pm – 2:15pm Q **Comparison of adherence to current and previous norepinephrine titration instructions within a community health system** Wild Rose B

Presenters: Leah Deroche
Evaluators: Maryam Moghimi
Evaluators 3: Anthony Trona
Evaluators 2: Brian Grover

TITLE: Improved adherence to norepinephrine titration instructions within a community health system
AUTHORS: Leah Deroche, PharmD; Alison Sabados, PharmD, BCCCP; Chelsea Laughner, PharmD, BCPS
OBJECTIVE: Norepinephrine administration instructions were updated in February 2022 to align with the Joint Commission standards for titratable medications. The aim of this study was to compare adherence to titration instructions before and after the updates.
METHODS: This was a retrospective study comparing adherence to norepinephrine titration instructions within a community health system during August of 2021 and 2022. An electronic report identified patients aged 18 years or older who were administered a norepinephrine infusion in a non-procedural area. Starting dose, maximum dose, incremental titrations and timing, and corresponding mean arterial pressures (MAPs) were collected and compared to the order instructions. The primary outcome was the percent adherence to norepinephrine titration instructions within the first 24 hours of initiation. Secondary outcomes included reasons for titration nonadherence, number of titrations, and time to achieve goal MAP.
RESULTS: A total of 1,116 titrations were assessed in the study with 482 titrations in 2021 before the update and 634 titrations in 2022 after the update. Rate of adherence to titration instructions was 28.8% in 2021 versus 46.2% in 2022. The most common reasons for nonadherence were nonadherent incremental titrations (43.1% in 2021 versus 7.6% in 2022), lack of MAP documentation (49.2% versus 46.4% in 2022), and inappropriate timing between titrations (12.7% versus 16.2%). The median time to achieve goal MAP was 20 minutes in 2021 and 15.5 minutes in 2022.
CONCLUSIONS: The updated instructions for norepinephrine orders improved overall titration adherence and time to achieve blood pressure goals. The improvement was driven by increased adherence to incremental titrations.

2:00pm – 2:15pm T **Evaluating the Impact of Pharmacist Led Transitions of Care Model on Patients with Heart Failure on Guideline Directed Medication Therapy and Healthcare Utilization** Empire A

Presenters: Jalaina Brown
Evaluators: Kristi Burdette
Evaluators 3: Michelle Opipari, Vani Thiyagarajan
Evaluators 2: Taylor Rider

TITLE: Evaluation of Pharmacist Led Transitions of Care Model on Veterans with Heart Failure on Healthcare Utilization and Guideline Directed Medication Therapy

AUTHORS: Jalaina Brown, PharmD, MBA; Tanvi Patil, PharmD, BCPS; John Minchak, BS, PharmD, MBA, BCPS, BCGP; Jena Willis, PharmD, BCPS, BCACP; Alamdeep Kaur, PharmD, BCPS; Sarah Hood, PharmD, BCPS; Jennifer Bowyer, PharmD; Nicholas Weatherton, PharmD, BCPS; Ebenezer Boakye, PharmD, BCPS

OBJECTIVE: The aim of this quality improvement project was to evaluate the impact of Nursing-Pharmacy collaboration led transitions of care program on veterans, who were discharged from the hospital or emergency department at Salem VA Health Care System.

METHODS: This quality improvement project included patients 18 years of age or older discharged from the hospital, or ER between December 1, 2021 and December 31, 2022, with a primary or secondary diagnosis for HF. Patients who were transitioned to hospice, discharged to nursing home, or assisted living facility (ALF) were excluded. A control cohort of patients not seen by a pharmacist during the study duration was included as comparator. Primary outcome was a composite of total ER or hospital visits 90-days post provider encounter. Secondary outcomes included proportion of patient receiving triple and quadruple GDMT, lifestyle and medication adherence counseling. Descriptive data was used for baseline demographics and secondary outcomes. Primary outcomes were compared using chi-square test.

RESULTS: A total of 75 patients were included: 37 in control and 38 in intervention. The median age was 73 years with majority white male population. Distribution of HF types in control vs. intervention were: HF with reduced ejection fraction: 15(40.54%) vs. 15(39.47%), HF with preserved ejection fraction: 14(37.84%) vs. 20(52.63%). No difference was noted among the two cohorts for combined HF ER visits or hospitalizations, [2(5.41%) in control vs. 1(2.63%) in intervention; p-value=0.540]. Proportion of patients receiving triple GDMT, quadruple GDMT, lifestyle education, and medication adherence counseling in control vs. intervention respectively were: 35(92.11%) vs. 36(94.73%); 19(51.25%) vs. 21(55.26%); 0(0%) vs. 35(92.11%); 0(0%) vs. 35(92.11%).

CONCLUSIONS: Pharmacist led intervention did not decrease ER visits or hospitalization compared to usual care however, increases in GDMT use, medication adherence, and lifestyle education was observed. Limitations consist of predominant white male population limiting generalizability, single center, retrospective study design, and lack of power due to a small sample size.

2:20pm – 2:35pm A **Impact of hemnoglobin A1c on risk of developing genitourinary infections among Veterans taking sodium-glucose cotransporter-2 inhibitors** Empire B

Presenters: Elizabeth Dunivan
Evaluators: Bryan Wood
Evaluators 3: Lindsay Arnold, Matthew Brodock
Evaluators 2: Erin Slazak

TITLE: Impact of hemoglobin A1c on risk of developing genitourinary infections among veterans taking sodium-glucose cotransporter-2 inhibitors
AUTHORS: Elizabeth Dunivan, PharmD, Hilary Molbeck, PharmD
OBJECTIVE: The purpose of this project is to determine the impact of SGLT2 inhibitors on risk of genital infection (GI) or urinary tract infection (UTI) occurrence when a Veteranâ€™s hemoglobin A1c is >10%.
METHODS: This study is a retrospective chart review of Veterans on canagliflozin, dapagliflozin, or empagliflozin with a reported adverse drug reaction for symptoms of or a diagnosed GI or UTI within the VA Maine Healthcare System from 1/1/2018 to 8/31/2022. Investigators will identify Veterans by reviewing adverse event reports submitted in the Veterans Affairs Adverse Drug Event Reporting System. Manual chart review within Computerized Patient Record System (CPRS) will be conducted to confirm the A1c and personal history of GI or UTI of the Veterans that have reported reactions. Veterans with an adverse reaction reported for any other reason will be excluded from this study. In the primary endpoint, a Chi-square test will be used to assess the difference in GI and UTI rates based on A1c in Veterans with a reported reaction to an SGLT-2 inhibitor. Secondary outcomes to be assessed include A1c within a particular range, personal history of GI or UTI, and number of cases of GI versus UTI.
RESULTS: The number of urinary tract and genital fungal infections and the patientâ€™s A1c at that time will be recorded and the results will be presented.
CONCLUSIONS: It is anticipated that this project will demonstrate that the incidence of number of urinary tract infections in patients with an A1c >10% will be similar to those with an A1c

2:20pm – 2:35pm C **Effect of Intravenous (IV) Acetaminophen Use on Reduction of Pain in Postoperative Cardiac Surgery Patients** Magnolia C

Presenters: Paola Rivera Mudafort
Evaluators: Brandon Snyder
Evaluators 3: Alison Sabados
Evaluators 2: Michael Armahizer

TITLE: Effect of intravenous acetaminophen use on reduction of pain in postoperative cardiac surgery patients
AUTHORS: P. Rivera Mudafort, S. Sheth; Luminis Health â€“ Anne Arundel Medical Center, Annapolis, Maryland
OBJECTIVE: Evaluate the effect of IV acetaminophen on the reduction of postoperative pain in cardiac surgery patients as well as the reduction of opioid use, ICU and hospital length of stay, and incidence of delirium.
METHODS: Single-center, retrospective cohort study evaluating patients that received IV acetaminophen for analgesia after cardiac surgery from December 2020-2022 at Luminis Health Anne Arundel Medical Center. Patient specific data was collected via chart review through electronic medical record. Patients who were â‰¥65 years old, had undergone cardiac surgery and were in the postoperative phase of care were included. Patients were excluded if they had severe hepatic impairment, hypersensitivity to acetaminophen and preexisting cognitive impairment. The primary objective was reduction of postoperative pain evaluated by documented pain scores up to 24 hours after surgery. Secondary objectives included postoperative opioid use, ICU and hospital lengths of stay, and incidence of delirium. Opioid use was measured as the total morphine milligram equivalents (MME) at 24 and 48 hours. Postoperative delirium was measured through reported Confusion Assessment Method for the ICU (CAM-ICU).
RESULTS: The results obtained from this study will be recorded and presented in the future.
CONCLUSIONS: It is anticipated that this study will not result in decreased postoperative pain and decreased opioid analgesic use after the administration of IV acetaminophen.

2:20pm – 2:35pm C **Newly Initiated Dapagliflozin Versus Unchanged Therapy on Hospital Readmissions for Patients with Heart Failure** Empire C

Presenters: Courtney Glascock
Evaluators: Kavitha Dalal
Evaluators 3: Nina Yousefzadeh
Evaluators 2: Brad Heidenthal

TITLE: Dapagliflozin on 90-day readmission rates in patients with heart failure

AUTHORS: C. Glascock, R. Berhanu, A. Staubs; Berkeley Medical Center, Martinsburg, WV

OBJECTIVE: The aim of this study is to compare the 90-day readmission rates in patients with heart failure who were newly initiated dapagliflozin compared to patients not started on an SGLT2 inhibitor as part of guideline-directed medical therapy.

METHODS: The electronic medical records system, EPIC, was utilized to identify patients with heart failure who were discharged on newly initiated dapagliflozin between August 1st, 2021 to November 1st, 2022, to determine if dapagliflozin impacted 90-day readmission rates for heart failure. The following information was collected: patient medical record numbers, age, gender, race, relevant comorbidities, medication information (dose, discharge prescription), prior to admission and discharge guideline-directed medical therapy, transthoracic echocardiogram report (i.e., left ventricle ejection fraction), relevant labs (i.e., BNP, SCr), and admission and readmission information (i.e., date of admission, length of stay). All data was recorded using a Microsoft Excel sheet without patient identifiers and maintained confidentially.

RESULTS: The number and percentage of 90-day readmissions in each group will be recorded, and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate a lower 90-day readmission rate in patients with heart failure on newly initiated dapagliflozin in comparison to patients not started on an SGLT2 inhibitor.

2:20pm – 2:35pm G **Pharmacologic Management of Acute Hypercalcemia Pre- and Post-Guideline Implementation**
Presenters: Kylie Helfenbein Magnolia B
Evaluators: Oliwia Welton
Evaluators 3: Jessica Damon
Evaluators 2: Fletcher Aldrich Nehring

TITLE: Pharmacologic management of acute hypercalcemia pre- and post-guideline implementation

AUTHORS: Kylie Helfenbein, PharmD, Nicole Rudawsky, PharmD, BCPS, Kajal Patel, PharmD, BCPS, Kunal Shah, PharmD

OBJECTIVE: Acute hypercalcemia can manifest with mild to life-threatening complications requiring fluids, diuresis, calcitonin and/or bisphosphonates. This study reviews the impact of a system-wide guideline for use of these agents in acute hypercalcemia.

METHODS: This was a retrospective chart review of 162 adult patients admitted to five medical centers between August 2021-November 2022 who received calcitonin, zoledronic acid, and/or pamidronate for acute hypercalcemia. Patients who received treatment outpatient or for other indications were excluded. The primary outcome evaluated the proportion of patients with appropriate parameters for therapy initiation, defined as a corrected calcium of â‰¥14 mg/dL or â‰¥12 mg/dL with symptoms. Secondary outcomes included appropriate dose, infusion time, repeat dosing, and duration of therapy. Additional outcomes stratified all patients with appropriate utilization, regardless of group, into monotherapy versus combination therapy to assess incidence of normocalcemia and hypocalcemia, time to normocalcemia, hospital length of stay, and 48-hour change in serum creatinine.

RESULTS: Of 162 included patients, 65 versus 97 were treated pre- and post-guideline, with malignancy as the most common hypercalcemia etiology (62.4%). The primary outcome showed no significant difference in appropriate drug initiation (78.4% versus 73.2%, p=0.44). Appropriate dosing was higher post-guideline for bisphosphonates (57.4% versus 70.7%) and calcitonin (91.7% versus 94.2%) though significance was not reached. Repeat bisphosphonate dosing â‰¥ 7 days after initial doses was higher post-guideline (75%) while appropriateness of infusion times was similar. Calcitonin use beyond 48 hours was lower post-guideline (16.7% versus 11.5%). Clinical outcomes of single versus combination therapy in all patients with appropriate utilization are pending.

CONCLUSIONS: This study shows a high level of guideline adherence for acute hypercalcemia therapy. Both groups were appropriately initiated on calcitonin and/or bisphosphonates based on corrected calcium and symptom status. Post-guideline patients had a higher rate of appropriate drug dosing and lower rate of calcitonin use beyond 48 hours, though neither finding was statistically significant.

2:20pm – 2:35pm 1 **Evaluating the effect of a pharmacist-directed initiative towards improving compliance to osteoporosis medication post hip-fracture** Magnolia A

Presenters: Yolanda Mercurius
Evaluators: Danielle Davis
Evaluators 3: Jenna Barnes
Evaluators 2: Angelika Krevat

TITLE: Evaluating the effect of a pharmacist-directed initiative towards improving compliance to osteoporosis medication post hip-fracture

AUTHORS: Yolanda Mercurius, PharmD; Nina Yousefzadeh, PharmD, BCPS; Michelle Lobo, MD; Susan Maltser, DO

OBJECTIVE: This quality improvement project will assess provider adherence to osteoporosis guideline-directed therapy, patient adherence to osteoporosis medication and recurrent hip fracture post-surgery after implementation of pharmacist intervention.

METHODS: This initiative will evaluate patients admitted to the Glen Cove Hospital Rehabilitation Center for a hip fracture beginning in January 2023 onward. Patients included are ≥65 years with a hip fracture considered to be a fragility fracture or minimally traumatic fracture. Patients are excluded if intolerant to oral bisphosphonates, inability to take oral medications, inability to sit upright for at least 30 minutes, a history of esophageal cancers or Barrett's esophagus, and a CrCl < 35 mL/min. Patient education is provided and 1 dose of alendronate is administered before discharge. PCP contact, then follow-up will be conducted at month 1, 3, 6 and 12 post-discharge. The primary endpoints are improved provider adherence to osteoporosis treatment guidelines and patient compliance to osteoporosis medication post-surgery. The secondary endpoint is hospitalization due to recurrent hip fracture within 1 year. All data was collected and entered into RedCap for proper analysis.

RESULTS: Six patients were screened and included for analysis. Of this 16.7% (n=1) was enrolled, 50.0% (n=3) were not enrolled due to provider declining and 33.3% (n=2) due to patient and/or family declining. Patient ages ranged from 82 to 95-years (Average = 83.5). Pertinent labs were recommended for all patients. Appropriate supplementation was given based on lab results. One patient enrolled in the initiative was a 95-year-old female. Osteoporosis education was provided, and alendronate was appropriately administered prior to discharge. Severe abdominal discomfort was reported 1 day after receiving the medication and the medication was discontinued. Rehospitalization at month 1 and 3 post-discharge was not reported for any patient.

CONCLUSIONS: It is anticipated that this prospective quality improvement initiative will demonstrate the positive impact of a multi-disciplinary protocol toward appropriate provider initiation and patient compliance to osteoporosis medication. Additionally, it is anticipated to demonstrate a positive impact towards decreasing the incidence of recurrent hip fractures in elderly patients in a community hospital setting. This is an ongoing initiative and further data is required to validly analyze the primary and secondary endpoints.

2:20pm – 2:35pm | **Evaluating the effect of documentation of penicillin allergy and tolerated agents on the use of empiric beta-lactam antimicrobials** Magnolia D

Presenters: Jansie Villanueva
Evaluators: Ashley Stetsenko
Evaluators 3: Quynh Ha
Evaluators 2: Eric Pitts

TITLE: Evaluating the effect of documentation of penicillin allergy and tolerated agents on the use of empiric beta-lactam antimicrobials

AUTHORS: Jansie R. Villanueva, PharmD, Hager H. El-Gendi, PharmD, BCPS, Courtney Hoffman, PharmD, BCPS, BCGP

OBJECTIVE: Our objective is to determine if documentation of prior beta-lactam tolerance in the allergy information field of electronic health record (EHR) will result in an increase in the prescribing of empiric beta-lactam antimicrobials.

METHODS: This was a prospective, single center study of adult patients in the emergency department of a community hospital from January to April 2023. Patients with a documented allergy to penicillins were randomly selected for chart review and assessed for prior beta-lactam tolerance. This tolerance was then documented in the allergy information field of the EHR. Chart review was subsequently conducted to evaluate empiric antimicrobial prescribing practices. Patients with updated documentation in the allergy information field of the EHR prior to antibiotic prescribing were compared to patients in which prior tolerance of a beta-lactam agent was not documented at the time of antibiotic prescribing.

RESULTS: Information pertaining to penicillin allergy documentation and beta-lactam prescribing practices will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this study will provide insight into the relationship between documentation of allergies to penicillins, prior tolerated beta-lactam agents, and antimicrobial prescribing practices to improve antimicrobial stewardship and documentation processes.

2:20pm – 2:35pm | **Right on Tract: Appropriate Management of UTIs in the Adult Male Veteran Population** Empire D

Presenters: Abigail Martin
Evaluators: Natalie Snyder
Evaluators 3: Melinda Martland
Evaluators 2: Jeff Huntress

TITLE: Right on tract: appropriate management of UTIs in the adult male Veteran population

AUTHORS: Abigail Martin, PharmD; Chelsey Chambers, PharmD; Laura Holton, OMS

OBJECTIVE: By identifying urinary tract infections (UTIs) as a key area where guideline-based therapy could be improved, this project aims to reduce overuse of antibiotics through provider education.

METHODS: A retrospective review was conducted to analyze Veterans that had a urine culture drawn at one VA facility from September 1, 2021 to September 1, 2022. The results of the urine culture were obtained and then a chart review was conducted to investigate the Veteran's symptoms, whether a foley catheter was in place, and if antibiotics were used. The involvement of antibiotics prompted further research into when the antibiotic was initiated, how the treatment plan changed after the culture results came back, and if the treatment was overall in concordance with clinical guidelines. This review focused on Veterans admitted to either the acute care ward or community living center (CLC).

RESULTS: A total of 91 Veterans were included in the analysis (mean age 76.55 years old, all male). If a Veteran had multiple urine cultures obtained within the timeframe reviewed, all cultures that met criteria were included leading to a total of 166 urine cultures analyzed. 94 out of the 166 cultures were not treated in concordance with guideline recommendations (56.63%).

CONCLUSIONS: Guideline-based treatment strategies are not being appropriately utilized for the management of UTIs. Often times antibiotics are initiated prior to urinalysis results despite the lack of compelling evidence to support UTI diagnosis. Provider education is to be conducted utilizing the results of this retrospective review to ultimately aid in reducing overuse of antibiotics.

2:20pm – 2:35pm M **The effect of next business day audits and leadership engagement in the implementation of a standard process for titratable infusion compliance with order parameters** Wild Rose A

Presenters: Melissa Progar
Evaluators: Nancy Doherty
Evaluators 3: Sylvia Slattery
Evaluators 2: Jennifer Kunkel

TITLE: Effect of next business day audits and leadership engagement in the implementation of a standardized process for titratable infusion compliance with order parameters

AUTHORS: Melissa Progar, PharmD; Kelly Cain, PharmD, BCPS; Kathy Koehl, PharmD, BCPS, BCNSP; Tanya Claiborne, PharmD; and, Carly Sinclair, CPhT

OBJECTIVE: Titratable infusion compliance with order parameters is a vital part of medication safety and regulatory compliance. This project examines the effect of next business day audits coupled with local leader follow-up on fentanyl and propofol compliance.

METHODS: This system-wide, retrospective review of fentanyl and propofol infusions compared one month of pre- and post-intervention data to determine the effect of EMR process changes and next business day audits, with subsequent leadership engagement, on compliance with order parameters. Recently, fentanyl and propofol infusions were added to a Code Narrator and the Epic SmartPhrase, â€œ.titrate,â€□ was implemented. A SlicerDicer report was used to identify fentanyl or propofol orders during a hospitalization. Audits were manually completed, and inconsistencies were documented and distributed to nurse leaders, who followed up with frontline staff. The primary outcome is percent of orders that were fully compliant with order parameters during a 24-hour look-back period pre- and post-intervention. Secondary outcomes are â€œ.titrateâ€□ use, titration error type, and sedation vacation frequency. Variables were analyzed using a Chi-Square Test, with p-values less than 0.05 being statically significant.

RESULTS: 1,074 pre-intervention orders and 708 post-intervention orders were included. 63.4% of pre-intervention and 70.6% of post-intervention fentanyl orders were fully compliant, resulting in a 7.2% increase ($p = 0.025$). 51.2% of pre-intervention and 61.4% of post-intervention propofol orders were fully compliant, resulting in a 10.2% increase ($p = 0.003$). Pre-intervention, the most common error for each was a wrong dose titration. Post-intervention, it was titrating too quickly for fentanyl and a wrong dose titration for propofol. Pre-intervention, 32.4% of fentanyl and 34.9% of propofol orders had a sedation vacation documented compared with 48.4% and 52.4%, respectively, post-intervention. Four fentanyl and 8 propofol orders used â€œ.titrate.â€□

CONCLUSIONS: Overall, the process changes and next business day audits, with subsequent leadership engagement, resulted in a statistically significant increase in fentanyl and propofol compliance with order parameters. When incorporated, the process changes allowed individualized patient care and appropriate documentation, but increased utilization is required to further improve titratable infusion compliance.

2:20pm – 2:35pm Q **Evaluation of the Necessity of an Inpatient Pharmacist-Led Management of Levothyroxine** Wild Rose B

Presenters: Olivia Wierciszewski
Evaluators: Maryam Moghimi
Evaluators 3: Anthony Trona
Evaluators 2: Brian Grover

TITLE: Safety analysis and cost-savings of a three-day intravenous (IV) levothyroxine hold protocol
AUTHORS: Olivia Wierciszewski, PharmD; Nancy Doherty, MS, Rph
OBJECTIVE: The objective of this study is to assess the safety and cost-savings of a pharmacist-driven intravenous (IV) levothyroxine 3-day hold protocol.
METHODS: This study is an institutional review board-approved single center study including all inpatients prescribed IV levothyroxine between December 2022 and March 2023 aged 18 years and older. Exclusion criteria included hospitalization due to hypothyroidism requiring IV levothyroxine, bradycardia defined as heart rate less than 60 beats per minute, myxedema coma, organ donor status, and abnormal serum thyroid-stimulating hormone and free thyroxine concentrations. All relevant patient demographic and clinical data were extracted from the electronic medical record. The primary outcome was the number of patients with signs or symptoms of hypothyroidism after a 3-day hold and the secondary outcome was annual cost savings after implementation of the hold protocol. Cost savings were determined by multiplying the cost of a vial ($65.64) of levothyroxine by the number of doses held. Safety was evaluated with Zulewskiâ€™s clinical score of hypothyroidism.
RESULTS: There were 38 patients 18 years of age or older with orders for IV levothyroxine included in the study. Of these patients, 24 (63.2%) were eligible for an IV levothyroxine hold of up to three days. All 24 patients were clinically euthyroid after the levothyroxine hold and had a score of less than three on the Zulewskiâ€™s clinical score of hypothyroidism. A pharmacist intervened on 8 patients (21.1%) to switch IV levothyroxine to PO when applicable which led to an indirect cost savings of $3,413.28. Direct cost savings from the hold protocol was $3,807.12 with a total cost-savings of $7,220.40 and an annual projected cost savings of $34,657.92.
CONCLUSIONS: Implementation of a 3-day hold of IV levothyroxine did not cause an increase in adverse events and led to significant cost-savings.

2:20pm – 2:35pm T **Impact of a pharmacy-led medication history program on the completeness of medication list documentation at a community teaching hospital** Empire A

Presenters: Aisha Siddique
Evaluators: Kristi Burdette
Evaluators 3: Michelle Opipari, Vani Thiyagarajan
Evaluators 2: Taylor Rider

TITLE: Impact of a pharmacy-led medication history program on the completeness of medication list documentation at a community teaching hospital
AUTHORS: Aisha Siddique, PharmD, Alicia Pycraft PharmD; Kim Ngan Tran, PharmD, BCPS, BCCCP
OBJECTIVE: The primary objective is to compare the completeness of medication histories documentation between pharmacy technicians and other providers. Secondary objectives include types of missing information and percentage of incomplete allergy documentation.
METHODS: This is a single-center, retrospective chart review of patients admitted through the Greater Baltimore Medical Center (GBMC) Emergency Department from January 19th 2023 - February 28th, 2023. Patients were identified as having a medication history conducted by a pharmacy technician or other health care professional. Included are patients â‰¥18 years of age admitted to GBMC on one or more medication prior to admission. Anyone below the age of 18 will be excluded from the study. The estimated sample size for this study population is 200 patients. The primary outcome is the percentage of patients with complete medication histories, defined as a medication history with no missing medication name, strength, dose, route, site/location, or frequency. Other data points include complete allergy documentation, 7- and 30-day readmission rates, and in-hospital mortality rates. The primary outcome will be analyzed using a chi-square test with an Î± level of 0.05.
RESULTS: The number of admitted patients with a complete medication history for the intervention group and the control group will be collected. Data will be used to determine if the pharmacy-led medication history program led to an increase in admitted patients with complete medication histories. For patients with an incomplete medication history, the type of missing information, including name, strength, dose, frequency, route, and location (if applicable) will be collected and presented. All patients will also be assessed for complete allergy documentation.
CONCLUSIONS: It is anticipated that this project will show the impact of a pharmacy-led medication history program on the number of patient admissions with a complete medication history and complete allergy list.

2:40pm – 2:55pm

Empty Magnolia A

Evaluators: Danielle Davis
Evaluators 3: Jenna Barnes
Evaluators 2: Angelika Krevat

2:40pm – 2:55pm C

Impact of Pharmacist Involvement in Sepsis Response of Hospitalized Patients Empire C

Presenters: Stephanie Reid
Evaluators: Kavitha Dalal
Evaluators 3: Nina Yousefzadeh
Evaluators 2: Brad Heidenthal

TITLE: Impact of Pharmacists on 1-hour Sepsis Bundle Completion in Hospitalized Patients
AUTHORS: Stephanie Reid PharmD, Denis Vanini PharmD, and Christine Groth PharmD, BCCCP
OBJECTIVE: To assess compliance to the Surviving Sepsis Campaign (SSC) 1-hour bundle in hospitalized patients seen by a sepsis response team with a pharmacist present compared to those seen by a sepsis response team with a pharmacist absent.
METHODS: Single center retrospective observational study of hospitalized patients diagnosed with severe sepsis or septic shock and had a sepsis response (via code sepsis or rapid response) between July 1, 2019 and July 1, 2022. Patients were excluded if unable to receive treatment within one hour of sepsis onset due to death or refusal of care. The primary endpoint was 1-hour sepsis bundle compliance, as defined by the Surviving Sepsis Campaign, with time zero defined as the time of a code sepsis or rapid response alert. Secondary endpoints include the Center of Medicare and Medicaid Service (CMS) Severe Sepsis and Septic Shock (SEP-1) 3 and 6-hour bundle compliance, time to individual bundle component completion, length of hospital stay, and in-hospital mortality. Data were analyzed using Fisherâ€™s Exact test for categorical data and Mann Whitney U test for continuous data.
RESULTS: In total, 167 patients were included (91 pharmacist present and 76 pharmacist absent). Median time from sepsis onset to the time of the alert was longer in the pharmacist present group (129 (38-460) vs 50 (15-129) minutes). Pharmacist presence resulted in improved 1-hour bundle compliance (60.4% vs 44.7%, p=0.045). The rate of antibiotic administration within 1-hour was significantly higher with a pharmacist present (84.6% vs 59.2%, p

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2:40pm – 2:55pm C

Safety of High-Dose Subcutaneous Heparin for Venous Thromboembolism Prophylaxis in Obese Inpatients Magnolia C

Presenters: Brooke Carnemolla
Evaluators: Brandon Snyder
Evaluators 3: Alison Sabados
Evaluators 2: Michael Armahizer

TITLE: Safety of high-dose subcutaneous heparin for venous thromboembolism prophylaxis in obese inpatients
AUTHORS: Brooke Carnemolla, Douglas Buckheit, Laura Hobbs, David Oâ€™Sullivan, Mandeep Kumar
OBJECTIVE: The goal of this study is to assess the efficacy and safety of increased doses of unfractionated heparin (UFH) compared to standard doses in obese inpatients.
METHODS: This multi-center retrospective study was conducted via chart review to identify obese inpatients (weighing at least 100 kg and having a BMI of at least 40) admitted for at least 72 hours. Patients were categorized into a standard dose group (UFH 5000 units subcutaneous (SC) every 8 hours) or an increased dose group (UFH 7500 units SC every 8 hours). The primary outcome was incidence of bleeding events. Secondary outcomes included incidence of venous thromboembolism (VTE) events, length of hospital stay, and length of ICU stay. Continuous data was evaluated using Studentâ€™s t-test for normal distributions and Mann-Whitney U test for non-parametric distributions. Categorical variables were evaluated using Pearson chi-square test or Fisherâ€™s exact test. All statistical analyses were performed using a priori alpha level of 0.05 such that results yielding p

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2:40pm – 2:55pm G **Assessment of the Association of Increased Hospital Length of Stay In Heart Failure Patients With an Acute Gout Attack** Magnolia B

Presenters: Minji Hong
Evaluators: Oliwia Welton
Evaluators 3: Jessica Damon
Evaluators 2: Fletcher Aldrich Nehring

TITLE: Assessment of the association of increased hospital length of stay in heart failure patients with an acute gout attack

AUTHORS: Minji Hong, PharmD, Kelsey Daley, PharmD, BCPS, Angela Nam, PharmD, Natalie Kong, PharmD, BCPS, Julie Gwin, PharmD

OBJECTIVE: This study assessed the possible association between the development of an acute gout flare and an increased length of stay in hospitalized heart failure patients.

METHODS: A single center, retrospective chart review exempt from IRB approval was completed to assess the possible association between an increased length of hospital stay in heart failure patients who developed an acute gout attack. Inclusion criteria were patients 18 years and older admitted with an acute heart failure exacerbation that also developed an acute gout attack, patients with diastolic or systolic heart failure, received at least one dose of loop diuretic, and received colchicine for acute gout treatment. Patients who received colchicine for an indication other than gout were excluded. The primary outcome was to determine if the development of an acute gout attack was associated with an increased length of hospital stay in patients admitted for a heart failure exacerbation. The secondary outcome was the most frequently used diuretic. Causal analysis and descriptive statistical analysis were used to interpret the data, and chi-square test was used for any categorical variables.

RESULTS: Data was collected between January 1 and June 30, 2022, and a total of 406 patients met inclusion criteria. Per chart review, 35 patients (35/406; 8.6%) developed an acute gout attack likely due to aggressive diuretic therapy for the management of fluid overload. Patients admitted for heart failure exacerbations who developed an acute gout attack were admitted for a median of 9 days (IQR 7; 7-14) compared to 5 days (IQR 5; 3-8) in patients who did not develop gout. There was a statistically significant difference between the difference in length of stay; P=-0.001 (95% CI 6.43-7.49). Among patients who developed an acute gout attack and an increased length of hospital stay, bumetanide (Bumex) was used more frequently.

CONCLUSIONS: According to the results of this retrospective chart review, the development of an acute gout attack in patients admitted for a heart failure exacerbation was associated with an increased length of stay. These results stress the importance of monitoring patients for signs and symptoms of gout, as well as routine lab monitoring, to potentially help decrease length of hospital stay.

2:40pm – 2:55pm | **Community Acquired Pneumonia Antibiotic Treatment Duration Guideline Adherence in a Community Teaching Hospital** Magnolia D

Presenters: Tara Elengickal
Evaluators: Ashley Stetsenko
Evaluators 3: Quynh Ha
Evaluators 2: Eric Pitts

TITLE: Community Acquired Pneumonia Antibiotic Treatment Duration Guideline Adherence in a Community Teaching Hospital

AUTHORS: Tara Elengickal; Penn State Health St. Joseph Medical Center, Reading, PA.

OBJECTIVE: According to IDSA/ATS guideline, appropriate CAP treatment includes Î²-lactam antibiotics plus macrolide or monotherapy with a respiratory fluoroquinolone for 5-7 days. This study evaluated the adherence to relevant guidelines at a community hospital.

METHODS: The identification of study subjects was conducted retrospectively through the utilization of the hospitalâ€™s electronic medical record. Inclusion criteria included subjects greater than or equal to 18 years of age and who received antibiotics for suspected or confirmed CAP. Exclusion criteria included patients below 18 years of age, those being treated for infections other than CAP, individuals with a history of Cystic Fibrosis, pregnant women, and those with immunodeficiency. The identification of eligible subjects was based on ICD-10 codes for pneumonia, within the timeframe of May 1st, 2022, to December 31st, 2022. Data was collected for patients treated in the inpatient and outpatient settings, including oral discharges/ER prescriptions. Descriptive statistics were used to summarize the study data, while the association between categorical variables was analyzed using either chi-square test or Fisher's Exact test, as appropriate.

RESULTS: 582 patients were screened, and 151 patients met the eligibility criteria. The primary endpoint showed that average total treatment duration was 7.8 days. 52.3% of the patients adhered to IDSA guidelines. For inpatient treatment, adjusted means for nonadherent and adherent patients were 8.5 days and 3.6 days, respectively (P

2:40pm – 2:55pm | **Impact of BioFire Blood Culture Identification (BCID2) panel on time to appropriate antimicrobial de-escalation in bloodstream infections** Empire D

Presenters: David Adewunmi
Evaluators: Natalie Snyder
Evaluators 3: Melinda Martland
Evaluators 2: Jeff Huntress

TITLE: Impact of BioFire Blood Culture Identification (BCID2) panel on time to appropriate antimicrobial de-escalation in bloodstream infections

AUTHORS: David Adewunmi and Pan Wong

OBJECTIVE: Delay of de-escalation can drive the selection of multidrug-resistant (MDR) organisms. The study aims to assess impact of BCID2 on time to appropriate antimicrobial de-escalation in bloodstream infections

METHODS: This is an observational, retrospective, pre-post implementation study at a community teaching hospital. Its BCID2 was implemented in September 2021. Before the intervention, no rapid diagnostic technology was used for blood cultures. This study will include pre-implementation data from June â€“ August 2021 and post-implementation data from October â€“ December 2022. Medical records of patients â‰¥ 18 years old who grew at least 1 gram-positive blood culture and were on vancomycin empirically for bloodstream infection were collected. Data excluded patients whose blood cultures were positive for a methicillin resistant staphylococcus or those that had other warranted indications for vancomycin. The primary outcome will be time from gram stain to time of vancomycin de-escalation. Secondary outcome will include percentage of de-escalation prior to available sensitivity results and average number of unnecessary vancomycin days avoided

RESULTS: The results of the primary and secondary outcomes will be recorded and presented

CONCLUSIONS: It is anticipated that this project will demonstrate the value of the BioFire Blood Culture Identification (BCID2) rapid diagnostic tool in reducing time to appropriate antimicrobial de-escalation in bloodstream infections

2:40pm – 2:55pm M **Optimizing the Smart Pump Drug Library to Decrease Overrides at an Academ** Wild Rose A

Presenters: Tiana Tran
Evaluators: Nancy Doherty
Evaluators 3: Sylvia Slattery
Evaluators 2: Jennifer Kunkel

TITLE: Optimizing the smart pump drug library to decrease overrides at an academic teaching hospital

AUTHORS: T. Tran, S. Slattery, J. Czerwinski, J. Tran; UConn Health John Dempsey Hospital, Farmington, Connecticut

OBJECTIVE: Compliance with smart pump technology is integral to medication safety in hospitals. However, frequent alerts and overrides can cause alert fatigue. This project will evaluate if comprehensive smart pump drug library updates can decrease overrides.

METHODS: Quarterly reports from the software that records smart pump data for the time spanning from April to September 2022 were used to review the most frequent overrides for all types of medications administered through the smart pumps. This report included both acute and ambulatory settings in the health-system. These medications were reviewed to determine the reasoning behind the types of overrides that commonly occurred and then further evaluated to decide if alert limits needed adjusting. To determine if interventions were appropriate, drug information references and internal medication administration guidelines were referenced. The smart pump drug library was then updated monthly as needed to target certain overrides. The smart pump reporting software was used to determine the monthly ratio of the number of overrides to total infusions for the updated medications and then graphed to visually compare between the pre and post intervention periods.

RESULTS: In total, eight medications and corresponding alert limits were identified for interventions. Clevidipine, methylprednisolone, agalsidase beta, and rituximab were updated in September, epinephrine was updated in October, and IVIG, penicillin, and Mesna were updated in January. For the five medications updated in September and October, the post-intervention ratios of overrides to total infusions were all zero. This was a decrease from average pre-intervention ratios of 0.4 for agalsidase beta, 0.6 for clevidipine, 0.5 for methylprednisolone and epinephrine, and 1.1 for rituximab. For the medications updated in January, only two months of data were available for comparison and will need more time for analysis.

CONCLUSIONS: This project is anticipated to demonstrate the value of a pharmacist-driven evaluation of frequent overrides and interventions in order to reduce alert fatigue, increase compliance with smart pump technology, and overall contribute to upholding medication safety within the health-system.

2:40pm – 2:55pm 4 **Identifying Opportunities to Improve Management of Metabolic Syndrome in Patients Taking Antipsychotics in a Community Hospital** Wild Rose B

Presenters: Mimi Nguyen
Evaluators: Maryam Moghimi
Evaluators 3: Anthony Trona
Evaluators 2: Brian Grover

TITLE: Implementing Strategies to Improve Management of Metabolic Syndrome in Patients Taking Antipsychotics in a Community Hospital

AUTHORS: M. Nguyen, T. Pho, K. Marge; Inova Mount Vernon Hospital, Alexandria, VA

OBJECTIVE: Second-generation antipsychotics (SGAs) have an increased risk for metabolic syndrome. This study assesses the impact of pharmacist interventions on inpatient management of metabolic syndrome in patients taking SGAs.

METHODS: This is a prospective study of patients admitted to the behavioral health unit of a community hospital and discharged on a scheduled SGA between January 2023 and March 2023. Patients were excluded if they were age

2:40pm – 2:55pm

Q **Evaluating the Impact of Medical Necessity Review on Rituximab Biosimilar Usage for the Treatment of Rheumatoid Arthritis at a Military Treatment Facility** Empire B

Presenters: Hanlon Maivelett

Evaluators: Bryan Wood

Evaluators 3: Lindsay Arnold, Matthew Brodock

Evaluators 2: Erin Slazak

TITLE: Evaluating the Impact of Medical Necessity Review on Rituximab Biosimilar Usage for the Treatment of Rheumatoid Arthritis at a Military Treatment Facility.

AUTHORS: H. Maivelett, M. Brodock

OBJECTIVE: The purpose of this study is to assess the impact of implementing medical necessity review on rituximab biosimilar conversion for treatment of rheumatoid arthritis as a proof-of-concept project at Walter Reed Nation Military Medical Center (WRNMMC).

METHODS: A medical necessity review process was developed between pharmacy and rheumatology service lines to streamline the optimal use of reference product rituximab and biosimilar product rituximab-pvvr. This process was approved by the Pharmacy and Therapeutics Committee and implemented on 12 December 2022. A prospective chart review of electronic health record (EHR) data for all rituximab orders at WRNMMC was conducted from 12 December 2022 through 12 March 2023. Orders were identified for review using an EHR generated report. Data were collected, filtered, and compared against the same report run for the retrospective time period of 12 December 2021 through 11 December 2022. Only orders for adult patients being treated for rheumatoid arthritis were included. Descriptive statistics were used to analyze rituximab biosimilar conversion (rituximab-pvvr percentage of use), cost avoidance, and safety events involving all rituximab products.

RESULTS: The implementation of medical necessity review for the treatment of rheumatoid arthritis at WRNMMC resulted in rituximab-pvvr being used for 75% of all rituximab orders compared to 0% rituximab-pvvr usage prior to the implementation date. There were also $16,500 achieved in cost savings post intervention. In terms of safety events, there were 0 events reported after implementation while 3 events occurred in the period preceding intervention.

CONCLUSIONS: Implementation of medical necessity review within a Military Treatment Facility may be beneficial for increasing rituximab biosimilar conversion rates and minimizing cost associated with continued use of the reference product. Further assessment and refinement of this process for medical necessity review of medical benefit medications is required to successfully propagate this method at other sites within the DHA.

2:40pm – 2:55pm T **Pharmacist-led intervention to prevent inappropriate continuation of intensive care unit medications at discharge** Empire A

Presenters: Nandini Patel
Evaluators: Kristi Burdette
Evaluators 3: Michelle Opipari, Vani Thiyagarajan
Evaluators 2: Taylor Rider

TITLE: Pharmacist-led intervention to prevent inappropriate continuation of intensive care unit medications at discharge

AUTHORS: Nandini Patel, PharmD; Robert E. Dannemiller, PharmD, BCPS, BCCCP; Mary P. Kovacevic, PharmD, BCPS, BCCCP; Kevin M. Dube, PharmD, BCPS, BCCCP; Kenneth E. Lupi, PharmD, BCPS, BCCCP; Rachel C. Blum, PharmD, BCPS; Kaitlin E. Crowley, PharmD, BCPS, BCCCP

OBJECTIVE: The aim of this study is to evaluate the impact of a pharmacist-led intervention on the inappropriate continuation of commonly initiated medications in the intensive care unit (ICU).

METHODS: This is an IRB-approved single-center, pre-post intervention analysis (Protocol #2022P002235) conducted in the medical and surgical ICU at a tertiary academic medical center. Adults admitted to the ICU initiated on medications typically used for stress ulcer prophylaxis, delirium, agitation, wakefulness, sedation, and insomnia from December 1, 2021 to January 31, 2022 (pre-intervention) and December 12, 2022 to February 13, 2023 (post-intervention) are being included in the analysis. In the post-intervention group, pharmacists used an electronic handoff tool to document medications initiated in the ICU, assessed their appropriateness daily, and intervened if necessary. The major endpoint is the number of medications inappropriately continued upon hospital discharge. Minor endpoints include medications inappropriately continued during ICU discharge and ICU and hospital length of stay. Descriptive statistical analyses will be performed as appropriate.

RESULTS: A total of 368 and 176 patients are being screened for inclusion in the pre- and post-intervention periods, respectively. Data analysis is currently ongoing and will describe the types of medications that were most commonly inappropriately continued at ICU and hospital discharge. The medications analyzed will include proton pump inhibitors, H2-receptor antagonists, antipsychotics, valproic acid, melatonin, clonidine, trazodone, benzodiazepines, levetiracetam, mirtazapine, guanfacine, methylphenidate, ramelteon, amantadine, modafinil, amphetamine/dextroamphetamine, suvorexant, zolpidem, and amphetamine.

CONCLUSIONS: This project adds to the limited data that exists pertaining to the impact of pharmacist-led interventions on the inappropriate continuation of agents following an ICU admission. This analysis may help promote transitions of care initiatives and the creation of discharge clinics led by pharmacists.

3:20pm – 3:35pm A **Inappropriate Proton Pump Inhibitors Deprescribing Intervention** Empire B

Presenters: Nidhia John
Evaluators: Melissa Reams
Evaluators 3: AnnMarie Franklin
Evaluators 2: Andrea Winston

TITLE: Inappropriate Proton Pump Inhibitors Deprescribing Intervention

AUTHORS: Nidhia John, PharmD & Kirsten Held, PharmD, BCPS

OBJECTIVE: The objective is to reduce the overuse of PPIs in patients who are inappropriately taking them, educate providers and patients on risks of chronic use and how to taper off PPIs, assess the impact of deprescribing on important clinical outcomes.

METHODS: We will pull retrospective data and see what patients have been on PPIs over 8 weeks. I presented to the providers of our clinic about the dangers of chronic PPI use and how to taper PPIs. In order to reduce inappropriate PPI use, I will look over all the patients coming into clinic and see if they have been on a PPI for over 8 weeks. I will give the providers custom PPI questionnaires for those specific patients to see if the patients are agreeable to the tapering process. I will then follow-up with those patients in 4 weeks to see if they are ready to discontinue the PPI altogether. In conjunction, I will be looking at all the clinic patients being admitted to the hospital and see if they are diagnosed with clostridium difficile infection, pneumonia or fractures, the adverse reactions correlated with chronic PPI use in order to see if there is an association that can be made.

RESULTS: Results will be determined pending data collection.

CONCLUSIONS: We are hopeful that with a pharmacist intervention involving a close examination of the patient's diagnosis history and current medication use, we will see a great reduction in the number of patients using proton pump inhibitors inappropriately.

3:20pm – 3:35pm A **The Use of Symbicort® (budesonide/formoterol fumarate dihydrate) versus Wixela Inhub® (fluticasone propionate/salmeterol) in a population of Veterans: A Retrospective Study** Magnolia C

Presenters: Neha Patel
Evaluators: Jasmine Carpenter
Evaluators 3: LaQuinta Atley
Evaluators 2: Tina Pho

TITLE: Budesonide/formoterol fumarate dihydrate versus fluticasone propionate/salmeterol inhaler in Veterans

AUTHORS: Neha Patel, PharmD, Gregory Yugov, PharmD, BCPS, Lauren Stutzman, PharmD, BCGP

OBJECTIVE: To evaluate the impact of the Veterans Affairs (VA) cost savings initiative, changing the formulary from budesonide/formoterol to fluticasone/salmeterol, on healthcare utilization, disease state management and patient health outcomes.

METHODS: This retrospective cohort study was conducted at the Coatesville VA Medical Center using EHR data. Patients who were prescribed budesonide/formoterol MDI prior to the change and fluticasone/salmeterol Inhub® after the change were included. From this group, 100 patients were randomly selected. The primary outcome studied was the frequency of hospitalizations due to chronic obstructive pulmonary disease or asthma in the six months before the VA formulary change versus six months after the first fill of fluticasone/salmeterol. The secondary outcomes studied were the percent of patients who failed fluticasone/salmeterol therapy after the formulary change. A paired t-test was analyzed using Microsoft Excel to test the null hypothesis.

RESULTS: Ninety-eight patients met the inclusion criteria, and two were excluded due to death prior to conversion. Primary outcome results will be stated as a p-value based on the two-tail paired t-test results. The secondary outcomes will be reported as a percentage of patients who failed fluticasone/salmeterol therapy. The results will be presented at the conference.

CONCLUSIONS: It is anticipated that this quality improvement project will show the impact of changing the formulary from budesonide/formoterol fumarate dihydrate to fluticasone propionate/salmeterol, on healthcare utilization, disease state management and patient health outcomes.

3:20pm – 3:35pm C **Nurse driven vasopressor escalation in septic shock** Empire D

Presenters: Dylan Freeman
Evaluators: Kristen Audley
Evaluators 3: Brian Schuler
Evaluators 2: Sahil Sheth

TITLE: Implementation of a Guideline Based Vasopressor Escalation Protocol for Septic Shock in the Emergency Department and Intensive Care units of a Community Hospital

AUTHORS: Dylan Freeman, PharmD; Christina Richards, PharmD, BCPS; Kristina Tepedino, PharmD, BCPS, BCCCP; Deb Black-Pisick, RPh, MS

OBJECTIVE: The objective of this study is to determine if implementing a guideline-based protocol will influence the decision-making of the intensivist team and decrease the time to the addition of a second vasopressor.

METHODS: This is a retrospective analysis that will include patients who received treatment for sepsis per protocol. There will be a pilot study containing patients who received vasopressors for blood pressure maintenance during acute sepsis treatment between April 2nd, 2022, and July 31st, 2022. We then initiate a hospital protocol to reflect the recommendation from the updated surviving sepsis guidelines regarding adding vasopressin as the second vasopressor to decrease the norepinephrine dose. We will then collect data to determine protocol adherence by the critical care physician group between October 1st, 2022 to January 31st, 2022. Patients included in this review will have had either norepinephrine or norepinephrine plus vasopressin for cardiovascular support during sepsis using ICD 10 codes and are adults >18 years of age. Exclusion criteria will include patients with recorded allergies to vasopressin and patients that require another secondary vasopressor based on the clinical scenario

RESULTS: The statistical data and results will be presented. We anticipate that the order panel we created will reduce the time to initiation of a second vasopressor in patients with septic shock.

CONCLUSIONS: Based on a pilot study that I conducted which showed that out of 200 patients, 33 met the criteria to be escalated to a second vasopressor. Of those 33 patients, only 12 patients were escalated according to the surviving sepsis guidelines. With the new order panel, we anticipate that time to start vasopressin in patients that meet the criteria will be decreased. The conclusion is still being collected but will be included in my presentation at the conference.

3:20pm – 3:35pm

N **Impact of a pharmacist-led HIV PrEP screening service in a grocery store community pharmacy**

Empire C

Presenters: Victoria Segeleon
Evaluators: Michael Pedro
Evaluators 3: Carlen Ng
Evaluators 2: Valerie Wells

TITLE: Impact of a pharmacist-led Human Immunodeficiency Virus pre-exposure prophylaxis screening service in a grocery store community pharmacy

AUTHORS: Victoria Segeleon, PharmD; Deanna Tran, PharmD, BCACP; Krista Hein, PharmD, AAHIVP; Eric Kim, PharmD

OBJECTIVE: To determine the impact of a pharmacist-led human immunodeficiency virus (HIV) pre-exposure prophylaxis (PrEP) screening service in a grocery store community pharmacy.

METHODS: This is a prospective, multicenter study held at three grocery store pharmacies within Baltimore, Maryland. Those eligible must be 18 years or older, able to read/write English, and be present during tabling sessions. Exclusion criteria include being HIV positive or taking medications for PrEP/HIV. The pharmacist hosts a table with a QR code and paper copies. The code leads to a screening form that determines a patientâ€™s eligibility for PrEP). Form questions include PrEP eligibility, demographic information, and perceptions of PrEP. Outcome measures to determine screening impact includes the following: the percentage of individuals who are indicated for PrEP but were unaware of their eligibility prior to the screening, percentage of individuals who receives education or linkage to care by a pharmacist, and the participantsâ€™ perceptions of PrEP. Kruskal-Wallis test will be used to detect differences in Likert-scale responses based on demographics.

RESULTS: This study is still in progress. The preliminary results include 17 surveys. Results indicate that 41% of participants are 25-34 years old, 71% are male, 88% are heterosexual, 47% are white (non-Hispanic), and 41% have an advanced college degree. Fifteen (88%) of the 17 eligible participants believed they were not at risk for HIV. And yet, 87% of those individuals actually did meet the criteria to start PrEP. When asked their level of agreement to the statement, â€œI feel that I am at risk of getting HIV,â€□ the median score was 2 (Likert scale of 1=strongly disagree and 5=strongly agree). For the statement, â€œIf I was at risk for getting HIV, I would be willing to start taking PrEP,â€□ median score was 4.

CONCLUSIONS: This data supports the impact of a pharmacist-led PrEP screening and further shows the need for this service in the community pharmacy setting to help close the gap in care. The limitations of this data include having a small sample size and the barrier of being in a public setting due to social stigma surrounding HIV and PrEP use. Future studies could incorporate patient perceptions of working with a pharmacist for linkage to care and/or PrEP prescribing.

3:20pm – 3:35pm Y **Comparison of Emergency Department versus Home Diuretic Doses on Efficacy and Safety Outcomes in Acute Decompensated Heart Failure** Magnolia B

Presenters: Mina Awad
Evaluators: Angela Antoniello
Evaluators 3: Lubna E. Kousa
Evaluators 2: Mitesh Patel

TITLE: Comparison of emergency department versus home diuretic doses on efficacy and safety outcomes in acute decompensated heart failure

AUTHORS: M.Awad, B.Toole, D.Xu, Virtua Memorial Hospital, Mount Holly, NJ

OBJECTIVE: The purpose of this study is to evaluate clinical outcomes of different intravenous (IV) loop diuretic dosing strategies for acute decompensated heart failure (ADHF) in the emergency department (ED).

METHODS: This was a retrospective, multi-center, medical record review across a five hospital health care system of patients who presented to the emergency department (ED) and received an IV loop diuretic for ADHF from January to June 2022. Patients were stratified into two groups based on their initial IV diuretic dose in the ED: higher than home oral loop diuretic dose or lower/equipotent than home oral loop diuretic dose. The primary endpoint was hospital length of stay. Secondary endpoints were intensive care unit (ICU) admission, time to transition to oral diuretics, and readmission within 30 days. Safety outcomes were hypotension (systolic blood pressure < 90 mm Hg) and electrolyte abnormalities (sodium < 135 mEq/L, potassium < 3.5 mEq/L, or magnesium < 1.6 mg/dL) after IV loop diuretic administration in the ED. Nominal data was analyzed using a Chi-squared test and continuous data was analyzed using a Mann-Whitney test.

RESULTS: A total of 110 patients were included in this study (73 patients received an IV loop diuretic dose higher than their home dose and 37 patients received a dose that is lower or equipotent to their home dose). The most common IV loop diuretic given in the ED was IV furosemide 40 mg one time dose. Although the higher dose group had a shorter median length of hospital stay, this was not statistically significant (5 days vs 6 days, $p = 0.134$). The median transition time to oral loop diuretic was similar in both groups (83.9 hours vs 88.3 hours, $p = 0.292$). There were no significant differences in the remaining secondary or safety outcomes between the two groups.

CONCLUSIONS: Administration of higher doses of IV loop diuretics compared to patients home oral loop diuretic doses in the ED were not associated with shorter hospital length of stay. The administration of higher IV loop diuretics is not associated with significant hypotension or electrolyte abnormalities in comparison with the lower/equipotent dose group. Additional larger studies are needed in order to provide recommendations for initial IV loop diuretic dosing in the ED.

3:20pm – 3:35pm

1 **Evaluation of Haloperidol use for Agitation in Older Adults on Medical-Surgical Units at a Community Hospital** Wild Rose A

Presenters: Jennifer Calderone
Evaluators: Bonnie Yu
Evaluators 3: Mark Sinnett
Evaluators 2: Christina Richards

TITLE: Evaluation of haloperidol use for agitation in older adults on medical-surgical units at a community hospital

AUTHORS: Jennifer Calderone, PharmD; Jennifer Fiebert, PharmD, BCPS, BC-ADM, BCGP; Allison Raich, PharmD, BCPS

OBJECTIVE: Acute agitation in older adult patients on medical-surgical units is often managed with antipsychotic medications, like haloperidol, at doses that may be too high in this patient population. The use of higher doses may put patient safety at risk.

METHODS: A report containing all one-time and as-needed orders for haloperidol in patients 65 years of age and older for the year 2022 was generated from the electronic medical record. The preferred initial dosage range for haloperidol in older adults was established as 0.25mg to 1mg. Chart reviews were completed for each patient with an order for haloperidol 1.5mg or greater. Supplementary information was also gathered from the chart to allow for a full assessment of order appropriateness. This included QTc length, relevant home and inpatient medication orders, and pertinent past medical or psychiatric history. If the patient had multiple orders for haloperidol, the sequence of the orders and their doses were also documented.

RESULTS: All one-time and as-needed haloperidol orders will be assessed for appropriateness and results will be presented. Subgroup analyses of smaller age ranges within the older adult population will also be reported.

CONCLUSIONS: It is anticipated that this study will reveal that the older adult population on medical-surgical units has been receiving doses of haloperidol that are too high and may be unsafe. This will allow for an opportunity to implement pharmacist-led education for medical-surgical providers on the preferred dosing of haloperidol for acute agitation in older adults and appropriate dose escalation when necessary.

3:20pm – 3:35pm | **Examining Vancomycin Nephrotoxicity with Area Under the Curve/Minimum Inhibitory Concentration (AUC/MIC) DosingÂ versus Trough-Based Dosing in the Community HospitalÂ Setting** | Magnolia D

Presenters: Samuel Hart
Evaluators: Patrick Huffman
Evaluators 3: Vidhi Gandhi
Evaluators 2: Nicole Leonida

TITLE: Examining vancomycin nephrotoxicity with area under the curve/minimum inhibitory concentration dosing versus trough-based dosing in the community hospital settingâ€¯

AUTHORS: S. Hart, PharmD N. Bonacasa, PharmD, BCIDP, J. Jose, PharmD; Northwell Health Plainview Hospital, Plainview, New York

OBJECTIVE: The purpose of this study is to compare the incidence of vancomycin-induced acute kidney injury (AKI) in patients dosed according to area under the curve (AUC)/minimum inhibitory concentration (MIC) versus trough.

METHODS: This is a single-center, retrospective and prospective observational review comparing the newly implemented AUC/MIC method of vancomycin dosing at Plainview Hospital to previously used trough-based dosing. The primary outcome was the incidence of AKIs while the secondary outcome was examining clinical failure. Clinical failure was defined as insufficient clinical response requiring antibiotic change, recurrent infection with the same index organism at 30 days, and/or 30-day mortality. In the prospective arm, AUC/MIC was calculated by utilizing PrecisePK (Bayesian-guided dosing) and electronic medical records were analyzed to monitor renal function. Nephrotoxicity was assessed as defined by the KDIGO guidelines. The retrospective arm of this study reviewed previous admissions of patients on vancomycin dosed according to trough.

RESULTS: A total of 51 participants were included in the study. Out of the 51 participants, 34 were included in the retrospective arm and 17 were included in the prospective arm. There was a total of seven AKIs and 10 clinical failures in the retrospective arm compared to 2 AKIs and 3 clinical failures in the prospective arm. Examining the secondary outcome from both arms showed 7 patients had 30-day mortality and 3 patients had readmission for the same index organism. On the other hand, the prospective had 2 patients with a 30-day mortality and 1patient requiring a change in antibiotic treatment due to failed clinical response.

CONCLUSIONS: The results of this study reinforce the updated 2020 consensus vancomycin guidelines by demonstrating AUC/MIC-based dosing is associated with fewer rates of vancomycin-induced nephrotoxicity and better efficacy. By illustrating improved patient outcomes, other healthcare institutions may use this study as a reference when deciding on their preferred method of vancomycin dosing.

3:20pm – 3:35pm | **Rate of vancomycin AKI in patients with SSTIs** | Magnolia A

Presenters: Lauren Warren
Evaluators: Raul Santiago
Evaluators 2: Polly Jen

TITLE: Rate of vancomycin AKI in patients with SSTIs

AUTHORS: Lauren Warren, PharmD & Kristin Marge, PharmD, BCPS

OBJECTIVE: The primary objective is to compare the rate of vancomycin acute kidney injury (AKI) in patients with skin and soft tissue infections (SSTIs) between traditional trough-based dosing and the recent implementation of area under the curve (AUC) dosing.

METHODS: This study included adult patients that received vancomycin for at least 48 hours at Inova Alexandria and Mount Vernon hospitals. Patients that received traditional trough-based dosing from October 2021 to December 2021 were retrospectively reviewed, and the rate of vancomycin-induced AKI (VA-AKI) was compared to patients prospectively managed by AUC dosing from January 2023 to March 2023. VA-AKI was defined as a serum creatinine increase by >0.3mg/dL or >1.5x baseline within 48 hours not attributed to other readily identifiable causes. Excluded patients received dialysis, continued vancomycin from prior to admission, or needed two-level monitoring. Data was collected on demographics, labs, infectious source, nephrotoxic agents, comorbid conditions, and mortality. The primary outcome is the difference in the rate of AKI in the SSTI subgroup assessed by Fisherâ€™s exact test, and the secondary outcome is the difference in overall AKI since implementation of the AUC dosing.

RESULTS: The rate of AKI between trough-based dosing and AUC based dosing in patients with skin and soft tissue infections will be presented.

CONCLUSIONS: It is expected that the newly adopted AUC based vancomycin dosing along with robust pharmacist-led stewardship efforts will result in a lower rate of vancomycin-induced AKI in patients with skin and soft tissue infections.

3:20pm – 3:35pm O **Risk Factors for Temozolomide-Induced Myelosuppression and Impact on Survival** Wild Rose B

Presenters: Sidra Iqbal
Evaluators: Michelle Pasciolla
Evaluators 3: sharon mindel
Evaluators 2: Lindsay Schieb

TITLE: Risk factors for temozolomide-induced myelosuppression and impact on survival

AUTHORS: S. Iqbal, J. Barker, A. Kennedy, D. Devine, C. Goldberg, J. R. Hitt, A. Thomas; The University of Vermont Medical Center, Burlington, Vermont

OBJECTIVE: Temozolomide (TMZ) can significantly increase survival in patients with gliomas. Myelosuppression is one of the reasons TMZ is held or discontinued. The purpose of this study is to identify risk factors for developing myelosuppression.

METHODS: This IRB-approved retrospective, single center study looked at all adult patients (age > 18 years old) with glioma (primary brain tumor) who received TMZ at The University of Vermont Medical Center between August, 2015 and July, 2021. Patients who received less than 5 mg of TMZ or those who were lost to follow up within 28 days of receiving TMZ were excluded. Exploratory analysis will include potential risk factors for thrombocytopenia, including age, gender, body mass index (BMI), O-methylguanine methyltransferase (MGMT), isocitrate dehydrogenase (IDH) and 1P19Q status. Overall survival will also be explored along with the impact of TMZ dose exposure.

RESULTS: Of the 275 patients identified in the EHR, 188 were eligible for analysis. Thrombocytopenia was observed in 58 patients. The median age was 60 years old and the majority were male (56.4%). The most common diagnosis in this population was grade 4 glioblastoma (76.6%). Average BMI was 27.1kg/m2 in patient who had platelets 100 k/cmm. Methylated MGMT status was found in 37.9% of the patients who had thrombocytopenia whereas 15.5% patients had an IDH mutation. 1p/19Q mutation was found in 12.1% patients. 32.8% who had thrombocytopenia did not have tumor resection whereas 43.2% of the patients with thrombocytopenia had undergone a full resection of their tumor.

CONCLUSIONS: Patients who received temozolomide therapy are at risk for thrombocytopenia regardless of their gender or increase in BMI. Myelosuppression, specifically thrombocytopenia, may not correlate with cytogenetic analysis i.e., MGMT methylation status, IDH mutation and 1p19q co-deletion.

3:20pm – 3:35pm T **Assessing the Implementation of a Pharmacy-Driven Medication Reconciliation Upon Hospital Admission in a Veteran Population** Empire A

Presenters: Emma Eibye
Evaluators: Abigail Henry
Evaluators 3: Jeanmarie Perch
Evaluators 2: Amber Gross

TITLE: Assessing the implementation of a pharmacy-driven medication reconciliation upon hospital admission in a veteran population

AUTHORS: Emma Eibye PharmD, Kaitlyn Kenjesky PharmD, Lauren Toscano PharmD

OBJECTIVE: This study aimed to assess a pharmacy-driven medication reconciliation program, in addition to standard of care at a veteran hospital. Number of discrepancies identified resulting in action by a pharmacist were measured to evaluate the program.

METHODS: Retrospective chart reviews were done on pharmacy-led medication reconciliations completed at admission with patients and/or their caregivers during select piloting periods from June 2022 â€“ March 2023. A note was entered into the patientâ€™s electronic health record at the time of the medication reconciliation, recording discrepancies and drug related problems. Assessments and plans of discrepancies were documented in the note and followed-up with appropriate actions. Data was collected from these notes and used to assess the discrepancies identified according to the primary outcome and secondary outcomes, including time to complete each medication reconciliation, number of medication reconciliations completed per day, number of medications on patientâ€™s medication list, and number of discrepancies per the MARQUIS classification discrepancy categories. Evaluation of data was conducted via descriptive statistics.

RESULTS: A total of 55 patients were included in this study, with an average of 19 medications per patient (5-95). 234 out of 404 (58%) total medication discrepancies required pharmacist action for resolution. Patients had an average of 7 medication discrepancies per admission (0-23). The most common discrepancy categories were â€œadditional medication on the active medication list the patient is not takingâ€□ (24%), â€œmedications missing from the active medication listâ€□ (21%), and â€œincorrect inpatient orderâ€□ (12%). 5% of all medication discrepancies were considered high-alert in the acute care setting per ISMP. The average time to complete a medication reconciliation was 47 minutes (5-75) and the average number completed per day was 1.74 (0-3).

CONCLUSIONS: Pharmacy-driven medication reconciliations at admission result in an increase in discrepancy identification and resolution compared to standard of care, indicating the need for a pharmacy-led transitions of care service. Our study identified that the most commonly reported discrepancies were related to patient adherence, emphasizing the importance of utilizing the patient or caregiver as a primary resource to adequately reconcile medications.

3:40pm – 3:55pm A **Assessing the impact of pharmacist-physician collaboration on achieving hemoglobin A1c targets in patients with poorly controlled diabetes** Empire B

Presenters: Ashley Gosner
Evaluators: Melissa Reams
Evaluators 3: AnnMarie Franklin
Evaluators 2: Andrea Winston

TITLE: Assessing the impact of pharmacist-physician collaboration on achieving hemoglobin A1c targets in patients with poorly controlled diabetes

AUTHORS: A. Gosner, C. Golden, E. Moseley, T. Chowdhury; Bayhealth Medical Center (BMC), Dover, DE

OBJECTIVE: The purpose of this study was to evaluate the impact of pharmacist-physician collaboration on achieving hemoglobin A1c targets in patients with poorly controlled diabetes.

METHODS: This was a quasi-experimental study assessing achievement of hemoglobin A1c targets in diabetes patients before and after pharmacist-physician collaboration of care in a family practice clinic setting. Patients with hemoglobin A1c values greater than 9% were eligible for study inclusion and all included patients served as their own control. The primary efficacy endpoint after 3 months was percentage of patients achieving target hemoglobin A1c less than 9%; while secondary efficacy endpoints were the percentage of patients achieving hemoglobin A1c less than 7% and mean percent change in hemoglobin A1c.

RESULTS: The percentage of patients achieving hemoglobin A1C targets will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate the benefit of pharmacist-physician collaboration in caring for patients with a history of poorly controlled diabetes in a family practice clinic setting.

3:40pm – 3:55pm A **Impact of Pharmacy Driven Transitions of Care on 30-day Hospital Readmission** Magnolia C

Presenters: Eunhye Joo
Evaluators: Jasmine Carpenter
Evaluators 3: LaQuinta Atley
Evaluators 2: Tina Pho

TITLE: Impact of pharmacy-driven transitions of care on 30-day hospital readmission

AUTHORS: Eunhye Joo, PharmD, M.S. PGPM, Kikelola Gbadamosi, MBA, MS, PharmD, BCPS, Sheheryar Muhammad, PharmD, BCPS, CACP, BCCP, BCCCP, Souraya El- Sayed Abdallah, PharmD

OBJECTIVE: Transitions of care (TOC) pharmacists have played a key role in preventing the rehospitalization of patients with diseases such as heart failure (HF), myocardial infarction (MI), chronic obstructive pulmonary disease (COPD), by providing TOC service.

METHODS: This single-center, prospective, interventional study will evaluate the impact of a pharmacy-based TOC program on the 30-day hospital readmission. The TOC pharmacist will obtain the patient discharge list through a daily care management huddle and screen for the inclusion and exclusion criteria. Patients included will be: (1) 18 years of age or older, (2) discharged with five or more medications, or at least one high-risk medication (anticoagulants/insulin), or (3) at high risk for readmission (presence of one or more of the following diseases; AMI, HF, COPD, diabetes mellitus (type 1 or type 2), sepsis, pneumonia. The intervention group will receive comprehensive pharmacy-driven TOC service, including discharge medication education, medication reconciliation, and follow-up phone calls (days 2, 7, 30, and 60 post-discharge). The primary outcome is the 30-day all-cause hospital readmission. The secondary outcomes is the 60-day all-cause hospital readmission.

RESULTS: A total of 8 patients have received pharmacy-driven TOC service to date. Of these, 1 patient was readmitted within 30 days post-hospital discharge. Complete study results will be analyzed and presented at the conference.

CONCLUSIONS: It is anticipated that the pharmacy-driven TOC service will reduce 30-day hospital readmission.

3:40pm – 3:55pm C **Hemodynamic Effects of Propofol Versus Dexmedetomidine for Patients Mechanically Ventilated in the Intensive Care Unit (ICU)** Empire D

Presenters: Kevin Ferry
Evaluators: Kristen Audley
Evaluators 3: Brian Schuler
Evaluators 2: Sahil Sheth

TITLE: Hemodynamic Effects of Propofol Versus Dexmedetomidine for Patients Mechanically Ventilated in the Intensive Care Unit (ICU)

AUTHORS: Kevin D. Ferry, PharmD, Firth Bowden, PharmD, BCCP, BCPS Craig Sastic, PharmD, MBA, BS, RPh, BCPS, Jennifer A. Burns, PharmD, MS, BCPS, BCSCP

OBJECTIVE: To evaluate the incidence of bradycardia (HR < 50) or hypotension (SBP < 90 mmHg) in patients treated with dexmedetomidine or propofol intravenous (IV) infusion for more than 24. This study will focus on patients mechanically ventilated in the ICU.

METHODS: This study was approved by an IRB. This retrospective chart review will utilize the electronic medical record system to identify patients who received either dexmedetomidine or propofol intravenous (IV) infusion for more than 24 hours who are in the intensive care unit (ICU) and mechanically ventilated.. Patient data including age, gender, race, primary diagnosis of admission, concomitant agents that increase or lower heart rate and blood pressure, and mortality data will be collected. The primary endpoint is the incidence of at least 2 consecutive readings of bradycardia or hypotension in both arms of the study and will be evaluated using the chi-squared statistical test. Additionally, secondary endpoints will be evaluated using the independent two tailed t-test for length of time sedated while mechanically ventilated as well as length of ICU stay, and chi-square statistical test for incidence of delirium and survival to discharge.

RESULTS: The results of this study are in progress as data collection is ongoing. At the time of this abstract submission the results of this study are preliminary. Currently the total number of patients meeting inclusion criteria is 75 with 45 patients in the propofol group and 30 patients in the dexmedetomidine group. Of the 45 patients reviewed in the propofol group, 60% experienced hypotension and 8.8% experienced bradycardia for the primary outcome measure. Of the 30 patients reviewed in the dexmedetomidine group, 73% experienced hypotension and 7% experienced bradycardia. Further research will be conducted to attempt to achieve statistical significance for primary and secondary endpoints.

CONCLUSIONS: In order to meet 95% power, 105 patients are required in each group and further data collection will be required to achieve statistical significance. At this time, the rates of hypotension and bradycardia appear to be comparable between groups. Results of this trial will hopefully guide decision making in the selection of sedatives in hemodynamically unstable patients.

3:40pm – 3:55pm N **A Glance at Patient Satisfaction and Pharmacy Championsâ€™ Perception in a Social Determinants of Health Program in Community Pharmacies in New York State** Empire C

Presenters: Quyen Nguyen
Evaluators: Michael Pedro
Evaluators 3: Carlen Ng
Evaluators 2: Valerie Wells

TITLE: A Glance at the Impact and Patient Satisfaction of a Social Determinants of Health (SDoH) Program in Community Pharmacies in New York State

AUTHORS: Quyen Nguyen, PharmD., Durdana Iqbal, PharmD., Lindsey Landi, PharmD., Ryan Lindenau, PharmD., David M. Jacobs, PharmD., PhD, Christopher J. Daly, PharmD., MBA, BCACP

OBJECTIVE: The primary objective is to assess the impact of a SDoH screening and referral program within community pharmacies. The secondary objective is to assess patientâ€™s experiences of participating in a community pharmacy SDoH program.

METHODS: SDoH programs started January 2023 at 17 participating CPESN member pharmacies in IPRO identified coalition areas of high needs and rural based populations across Upstate New York. A screening and referral intervention was developed and implemented utilizing a community health worker (CHW) model. CHW received specialized training and will screen and refer patients through an online referral platform. The number of screenings, referrals, and successfully resolved social needs will be collected to assess the impact of the program. The program will continue through the end of 2023. Post-intervention, patientâ€™s experiences of participating in the SDoH program will be assessed retrospectively using a survey containing 12 questions outlining the experience of interaction. Feedback collected to include safety, convenience, experience with staff, and satisfaction with services and outcomes. Descriptive statistics will be used to analyze the data obtained from the survey.

RESULTS: In the first 2 months, a total of 122 screenings were submitted with 69 (56%) patients having at least 1 social need with a total of 167 social needs identified. The most common social needs identified included: food insecurity (26%), transportation challenges (18%), and utilities affordability (17%). Sixty-four (52%) patients requested a referral to a community resource and a total of 116 referrals were entered into the navigation process. To date, 27 (23%) referrals have been completed and 12 (10%) referrals were successful. It is anticipated that the CPESN-NY pharmacies will complete approximately 50 patient satisfaction surveys.

CONCLUSIONS: Community pharmacy can play a major role in addressing SDoH. Insights from this study will provide valuable information on the impact and patient perspective of SDoH programs within community pharmacies. Ongoing program implementation will continue to evaluate the SDoH program including intervention uptake, referral outcomes, and participant success stories.

3:40pm – 3:55pm Y **Management of Sexually Transmitted Infections in the Emergency Department: Assessment of Common Practice in a Healthcare System** Magnolia B

Presenters: Myranda Williams
Evaluators: Angela Antoniello
Evaluators 3: Lubna E. Kousa
Evaluators 2: Mitesh Patel

TITLE: Management of Sexually Transmitted Infections in the Emergency Department: Assessment of Common Practice in a Healthcare System

AUTHORS: Primary Author: Myranda Williams, PharmD; Co-Author(s): Matthew Morrison, PharmD, BCPS; Casey Dempsey, PharmD, BCIDP, AAHIVP

OBJECTIVE: To assess if the current management of patients diagnosed in the emergency department (ED) with gonorrhea, chlamydia, or syphilis was guideline-concordant. This data will be used to optimize current practices.

METHODS: This retrospective, descriptive study evaluated adult patients diagnosed with chlamydia, gonorrhea, or syphilis in the ED within a large healthcare system between July 2021 and June 2022. The primary outcome of this study was to assess whether patients diagnosed in the ED with gonorrhea, chlamydia, and/or syphilis were tested and treated in accordance with the Centers for Disease Control (CDC) guidelines during their visit. Patients were excluded if this was a recurrent infection with the same pathogen during the index period or if they required hospitalization in an inpatient or observation unit. Secondary outcomes that were evaluated included the appropriate collection of patient sexual history, HIV screening, pre-exposure prophylaxis (PrEP) referrals, and infectious disease clinic referrals.

RESULTS: A total of 242 patients were identified for inclusion. Two hundred seven (85.1%) patients were screened for chlamydia and gonorrhea, but only 11 (4.5%) patients were screened for all 3 infection types and HIV. Chlamydia was the most common diagnosis in 143 (59.1%) of patients, followed by 107 (44.2%) with gonorrhea, 26 (14.5%) with syphilis, and no patients were diagnosed with HIV. Empiric treatment for gonorrhea and chlamydia was administered to 144 (59.5%) patients. Upon initial ED encounter, 87 (35.9%) patients were treated in accordance with the current CDC guidelines. Only 14 (5.8%) patients were screened for sexual history, 33 (13.6%) were referred to an Infectious Disease clinic, and 1 (0.4%) patient was offered PrEP.

CONCLUSIONS: Within a diverse healthcare system, a low percentage of patients were tested and treated according to current CDC guidelines. Based on these findings, areas of improvement may include provider education and order set enhancement on recent guideline recommendations, expanding screening, and increasing referrals.

3:40pm – 3:55pm 1 **Implementation of Pharmacist-Led Medication Review Service for Parkinson's Disease Patients Admitted for Deep Brain Stimulation** Wild Rose A

Presenters: Ugene Gabrielle Sano
Evaluators: Bonnie Yu
Evaluators 3: Mark Sinnett
Evaluators 2: Christina Richards

TITLE: Implementation of a pharmacist-led medication review service for Parkinsonâ€™s disease patients admitted for deep brain stimulation

AUTHORS: Ugene Sano, PharmD; Timothy Jacisin, PharmD, BCPS; Jessica Bente, PharmD, BCPS, BCGP

OBJECTIVE: The purpose of this study is to determine the clinical impact of a specialized pharmacist-led PACU medication assessment on the incidence of inappropriate medications ordered for patients with Parkinsonâ€™s disease after deep brain stimulation (DBS).

METHODS: This was a single-center, institutional review board approved, two-phase study with pre-implementation and post-implementation cohorts of patients that were 18 years or older who underwent DBS for treatment of Parkinsonâ€™s disease. The primary endpoint is the incidence of inappropriate ordered medications administered after DBS procedure. Secondary endpoints included the incidence of omission of home Parkinsonâ€™s disease regimen, rate of tardive dyskinesia, length of hospital stay, and incidence of sitters, restraints, and medications administered for acute agitation. Statistical analysis included Fisherâ€™s exact test for categorical data, unpaired t-test for continuous data, and descriptive statistics for all other data.

RESULTS: The incidence of inappropriate medications administered was 1 (1.2%) vs. 1 (25%) for the pre-implementation and post-implementation groups, respectively (p = 0.090). Omission of home Parkinsonâ€™s disease regimen was 53 (63.9%) v. 0 (0%), p=0.21. The average length of stay was 1.9 days v. 1.3 days. Incidence of sitters was 1 (1.2%) v. 0 (0%) and incidence of restraints was 0 (0%) v. 0 (0%). Incidence of acute agitation medications administered was 9 (10.8) v. 0 (0). The secondary endpoints were not significant except for the omission of home medication regimen.

CONCLUSIONS: The specialized pharmacist-led PACU medication review service identified a low incidence of inappropriate medications administered for Parkinsonâ€™s disease patients status post deep brain stimulation; however, it did significantly reduce the incidence of the omission of Parkinsonâ€™s disease home regimen.

3:40pm – 3:55pm | **Impact of Change of Multiplex PCR Assay for Gram Negative Bloodstream Infections in Immunocompromised Hosts** Magnolia A

Presenters: Alec Martschenko
Evaluators: Raul Santiago
Evaluators 2: Polly Jen

TITLE: Impact of change of rapid diagnostic testing for gram negative bloodstream infections in immunocompromised hosts

AUTHORS: Alec Martschenko, PharmD; Lauren Buzzalino, PharmD; Caroline Rosario; Jacqueline Bork, MD; J. Kristie Johnson, PhD; Kimberly Claeys, PharmD, PhD

OBJECTIVE: This study aimed to evaluate the impact of an institutional change from in rapid diagnostic testing strategies on antimicrobial usage outcomes in immunocompromised hosts with gram-negative bloodstream infections.

METHODS: This was a quasi-experimental study examining the impact of changes in rapid diagnostic testing (RDT) platforms in an adult immunocompromised patient population. Blood cultures from patients in the pre-intervention period were tested using Verigene BC-GN panels, while cultures in the post-intervention period were tested using BioFire BCID2 panels. Immunocompromised adult patients with a gram-negative bloodstream infection confirmed with microbiological testing (VITEK MS/VITEK 2) were included. The primary outcome was comparison of the Desirability of Outcome Ranking Management of Antimicrobial Therapy (DOOR-MAT) score for optimal antibiotic therapy. Secondary outcomes included time from blood cultures to first effective antimicrobial, rates of antibiotic changes within 24 hours of RDT results, and length of hospitalization after index infection. Mean DOOR-MAT scores were compared with the Student T test, categorical variables with Ï‡2, and continuous variables with Mann Whitney U.

RESULTS: 136 Verigene and 78 BioFire patients were included. The most common cause of immunosuppression was hematopoietic stem cell transplant (32.7%). RDT results were concordant with microbiological testing in 86.8% and 87.2% (P=0.395) of Verigene and BioFire cases, respectively. The mean DOOR-MAT score was 73.7 (standard deviation [SD] 26.1) for the Verigene group and 73.3 (SD 28.1) for the BioFire group (P=0.46). The mean time to first effective antimicrobial was 8.9 and 10.5 hours (P=0.94), the percent of patients with antibiotic changes within 24 hours of RDT result was 25.7% and 47.4% (P=0.001), and the mean length of hospitalization after index infection was 14.9 and 17.1 days (P=0.02) in the Verigene and BioFire groups, respectively.

CONCLUSIONS: Despite available evidence that expanded RDTs improve antimicrobial use outcomes in the general population, this study in immunocompromised hosts did not find that antimicrobial use patterns were impacted by the switch to a broader RDT. This is perhaps due in part to the tendency to initiate and maintain high-risk patients on broad-spectrum therapy, regardless of culture data. This retrospective study is limited by evolving practices with pathogen-directed therapy in neutropenic cancer patients.

3:40pm – 3:55pm | **Impact of pharmacy-led hepatitis C provider education in an emergency department** | Magnolia D

Presenters: Jacob Osborne
Evaluators: Patrick Huffman
Evaluators 3: Vidhi Gandhi
Evaluators 2: Nicole Leonida

TITLE: Impact of pharmacy-led hepatitis C education in an emergency department

AUTHORS: J. Osborne, L. Slone, A. Carter, A. Nowling L. Keeton; Kingâ€™s Daughters Medical Center, Ashland, Kentucky

OBJECTIVE: The goal of this study was to compare hepatitis C (HCV) screening rates in an emergency department (ED) before and after targeted education.

METHODS: Providers were educated on the 2020 AASLD/IDSA HCV screening guidelines and options for local/regional linkage to care. An educational survey was administered to assess provider comfortability and knowledge before and after education. A retrospective review of patients eligible for HCV screening was conducted comparing outcomes in patients prior to education (December 1, 2022 to December 31, 2022) to after education (February 6, 2023 to March 9, 2023). Patients under the age of 18 without known risk factors for HCV infection or over the age of 18 who did not require blood collection for labs while in the ED were excluded. The primary outcomes of this study were HCV screening rates, HCV diagnoses, and HCV linkage to care rates. The secondary outcomes were reported provider comfortability in HCV screening and percentage of HCV positive patients linked to follow-up care.

RESULTS: According to 2020 AASLD/IDSA HCV screening guidelines, 16 of 4812 (0.33%) eligible patients were screened for HCV from December 1, 2022 to December 31, 2022. This increased to 18 out of 3354 (0.54%) eligible patients following targeted education (OR = 1.61; 95% CI [0.94, 2.29]). 3 patients were diagnosed pre-education and no patients were diagnosed post-education. In the pre-education period, 66% of patients diagnosed with HCV were linked to care. Of the 21 providers that were educated, 5 responded to the survey. 1 of 5 (20%) prescribers that responded to the survey claimed that targeted education improved their comfort in screening at-risk patients for HCV and 1 of 5 (20%) respondents felt more comfortable linking patients to care.

CONCLUSIONS: In an ED, this data showed that targeted education was associated with an increase in HCV screening rates. It was not possible to draw conclusions on HCV diagnoses and HCV positive patients being linked to care since no patients tested positive during the post-education observation period. Based on the post-educational survey, provider comfortability with HCV screening and linkage to care increased.

3:40pm – 3:55pm

O **Evaluation Of Select Adverse Effects Associated With Use Of Leuprolide Injection in Comparison To Degarelix Injection For Management Of Localized and Metastatic Prostate Cancer In Veterans** Wild Rose B

Presenters: Timothy Stock
Evaluators: Michelle Pasciolla
Evaluators 3: sharon mindel
Evaluators 2: Lindsay Schieb

TITLE

EVALUATION OF SELECT OF ADVERSE EFFECTS ASSOCIATED WITH THE USE OF LEUPROLIDE INJECTION IN COMPARISON TO DEGARELIX INJECTION FOR THE MANAGEMENT OF LOCALIZED AND METASTATIC PROSTATE CANCER IN VETERANS

AUTHOR(S)

Timothy Stock, PharmD, (PGY-1 Pharmacy Resident, VA New York Harbor Healthcare System), Charles Sharkey MS, MBA, PharmD (RPD, VA New York Harbor Healthcare System)

BACKGROUND

Prostate cancer is the most common type of cancer in men. Mitigating testosterone's effects in managing prostate cancer growth can be problematic. The challenge is finding the optimal drug to accomplish this with both effectiveness and minimal adverse effects. Finding better tolerability of degarelix and leuprolide can provide better care. The objectives of this study is to compare the incidence of select cardiovascular, endocrine, and psychiatric adverse effects. Evaluate the overall safety profile of degarelix and leuprolide in managing prostate cancer. To develop an awareness of safety risks through evaluating the adverse drug event profile of degarelix and leuprolide

METHODS

This IRB-approved, minimal-risk retrospective study was conducted at the VA New York Harbor Healthcare System (NYHHS). Medical records of patients who received leuprolide or degarelix in the NYHSS were reviewed over two years. The study evaluated whether degarelix had lower cardiovascular, endocrine, and psychiatric adverse drug effect profiles than leuprolide in veterans.

RESULTS

From 1/1/2021 to 12/31/2022, 134 patients with localized and metastatic prostate cancer were included. To be included in the study, the patient must be male, aged 18 years or older, receiving degarelix *(Firmagon)* 80 mg SQ injection or leuprolide *(Eligard)* 45 or 22.5 subcutaneous injections for localized or metastatic prostate cancer receiving a minimum of three months treatment. The median age was 76; 57% had localized prostate cancer, and 43% had metastatic disease. Degarleix was shown to have a lower incidence of adverse effects.

CONCLUSION

Reviewing the descriptive results, overall adverse effects in all categories appeared lower with the Degarelix veteran population than with leuprolide.
The limitations of this finding are clear, with a need for further study, increased sample population, and application of required statistical concepts.

3:40pm – 3:55pm T **Impact of multiple pharmacist touch points during patient transitions of care** Empire A

Presenters: Sydney Hudson
Evaluators: Abigail Henry
Evaluators 3: Jeanmarie Perch
Evaluators 2: Amber Gross

TITLE: Impact of multiple pharmacist touch points during patient transitions of care

AUTHORS: Sydney Hudson, PharmD; Angelika Krevat, PharmD, BCPS; Christine McLellan, PharmD, MHA, BCPS; Meagan Coughlin, PharmD, BCGP; Sarah Roland, PharmD, BCGP; Emerson Health Emerson Hospital, Concord, MA

OBJECTIVE: To retrospectively assess how two pharmacist transitions of care (TOC) points of encounter affect 30-day all-cause inpatient readmissions, emergency department (ED) visits, and urgent care visits compared to patients with one or no encounter.

METHODS: This study utilized a retrospective chart review to investigate the impact of pharmacist TOC points of encounter on 30-day all-cause readmissions. Secondary outcomes included ED or urgent care visits within 30 days of discharge. A point of encounter was defined as a medication reconciliation, discharge medication counseling, or a post-discharge phone follow-up performed by a pharmacist. The study included patients aged 18 years or older who were admitted to the critical care unit or adult-hospitalist service at Emerson Hospital and were discharged home. Patients who were transferred out, died within 30 days of discharge, or were discharged to hospice or another facility were excluded. Patients with two pharmacist encounters were matched to those with one encounter or no encounter based on age, sex, and number of prescription medications. Chi-squared tests were performed to assess outcomes.

RESULTS: The study timeframe was July 1, 2020 through March 2, 2023. A total of 273 patients, 91 patients in each group, met inclusion criteria. In the two encounter group 12 patients met the primary outcome of hospital readmission within 30 days compared to 15 patients in the one encounter group (13.2% vs 16.5%, p = 0.532), and 16 patients in the no encounter group (13.2% vs 17.6%, p = 0.411). For the secondary outcome, 14 patients in the two encounter group visited the ED or affiliated urgent care within 30 days of discharge compared to 14 patients in the one encounter group (15.4% vs 15.4%, p = 1.0), and 16 patients in the no encounter group (15.4% vs 17.6%, p = 0.689).

CONCLUSIONS: This study demonstrated a numerical, but not statistically significant, reduction in 30-day hospital readmissions between patients who received two pharmacist TOC points of encounter and those who received one or no encounter. There was also a trend towards fewer ED and urgent care visits when compared to patients who had no pharmacist encounters. Data will be analyzed further to see what types of medication discrepancies and clinical interventions were identified by pharmacists.

4:00pm – 4:15pm

A **A retrospective evaluation of the discontinuation rate of empagliflozin prescribed in a veteran population for diabetes and/or systolic heart failure** Empire B

Presenters: Tyler Smith
Evaluators: Melissa Reams
Evaluators 3: AnnMarie Franklin
Evaluators 2: Andrea Winston

Title: A retrospective evaluation of the discontinuation rate of empagliflozin prescribed in a veteran population for diabetes and/or systolic heart failure.

Authors: Tyler Smith, PharmD; Dondel Moorman, PharmD; Patrick Huffman, PharmD, BCPS; Veteran Affairs Medical Center (VAMC), Beckley, West Virginia

Objective: The purpose of this study was to evaluate the discontinuation rate of empagliflozin in a veteran population for any Food and Drug Administration (FDA) approved indication. Results will provide a greater insight into the potential risk or harm that our veterans may experience while on empagliflozin therapy. Assessment of the retrospective evaluation will provide areas of opportunity for providers to improve in medication monitoring and patient education.

Methods: A list of every patient who filled a prescription of empagliflozin in June of 2022 was generated resulting in a total number of 276 patients. We then used a random computer generator to pull 200 patients for chart review. Chart reviews were then performed to review if the veteran had an active prescription of empagliflozin continually being filled or if therapy had been discontinued. The reason for discontinuation was then reviewed and recorded for evaluation.

Results: Out of the 200 veterans pulled for chart review, 27 veterans had their empagliflozin discontinued within the 7-month evaluation period. It was reviewed that 7 patients had their medication discontinued due to death; of these deaths, none were related to empagliflozin therapy. Excluding veterans that had deceased, the overall discontinuation rate of empagliflozin therapy was 20 out of 193 veterans (10.4%). Of the 20 overall discontinuations, 45% were due to urinary tract infection (7 veterans) or genital infection (2 veterans). Other adverse effects reported that led to discontinuation of therapy were hypotension, hypoglycemia, decline in renal function, and urinary incontinence.

Conclusion: The most frequent cause for empagliflozin discontinuation in our veteran population at the Beckley VAMC were infections of the urinary tract system or the genital region.

4:00pm – 4:15pm A **Implementation of the Veterans Affairs National Hypoglycemia Safety Initiative Dashboard in a Primary Care Setting at the Washington DC Veterans Affairs Medical Center.** Magnolia C

Presenters: Sandra Schipelliti
Evaluators: Jasmine Carpenter
Evaluators 3: LaQuinta Atley
Evaluators 2: Tina Pho

TITLE: Implementation of the Veterans Affairs National Hypoglycemia Safety Initiative dashboard in a primary care setting at the Washington DC Veterans Affairs Medical Center.
AUTHORS: Sandra Schipelliti PharmD; Amanda Price, PharmD, BCACP; LaQuinta Atley, PharmD, BCACP; Divivian Jerome-McGuire, PharmD, BCACP; Washington DC Veterans Affairs Medical Center (DC VAMC)
OBJECTIVE: To evaluate the impact of utilizing the Choosing Wisely Veterans Affairs (VA) National Hypoglycemia Safety Initiative (HSI) dashboard in a pharmacist-led primary care setting.
METHODS: Veterans with diabetes in the HSI dashboard risk cohort between December22-March23 at the DC VAMC in select primary care clinics were included in a pharmacist-led hypoglycemia screening program. Veterans co-managed by the endocrine team, a community-based outpatient clinic, or non-VA providers were excluded. An additional exclusion was no longer qualifying for the HSI dashboard. They were evaluated via telehealth or an in-person visit by a clinical pharmacist using a standardized hypoglycemia template to evaluate the need to relax the regimen. Follow-up was scheduled within 2-4 weeks if reported answers were concerning for hypoglycemia or regimen adjustments were made or lab work was ordered. Primary outcomes were change in frequency and severity of signs and symptoms of hypoglycemia reported. Secondary outcomes were the number of interventions, average length of visit, and types of interventions. Outcomes were analyzed using descriptive statistics. There are no financial disclosures.
RESULTS: The number of interventions made will be recorded and further broken down by type of intervention. Time spent in the initial visit will also be recorded. If follow-up is required then the change in frequency and severity of hypoglycemia signs and symptoms will be recorded and evaluated.
CONCLUSIONS: It is anticipated that this project will demonstrate a role for utilizing the Choosing Wisely Veterans Affairs (VA) National Hypoglycemia Safety Initiative (HSI) dashboard in a clinical pharmacist-led program in a primary care setting to increase interventions made to reduce the risk of hypoglycemia.

4:00pm – 4:15pm C **Comparison of argatroban and bivalirudin protocols for the treatment of heparin-induced thrombocytopenia** Empire D

Presenters: Gina Lee
Evaluators: Kristen Audley
Evaluators 3: Brian Schuler
Evaluators 2: Sahil Sheth

TITLE: Comparison of argatroban and bivalirudin protocols for the treatment of heparin-induced thrombocytopenia
AUTHORS: Gina Lee, PharmD, Karen Frock, PharmD, BCCCP, Alison Sabados, PharmD, BCCCP
OBJECTIVE: Argatroban and bivalirudin are direct thrombin inhibitors (DTIs) used for the management of heparin-induced thrombocytopenia (HIT). The study objective was to evaluate the efficacy and safety of institutional argatroban and bivalirudin protocols.
METHODS: A retrospective chart review from June 1, 2021 through May 31, 2022 included adult patients admitted to five WellSpan hospitals who received argatroban or bivalirudin per the HIT order set for at least 24 hours. The primary outcomes were time to goal aPTT, time to dose stabilization (defined as two consecutive goal aPTTs), and percent of aPTTs within goal range. Secondary outcomes included appropriateness of initial DTI dosing, bleeding events, and thromboembolic events during the admission.
RESULTS: Of the 156 patients included, 66 patients were included and of those, 59% were ordered argatroban and 41% were ordered bivalirudin. Patients on bivalirudin had shorter median time to goal aPTT (3 h vs 5 h), shorter median time to dose stabilization (10 h vs 8 h), and higher median percentage of aPTTs in goal range (67% vs 48%). However, more patients on bivalirudin experienced bleeding events (63% vs 21%) and thromboembolic events (36% vs 9%). More patients on bivalirudin reached goal within the initial dose (48% vs 36%) and within 24 h of the initial dose (81% vs 77%). Both groups had similar percentages of patients started on an appropriate initial dose and median costs of therapy.
CONCLUSIONS: Patients on bivalirudin and dosed per the HIT protocol met aPTT goals faster and more consistently than those on argatroban. However, this came at the cost of greater frequency of bleeding and thromboembolism. Bivalirudin may be a more efficacious agent for patients on DTI therapy for HIT, however providers must evaluate the individual risks of adverse events.

4:00pm – 4:15pm N **The Impact of Pharmacists Providing DisposeRx Packets and Patient Education to Patients Taking As Needed Controlled Substances on Safe Medication Disposal** Empire C

Presenters: Michelle Chin
Evaluators: Michael Pedro
Evaluators 3: Carlen Ng
Evaluators 2: Valerie Wells

TITLE: The Impact of Pharmacists Providing DisposeRx Packets and Patient Education to Patients Taking "As Needed" Controlled Substances on Safe Medication Disposal

AUTHORS: Michelle Chin, PharmD; Marc Sturgill, PharmD; Michael Pedro, PharmD, AAHIVP; Michele Gonzalez, PharmD, AAHIVP

OBJECTIVE: The objective of this research is to increase patients' knowledge about the use of a safe at-home medication disposal method.

METHODS: Participants are enrolled in the study once they sign the informed consent form during prescription pick-up or delivery. After signing the consent form, the study participants are given a 11-question (Day 1) survey to answer immediately. Once the survey is completed, participants are provided counseling about safe medication disposal by a study investigator, a trifold containing information about the study and disposal methods, and a DisposeRx packet. Participants are also provided instructions about how to use the DisposeRx packet. Fourteen days from the day of prescription pick-up or delivery, participants are asked to complete a second 12-question (Day 14) survey regarding their knowledge and perspectives on safe medication disposal. If no response was provided, a second attempt will be made in 28 days to request for a survey response. The second survey is administered via phone call or electronically through Qualtrics. All questions are optional.

RESULTS: Once the data collection is completed, results will be analyzed in a table by comparing the responses from both surveys and assessing the quality of the responses for each question. All questions will have multiple choice responses to keep answers consistent. Higher patient motivation and better understanding of safe medical disposal in the second survey compared to the first and the use of the polymer gel medication disposal packet will indicate positive outcomes from the intervention.

CONCLUSIONS: Our study provides evidence that pharmacist-based education and the free provision of DisposeRx packets is helpful at increasing knowledge and understanding of safe medication disposal in patients picking up an â€œas neededâ€□ prescription for CDS at a community pharmacy. Our subjects had favorable views of safe medication disposal both before and after counseling. However, patient education and provision of the home disposal kit appeared to change patient behavior with respect to disposal methods.

4:00pm – 4:15pm Y **Effect of ED-initiated buprenorphine on opioid withdrawal patient rate of return** Magnolia B

Presenters: Madeleine Moore
Evaluators: Angela Antoniello
Evaluators 3: Lubna E. Kousa
Evaluators 2: Mitesh Patel

TITLE: Effect of Emergency Department-initiated buprenorphine on opioid withdrawal patient rate of return
AUTHORS: M. Moore, K. Bress, M. Shah, M. Johnson; VHC Health, Arlington, Virginia
OBJECTIVE: The aim of this study was to determine whether induction with buprenorphine in the emergency department (ED) for opioid withdrawal led to a decreased rate of return within 6 months of discharge versus those who did not receive buprenorphine.
METHODS: A retrospective chart analysis was performed on patients who presented to VHC Healthâ€™s ED for opioid withdrawal with a clinical opiate withdrawal scale (COWS) score â‰¥8 between July 1, 2021 and June 30, 2022. Patients were reviewed if they received buprenorphine treatment for induction of withdrawal and returned to the ED for withdrawal or overdose within 6 months of initial discharge. Outpatient prescriptions for buprenorphine and Virginia Prescription Monitoring Program data was collected to determine buprenorphine compliance. The number of concomitant medications needed for the management of withdrawal symptoms was recorded based on control of tachycardia, sweating, restlessness, bone or joint aches, runny nose/tearing, gastrointestinal upset, and tremor. Patients were excluded from review if they presented to the ED for a refill of their buprenorphine, had a COWS score

4:00pm – 4:15pm 1 **Implementation of Pharmacist Falls Consults Within a Community Hospital Setting** Wild Rose A

Presenters: Emily Davison
Evaluators: Bonnie Yu
Evaluators 3: Mark Sinnett
Evaluators 2: Christina Richards

TITLE: Implementation of pharmacist falls consults within a community hospital setting

AUTHORS: E. Davison, A. Oâ€™Brien; UMass Memorial Health â€“ HealthAlliance-Clinton Hospital, Clinton, Massachusetts

OBJECTIVE: Inpatient fall rates are increasing, and medications are known to increase patientâ€™s risk. Pharmacists can intervene leading to a reduction in fall risk. The purpose of this project is to successfully implement pharmacist driven fall consults.

METHODS: From November 1st, 2022 to March 31st, 2023 the pharmacists conducted a medication review on patients who met pre-defined criteria, including patients > 70 years old and admitted to either the medical-telemetry or geriatric-psychiatry units on the Clinton campus. A procedure was implemented for the pharmacists to identify target medications and recommend deprescribing, modifying, or using alternative medications. The procedure included a high risk medication list with alternatives, links to Beerâ€™s Criteria and UNC High Risk Medication Recommendations, and how to properly document their findings and recommendations which were communicated with the patientâ€™s provider. The pharmacist documented in the patientâ€™s electronic health record the criteria the patient met, target medication(s), any recommendations made, and the recommendationsâ€™ acceptance or rejection.

RESULTS: Results are still pending which will include how many consults were conducted, how many interventions were made, the number of high risk medications identified, total inpatient medications, and any recurrent high risk medications. This data will allow us to assess the utility of implementing the procedure into routine pharmacist workflow.

CONCLUSIONS: It is anticipated that evaluating the implementation of a prospective pharmacist medication review will demonstrate the recommendations that can be made and their acceptance rate by providers. Successful implementation of pharmacist falls consults can lead to improved patient safety, patient care, and decreased hospital costs by potentially decreasing hospital stay and inhouse injuries.

4:00pm – 4:15pm I **Antibiotic Prescribing Patterns for Gram Negative Bacteremia at a Community Hospital: A Retrospective Review** Magnolia A

Presenters: Reem Zietoon
Evaluators: Raul Santiago
Evaluators 2: Polly Jen

TITLE: Antibiotic prescribing patterns in patients with gram-negative bacteremia at a non-teaching community hospital

AUTHORS: Reem E. Zietoon, PharmD; Alexander R. Cain, PharmD, BCIDP

OBJECTIVE: Antimicrobial stewardship programs can help facilitate optimal management of patients with Gram-negative bacteremia. This consists of recommending appropriate durations of therapy and transition to oral antibiotics when appropriate.

METHODS: This was a retrospective, observational, electronic medical record review of patients with Gram-negative bacteremia. Adult patients that had an uncomplicated Gram-negative bacteremia confirmed with a positive blood culture with susceptibility reporting between January 2021 and December 2022 were included. Patients who had a complicated infection or uncontrolled source of infection were excluded. Patients who died during the index hospitalization or were transferred to another hospital were also excluded. Patients were reviewed for suspected source of infection, duration of intravenous and oral therapy, oral antibiotics utilized (if applicable), hospital length of stay, 30-day infection-related readmission rates, and death. The purpose of this study was to assess the current management of Gram-negative bacteremia at a non-teaching community hospital compared to recent literature.

RESULTS: Information pertaining to Gram-negative bacteremia treatment practices will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this study will give insight to current treatment practices in order to identify opportunities to optimize patient care.

4:00pm – 4:15pm | **Impact of a Pharmacist-Driven, Real-Time Blood Culture Review Initiative on Time to Appropriate Antimicrobial Therapy in a Tertiary Hospital** Magnolia D

Presenters: Rowan Elkeshawi
Evaluators: Patrick Huffman
Evaluators 3: Vidhi Gandhi
Evaluators 2: Nicole Leonida

TITLE: Impact of a Pharmacist-Driven, Real-Time Blood Culture Review Initiative on Time to Appropriate Antimicrobial Therapy in a Tertiary Hospital

AUTHORS: Rowan Elkeshawi, PharmD., Joanna DeAngelis, PharmD., BCIDP

OBJECTIVE: The purpose of this study is to analyze the impact of the implementation of a pharmacist-driven blood culture review on time to appropriate antimicrobial therapy.

METHODS: This is a retrospective analysis of a newly implemented pharmacist-driven culture review. Outcomes for a pre (September 1, 2021 to November 30, 2021) and post (September 1, 2022 to February 28, 2023)-implementation group will be compared. Adult patients (>18 years) with a positive blood culture who were not on appropriate therapy at the time of polymerase chain reaction (PCR) result were included. Patients were excluded if they were deceased at the time of culture review, if they were on appropriate therapy at the time of culture result, or if the sample was deemed contaminated. The primary objective is to compare time to appropriate therapy between the two groups, defined as time from PCR result to when first dose of appropriate antimicrobial was given. The secondary objectives are to compare infection-related 30-day mortality, infection recurrence, and development of subsequent antimicrobial resistance.

RESULTS: The difference in time to appropriate therapy following a positive blood culture result between pre- and post- implementation groups will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that a pharmacy-driven initiative will demonstrate a positive impact in time to appropriate therapy following a blood culture result, subsequently decreasing mortality, infection re-occurrence, further antimicrobial resistance and length-of-hospital stay.

4:00pm – 4:15pm

O **Implementation of a Pharmacist Driven Pregnancy Screening Protocol in Women of Childbearing Age Pre-Chemotherapy** Wild Rose B

Presenters: Sara Touchan
Evaluators: Michelle Pasciolla
Evaluators 3: sharon mindel
Evaluators 2: Lindsay Schieb

TITLE: Implementation of a pharmacist driven pregnancy screening protocol in women of childbearing age pre-chemotherapy

AUTHORS: S. Touchan, B. Edwards, E. Snarr, S. Tolliday, S. Stevens, B. Sorbello; Wentworth-Douglass Hospital, Dover, New Hampshire

OBJECTIVE: Pregnancy screens are crucial pre-chemotherapy given the associated toxicities, however, no formal guidelines exist. A pharmacist-driven pregnancy screening protocol will aim to increase screening and eliminate inconsistencies.

METHODS: A retrospective chart review was conducted using treatment plan reports and electronic health records to identify women ages 18-55 who received chemotherapy or a monoclonal antibody between October 1, 2021 and February 28, 2023. Exclusion criteria were prior hysterectomy, bilateral salpingo-oophorectomy (BSO), tubal ligation, or known pregnancy. Data collected were age, cancer diagnosis, chemotherapy or monoclonal antibody prescribed and start date, date of pregnancy screening test, and ordering provider's specialty. A pharmacist driven pregnancy screening protocol was implemented for eligible women on October 1st, 2022. The number of women screened for pregnancy with an HCG test prior to protocol implementation was compared to those screened post-protocol.

RESULTS: Pre-protocol implementation, 64 women of childbearing age were initiated on chemotherapy, 36 of which met inclusion criteria. Out of the 36 women included, 80.6% (N=29) were not screened with an HCG test while 19.4% (N=7) women were screened with an HCG test. A total of 27 women of childbearing age initiated chemotherapy post-protocol implementation, 16 of which met inclusion criteria. Out of the 16 women included, 75% (N=12) received an HCG test and 25% (N=4) did not receive an HCG test. Of the four women who did not have an HCG test ordered, three women were 55 years old, and one woman was 50 years old. The pharmacy driven pregnancy screening protocol increased the percentage of women screened from 19.4% to 75%.

CONCLUSIONS: Cancer is on the rise among younger patients highlighting the importance of pregnancy screening pre-chemotherapy. A pharmacist-driven pregnancy screening protocol showed an increase in the number of women being screened prior to chemotherapy initiation by more than 3-fold and minimized inconsistencies in the screening process. Limitations include small sample size and the varied durations of pre and post-protocol data.

4:00pm – 4:15pm T **Assessing the Effect of Pharmacist Discharge Counseling and Patient Outreach on Readmission Rates of Congestive Heart Failure Patients** Empire A

Presenters: Sharon Joseph
Evaluators: Abigail Henry
Evaluators 3: Jeanmarie Perch
Evaluators 2: Amber Gross

TITLE: Assessing the effect of pharmacist discharge counseling and patient outreach on readmission rates of congestive heart failure patients

AUTHORS: Sharon Joseph, Pharm.D., Hadeia Farooque, Pharm.D., Maryam Ahmed, Pharm.D., BCPS

OBJECTIVE: The primary objective of this study is to decrease re-admission rates in congestive heart failure (CHF) patients by providing discharge counseling and outreach calls to optimize adherence.

METHODS: This will be a single-center, retrospective and prospective cohort study assessing the impact of pharmacist intervention in reducing hospital readmission rates amongst people with CHF. Electronic medical records of patients admitted to the hospital with a history of CHF will be reviewed. Information that will be collected include patientâ€™s diagnosis, gender, age, telephone number, date of admission/discharge, readmission dates and reason if applicable and CHF treatment regimen. Retrospectively, records for patients who were not provided discharge counseling or any other special interventions outside of standard of care from December 2021â€“February 2022 will be collected. Prospectively, a pharmacist will provide discharge counseling and outreach calls two weeks after discharge on CHF medications which will include reviewing the indication and possible side effects to patients admitted from December 2022- February 2023.

RESULTS: It is expected that there will be less 30-day re-admission rates in the prospective study compared to the retrospective study due to pharmacist intervention and helping patients understand the importance of adherence. The number and percentage of re-admission rates from both arms will be recorded and results will be presented.

CONCLUSIONS: Congestive heart failure is the most common cause of hospitalization in the US and has the highest 30-day re-hospitalization rate among medical and surgical conditions, accounting for up to 26.9% of the total readmission rates. Patients with comorbidities and sociodemographic factors are at an increased risk of readmission for CHF. It is anticipated that this project will demonstrate the benefit of pharmacist-led discharge counseling to decrease 30-day re-admission rates in patients with CHF.

4:20pm – 4:35pm A **Impact of implementing education and electronic medical record tools on pneumococcal vaccination rates in a primary care clinic** Empire B

Presenters: Domenic Vita
Evaluators: Melissa Reams
Evaluators 3: AnnMarie Franklin
Evaluators 2: Andrea Winston

TITLE: Impact of implementing education and electronic medical record tools on pneumococcal vaccination rates in a primary care clinic

AUTHORS: Domenic Vita PharmD, Maria Summa PharmD, BCPS, BCACP, Karishma Patel PharmD, Angela Stein MD, FACP, Rebecca Teich-McGoldrick MD

OBJECTIVE: This study was conducted to determine if screening tools, standard workflows, and physician/patient education increases pneumococcal vaccination rates in a hospital-based internal medicine clinic setting.

METHODS: This was a retrospective chart review that included adult patients receiving primary care at the Gengras Adult Medical Clinic with eligibility for pneumococcal vaccination and lack of completion of the recommended vaccination series during a 10-week intervention period. Baseline practice pneumococcal vaccination rates and vaccine-eligible patient lists were generated from the health record. Physicians received individualized vaccine-eligible patient lists and educational materials. Handouts on pneumococcal disease and vaccinations were provided to patients and displayed in office examination rooms. A chart review was completed for patients encountered in the office during the study period. The primary outcome was percent of eligible patients who received pneumococcal vaccination during the intervention period. The secondary outcomes were percent change in vaccination rates and percent of vaccines that were ordered correctly. Descriptive statistics were used to analyze the data.

RESULTS: One hundred thirty-seven patients were considered vaccine-eligible. Forty patients (29%) were ordered a pneumococcal vaccination during the intervention period and thirty-eight patients (28%) received the vaccine. Thirty-four patients (89%) received the correct pneumococcal vaccine type. The percent change in vaccination pre vs. post intervention was two percent.

CONCLUSIONS: Screening tools, standard workflows, and physician/patient education increased pneumococcal vaccination rates in our setting only modestly (by 2%) during a 10-week intervention period. One-third of vaccine-eligible patients were vaccinated during the intervention period. Nearly 90% of pneumococcal vaccination orders were deemed to be appropriate. The most common reason that vaccine eligible patients were not vaccinated during the study was that providers did not address vaccines during visits.

4:20pm – 4:35pm C **Assessing Rates of Adverse Effects Between Patients With or Without Morbid Obesity Receiving Propofol or Dexmedetomidine in the Intensive Care Unit (ICU)** Empire D

Presenters: Zaid Jalil
Evaluators: Kristen Audley
Evaluators 3: Brian Schuler
Evaluators 2: Sahil Sheth

TITLE: Assessing rates of adverse effects between patients with or without morbid obesity receiving propofol or dexmedetomidine in the intensive care unit

AUTHORS: Z. Jalil, PharmD1, M. Horsfield, PharmD, BCCCP1, S. Singh, PharmD, CACP1, A. West, PharmD, BCPS, BCCCP2; 1Department of Pharmacy Services, William W. Backus Hospital, Norwich, CT; 2Department of Pharmacy Services, Hospital of Central Connecticut, New Britain, CT

OBJECTIVE: This study investigated if morbidly obese patients, body mass index (BMI) â‰¥40 kg/m2, were at risk of hypotension, bradycardia, or oversedation due to utilizing actual body weight when dosing propofol or dexmedetomidine in intensive care units (ICU).

METHODS: This was a multicenter, retrospective chart review of mechanically ventilated patients admitted to Hartford HealthCare ICU from June 1, 2021 to May 31, 2022 who received dexmedetomidine or propofol for â‰¥24 hours. Patients were excluded if they were

4:20pm – 4:35pm N **Assessing Patient Acceptance of Pharmacist Recommended Vaccinations During International Travel Health Appointments in a Community Pharmacy Setting** Empire C

Presenters: Nina Tao

Evaluators: Michael Pedro

Evaluators 3: Carlen Ng

Evaluators 2: Valerie Wells

TITLE: Assessing Patient Acceptance of Pharmacist Recommended Vaccinations During International Travel Health Appointments in a Community Pharmacy Setting

AUTHORS: Nina Tao, PharmD; Natalie Rodriguez, PharmD, Bethany Abrahams Linh Huynh Kathleen Dempsey Patty Melissen

OBJECTIVE: Pharmacists can help patients navigate travel requirements and recommendations, the core of a travel health service. This study is designed to determine which factors affect patients' decision to review vaccinations during travel health services.

METHODS: Inclusion criteria for this multicenter survey-based research study includes patients aged 18 years or older who completed an intake form and pharmacist lead travel consultation for a travel health service of a nationwide supermarket-based community pharmacy chain in the northeast. All patients included are asked to fill out the same anonymous survey consisting of Likert scale questions. Patients fill out a travel health intake form, then a pharmacist will contact the patient to perform the travel consultation. During the consultation, the pharmacist will inform the patient about this research study. If the patient declines all vaccines, an investigator will contact the patient with the survey. If the patient sets an appointment to receive a vaccine, a pamphlet with a QR code will be given to the patient at the appointment to complete when convenient. Results will be interpreted using descriptive statistics.

RESULTS: The most commonly identified factors that influence patientsâ€™ decision to receive recommended vaccinations during travel health services and the impact of the COVID-19 pandemic on a patientâ€™s decision to accept pharmacist recommended vaccinations will be recorded and results will be presented.

CONCLUSIONS: Pharmacists can play a large role in patient acceptance of recommended vaccinations during travel health services, protecting patients from Infectious Disease. It is anticipated that insights from patients will allow pharmacists to tailor travel health education and take the necessary actions to aid patients in understanding the importance of receiving the recommended travel vaccines and medications. This can help improve the number of patients that will be protected during their travels.

4:20pm – 4:35pm Y **Evaluation of Fixed vs Weight-Based Dosing of 4-Factor Prothrombin Complex Concentrate in Patients with Major Bleeding** Magnolia B

Presenters: Elijah Piatt, PharmD
Evaluators: Angela Antoniello
Evaluators 3: Lubna E. Kousa
Evaluators 2: Mitesh Patel

TITLE: Evaluation of Fixed Versus Weight-Based Dosing of 4-Factor Prothrombin Complex Concentrate in Patients with Major Bleeding

AUTHORS: M. Bridwell, Pharm.D., BCPS, E. Piatt, Pharm.D., Z. Myers, Pharm.D., R. Stevens, Pharm.D.

OBJECTIVE: Few studies have been conducted on the optimal dosing strategy of 4-factor prothrombin complex concentrate (4F-PCC). The purpose of this study is to compare patient outcomes between fixed and weight-based dosing of 4F-PCC in patients with major bleed

METHODS: Medical records of patients who received 4F-PCC at St. Maryâ€™s Medical Center from November 20, 2016 to November 20, 2022 are being reviewed. The hospitalâ€™s reversal protocol changed from weight-based to fixed dosing of 4F-PCC in 2020, which will allow comparison of each dosing strategy. Patients were eligible for inclusion if they received either warfarin or factor Xa inhibitors including apixaban or rivaroxaban and had a major bleeding event. Assessment of each dosing strategy will be based on whether patients achieved hemostasis within 48 hours of receiving 4F-PCC. Achievement of hemostasis will be based on stable hemoglobin values and no further need for administration of blood products at greater than or equal to 48 hours. In patients with intracranial bleeding, hemostasis will also include assessment of head computed tomography (stable/improvement/worsening) at 24 hours after medication administration.

RESULTS: Data collection and analysis is currently in progress. The primary outcome of this trial is to compare the achievement of hemostasis in each dosing group. Subgroup analysis will be completed based on bleed location and the type of oral anticoagulant reversed. Results will be presented at the Eastern States Pharmacy Conference in Hershey, PA.

CONCLUSIONS: Conclusions to be drawn from this study will include the differences in patient outcomes and laboratory values following administration of fixed versus weight-based dosing of 4F-PCC.

4:20pm – 4:35pm 1 **Effect of the Home Based Primary Care Blister Pack Program on Hypertension Outcomes in a Veteran Population** Wild Rose A

Presenters: Leanne Varga
Evaluators: Bonnie Yu
Evaluators 3: Mark Sinnett
Evaluators 2: Christina Richards

TITLE: Effect of the Home-Based Primary Care blister pack program on hypertension outcomes in a veteran population

AUTHORS: Leanne Varga, PharmD; Erin Emonds, PharmD; Linda Niesner, PharmD, BCACP; Hannah McCarthy, PharmD Candidate 2023

OBJECTIVE: This project explores the impact of the Home-Based Primary Care blister pack (BPAX) program combined with continuous medication monitoring by pharmacists on blood pressure in patients with hypertension.

METHODS: Patients evaluated were enrolled in Home Based Primary Care (HBPC) with a BPAX initiation date between 1/1/21 to 5/31/22. We included patients with a diagnosis of hypertension upon BPAX enrollment. Data collection occurred via retrospective chart review of the Electronic Medical Record. Blood pressure trends were evaluated 6 months prior and 6 months after BPAX initiation; four values were captured for the primary outcome: average, minimum and maximum, and blood pressure closest to six months pre- and post-enrollment. The secondary outcome captured the number of hypotensive readings, defined as less than 120/80mmHg. The number of medication changes (e.g., initiated, discontinued, increased, or decreased) related to blood pressure were collected utilizing the medication fill history over the study period. Lastly, charts were reviewed for VA hospital discharge summaries or emergency department (ED) visit notes; data was recorded if the encounter was related to blood pressure.

RESULTS: Of the patients enrolled, 48 met inclusion criteria. Patients were primarily older (avg. 82y), white (81%), males (96%) and had a history of smoking (50%). Of the blood pressures evaluated, the average blood pressure, minimum blood pressure and blood pressure closest to the 6th month mark decreased while the maximum blood pressure increased post BPAX enrollment. There was an increase in number of patients with hypotensive readings post BPAX. The number of medication interventions implemented related to hypertensive treatment increased from 24 to 43 interventions after enrollment. Four hospitalizations due to blood pressure occurred before blister pack initiation and three after. ED visits related to blood pressure remained unchanged.

CONCLUSIONS: The HBPC BPAX program provides patients with a medication adherence tool and continuous medication therapy monitoring by a pharmacist that led to decreased average blood pressure readings and an increase in the number of medication interventions post enrollment. Further research is necessary to show a direct correlation between BPAXs and hospitalization or ED rates.

4:20pm – 4:35pm I **Antibiotic resistance in HIV-positive individuals compared to HIV-negative individuals in Africa**
Presenters: Adriana Gardner Magnolia D
Evaluators: Patrick Huffman
Evaluators 3: Vidhi Gandhi
Evaluators 2: Nicole Leonida

TITLE: Rate of antibiotic resistance in people living with HIV compared to people without HIV in Africa

AUTHORS: A. Gardner, N. Blanco, L. Oâ€™Hara, H. Seung, E. Gorman, E. Heil*, B. Roth* (*co-last authors)

OBJECTIVE: People living with HIV (PLWH) have a higher risk of infection with antibiotic resistant bacteria. This study aims to compare the rates of infection with antibiotic resistant bacteria in PLWH compared to people without HIV in Africa.

METHODS: Databases were searched for studies published between 2005-2022 comparing the rate of antibiotic resistance of bacteria causing infections in PLWH and people without HIV in Africa. Studies were excluded if they were examined Mycobacterium, bacteria causing sexually transmitted infections, did not specify the organism, or the manuscript was not available in English. Covidence was used for study selection and data extraction. The Newcastle-Ottawa Scale was used for the risk of bias assessment.

RESULTS: Comparison of antibiotic resistance rates will be compared between PLWH and people without HIV and presented.

CONCLUSIONS: This project will help provide evidence about whether rates of antibiotic resistance in bacteria that cause infection are different between PLWH and people without HIV. Our findings have the potential to inform clinical management and treatment of HIV-infected patient and inform future research.

4:20pm – 4:35pm | **Assessment of Antibiotic Appropriateness at Hospital Discharge: Antimicrobial Stewardship at Transition of Care** Magnolia A

Presenters: Ali Althubyani
Evaluators: Raul Santiago
Evaluators 2: Polly Jen

TITLE: Assessment of antibiotic appropriateness at hospital discharge: Antimicrobial stewardship at transition of care

AUTHORS: Ali Althubyani, PharmD, BCPS, PGY-2 ID Resident. Salwa Elarabi, R.Ph. BCPS-AQ Infectious Disease. Jorge Fleisher, MD

OBJECTIVE: Current literature show more than half of antimicrobial prescriptions at hospital discharge are inappropriate with most of antimicrobial regimen are completed after discharge. We aimed to evaluate the prescribing habits of antimicrobials at discharge

METHODS: This is a retrospective single center observational study in adult patients discharged on antibiotics evaluating antibiotic appropriateness at hospital discharge. Antibiotics appropriateness was assessed against our established institutional guidelines and Infectious Disease Society of America. We included all adult patients who were discharged from our hospital on antibiotics and met the inclusion and exclusion criteria. Inclusion criteria include All patients > 18 years old who were discharged from hospital to complete antibiotic course for one of the following infections: pneumonia, urinary tract infection or skin and soft tissue infection. We excluded any patient who has multiple types of infections. The primary outcome is the percentage of patients received appropriate antimicrobial regimen upon hospital discharge. The secondary outcomes are readmission within 30 days of hospital discharge, hospital length of stay, development of clostridioides difficile, relapse, and reinfection.

RESULTS: Of the 2051 patients screened for eligibility, 91 patients were included in our study. For the primary outcome, 53 patients (58.2%) met the criteria of inappropriate antimicrobial regimen upon hospital discharge. For the secondary outcomes, 27 patients (29.7%) were readmitted within 30 days of hospital discharge, 7 patients (7.7 %) developed reinfection, and 3 patients (3.3%) developed relapse. Fifteen of the readmitted patients received inappropriate antimicrobial regimens. The average hospital length of stay for the patients who received appropriate antimicrobial regimen was 5 days compared to 6 days for those who received an inappropriate regimen. No patients developed C.diff within 30 days of hospital discharge.

CONCLUSIONS: Most of the antimicrobial prescriptions at hospital discharge were inappropriate. Inappropriate antimicrobial prescriptions were associated with more readmissions, relapses, and reinfections within 30 days of hospital discharge. Those findings emphasize the importance of antimicrobial stewardship programs at transition of care.

4:20pm – 4:35pm O **Establishing and Evaluating an Advanced Preparation Program in an Adult Am** Wild Rose B

Presenters: Aleksandra Bieniek
Evaluators: Michelle Pasciolla
Evaluators 3: sharon mindel
Evaluators 2: Lindsay Schieb

TITLE: Establishing and evaluating an advanced preparation program in an adult ambulatory infusion center
AUTHORS: Aleksandra Bieniek, Douglas Hackenyos, Lisa Holle, Sylvia Slattery, Kevin Chamberlin
OBJECTIVE: By implementing and evaluating an advanced preparation program (APP) for pembrolizumab at an outpatient oncology infusion center, this study aimed to reduce wait times and improve patient and staff satisfaction.
METHODS: This study had two-parts 1) a pre- and post- implementation patient and staff satisfaction survey and 2) a pre- and post-implementation retrospective chart review. Outcomes included changes in patient wait times, patient and nursing pre- and post- survey responses, and waste and costs following implementation of the APP for pembrolizumab. Collected data included check-in, order release, verification, compounding, and infusion start times. Surveys assessed satisfaction with wait times, time with care team members or patients, the quality of the appointment interactions, and the visit overall on a scale ranging from poor, fair, good, very good, and excellent. Two months post-implementation, after the APP began mixing pembrolizumab doses prior to patient check-in, patients and staff completed the same survey and additional chart reviews assessed changes in wait times and wasted doses.
RESULTS: The pre-implementation phase results found of the 29 patients that completed the survey, 61% rated their overall infusion experience as excellent. Of the 8 infusion staff surveyed, 50% rated their overall infusion experience as good. In addition, 294 chart reviews found the median time from order verification to finished compound time was 20 minutes. Therefore, the pre-implementation results demonstrated an opportunity to reduce wait times and improve survey responses. Final results will be available following completion of post-implementation data collection.
CONCLUSIONS: It is anticipated that this project will demonstrate that implementing an APP in the adult ambulatory infusion setting is feasible and achievable. This project may also provide guidance for the creation of future APP initiatives by establishing a systematic process that can be referenced to facilitate implementation.

4:20pm – 4:35pm

4 **Assessing the Appropriateness of Continued Antipsychotic Use to Treat Delirium After Transfer out of the Critical Care Unit in a Community Teaching Hospital** Magnolia C

Presenters: Mitchell Okula
Evaluators: Jasmine Carpenter
Evaluators 3: LaQuinta Atley
Evaluators 2: Tina Pho

TITLE: Assessing the Appropriateness of Continued Antipsychotic Use to Treat Delirium After Transfer out of The Critical Care Unit in a Community Teaching Hospital

AUTHORS: M. Okula, N. Snyder, M. Cason; St. Joseph Medical Center (SJMC), Reading, Pennsylvania

OBJECTIVE: The study purpose is to assess appropriateness of antipsychotic (AP) continuation after patients are discharged or transferred from the critical care unit (CCU) and to determine if pharmacist intervention is warranted according to PADIS guidelines.

METHODS: A retrospective chart review included CCU-admitted patients identified via the EMR who were aged 18 and older with an active AP order, a clinical diagnosis of delirium or positive Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) score, and who received at least two doses of AP between August 2021-2022. Exclusion criteria were: age less than 18 years, prior AP administration within 30 days, pre-admission AP established therapy, or AP therapy for non-delirium indications. Demographic data was collected, as well as, CCU/hospital length of stay (LoS), AP initiation time in hours, delirium history, AP regimen, diagnoses and problems, reason for admission, psychiatry consult presence, CAM-ICU score(s), and CAM-ICU score at AP initiation/discontinuation. Additionally, patients who met PADIS criteria for delirium who were not diagnosed but received treatment for delirium were recorded along with if they expired during the admission.

RESULTS: Seventy-four patients met inclusion criteria. Majority were Caucasian males with no history of delirium. Average LoS was 253.8 hrs in CCU and 320.6 hrs in the hospital. Psychiatry consult was present in 36.5% of patients. Mean AP doses per patient was 5.9. AP use was continued outside CCU in 45.9% of patients. AP usage was considered appropriate in 86.5% of patients. Of those appropriate, 78% met criteria for delirium and 22% had a confirmed diagnosis, and none had documented CAM-ICU scores. The number of AP doses and LoS in the CCU and hospital was positively correlated (rho 0.35 and 0.37). Of 53 patients discharged alive, 83% were appropriate for antipsychotic use, but 61% of those patients had their treatment continued outside the CCU.

CONCLUSIONS: Data shows that AP therapy for delirium started appropriately in the CCU is commonly continued inappropriately outside CCU. Due to high numbers of COVID admissions during the study period, the primary endpoint was assessed controlling for those who expired. Providers should be educated on properly diagnosing patients with delirium using validated assessments such as CAM-ICU and discontinuing AP after recovery. Pharmacists could play a role in AP discontinuation at transition of care out of CCU.

4:20pm – 4:35pm T **Impact of Newly Implemented Meds-to-Beds Program on CHF Related Hospital Readmissions**

Empire A

Presenters: Derin George
Evaluators: Abigail Henry
Evaluators 3: Jeanmarie Perch
Evaluators 2: Amber Gross

TITLE: Impact of a newly implemented meds-to-beds program on reducing hospital readmissions attributable to acute heart failure

AUTHORS: Derin George, Vanessa Garia

OBJECTIVE: To assess if a meds-to-beds program can reduce 30 day hospital readmissions among patients with a diagnosis of congestive heart failure presenting to the hospital with for an episode of heart failure decompensation.

METHODS: Data collection will occur prior to and after the implementation of the meds-to-beds program. Potential patients will be screened based on the institution's daily heart failure watch list to identify patients with heart failure due to reduced ejection fraction (HFrEF). A chart review of patients will be conducted daily to identify patients presenting with acute-decompensation of heart failure. Patients will be enrolled for data collection on the day of hospital discharge and will be tracked for a 30-day period post discharge to assess for medication adherence, guideline-direct medication therapy (GDMT) utilized, and 30-day readmissions. The study will exclude patients for planned discharge to another care facility or hospice. The primary method of data collection will consist of telephone interviews conducted with patients at 14 and 30-day mark. Statistical analysis will not be conducted due to an insufficient patient population to reach a desired power.

RESULTS: Due to delays in implementing a functional meds-to-beds program, there were insufficient heart failure patients that were discharged utilizing the meds-to-beds service to assess any meaningful differences in 30-day readmissions. Prior to the implementation of the meds-to-beds program, the institution had a 15.8% readmission rate (9/57). As the program begins branching out, there is an expectation to see increased utilization of meds-to-beds services which may help with reducing hosptial readmissions.

CONCLUSIONS: Based on gathered results, it is unclear on whether a meds-to-beds program can improve hospital readmissions attributable to heart failure decompensation. However the utility of a meds-to-beds program can be proposed to improve pharmacy access and thus enhance GDMT establishment and adherence due to reduced barriers to medications and improved pharmacy based education.

4:40pm – 4:55pm A **Implementation of a Medication Access Coordinator within a community hospitals Meds-to-Beds program: analysis of workflow and quality outcomes**

Empire B

Presenters: Rachel Barker
Evaluators: Melissa Reams
Evaluators 3: AnnMarie Franklin
Evaluators 2: Andrea Winston

TITLE: Implementation of a Medication Access Coordinator within a community hospitals Meds-to-Beds program: analysis of workflow and quality outcomes

AUTHORS: Rachel Barker, PharmD, Sara Tolliday, PharmD, Madison Bouchard, CPhT, Ashley Child, PharmD, BCACP

OBJECTIVE: Meds-to-Beds (M2B) programs optimize patient care, remove medication access barriers, and aim to reduce readmission rates. Aim to assess the impact of a Medication Access Coordinator on an established M2B program in a community hospital.

METHODS: A retrospective data review compares the capture rate of patients utilizing the hospitals established M2B program with and without a dedicated Medication Access Coordinator. Patients included must be discharged with prescriptions to home during M2B hours of operation. The medication access coordinator enrolls patients in the M2B program, ensures medications are covered and affordable, and provides bedside delivery and counseling at discharge.

RESULTS: The impact of a medication access coordinator on the established M2B program in terms of eligible patient capture rate, patient satisfaction and interventions made will be presented.

CONCLUSIONS: A Dedicated Medication Access coordinator will optimize patient care by increasing M2B enrollment and removing medication access barriers, thereby optimizing patient care.

4:40pm – 4:55pm C **Evaluation of Valproic Acid Use for Hyperactive Delirium** Empire D

Presenters: Joanne Ruggiero
Evaluators: Kristen Audley
Evaluators 3: Brian Schuler
Evaluators 2: Sahil Sheth

TITLE: Evaluation of valproic acid use for hyperactive delirium in the intensive care unit
AUTHORS: Joanne Ruggiero, PharmD; Ruchi Jain, PharmD, BCCCP; Danielle Tompkins, PharmD, BCCCP; Marija Markovic, PharmD, BCPP; Michelle Secic
OBJECTIVE: To assess the effectiveness and safety of valproic acid alone, in combination with antipsychotics, and antipsychotics alone for the treatment of ICU hyperactive delirium, given the lack of efficacy of antipsychotics demonstrated in landmark trials.
METHODS: This is an single-center, retrospective cohort study of adult patients, admitted to the MICU and Intermediate Care units who were prescribed valproic acid alone, valproic acid with an antipsychotic, or an antipsychotic alone for at least 24 hours for hyperactive delirium. The valproic acid alone and with antipsychotic cohorts were identified through a report of patients receiving valproic acid between 6/1/21-7/27/22. The antipsychotic alone cohort was identified from a report of patients receiving an antipsychotic between 1/1/22-6/31/22. Patients were excluded if they were prescribed valproic acid and/or antipsychotics for indications other than ICU agitation/delirium, they were home medications, or concurrent carbapenem use with valproic acid. The primary outcome is the time to hyperactive delirium resolution. Secondary outcomes are ICU/hospital length of stay, time to delirium/agitation resolution, in-hospital mortality, restraint use, and use of adjunctive psychoactive medications.
RESULTS: Two hundred ninety-one patients were screened. Forty-nine patients are included in this study. Thirty-four patients are included in the antipsychotic monotherapy group, six patients are included in the valproic acid monotherapy group, and nine patients are included in the combination therapy group. The time to hyperactive delirium resolution will be recorded, and the results will be presented. Statistical analysis is pending.
CONCLUSIONS: It is anticipated that this study will demonstrate the effectiveness and safety of valproic acid alone, in combination with antipsychotics, and antipsychotics alone for the treatment of ICU hyperactive delirium.

4:40pm – 4:55pm N **Effect of pharmacist-led targeted education on hepatitis B immunization rates in a community pharmacy** Empire C

Presenters: Taylor Southers
Evaluators: Michael Pedro
Evaluators 3: Carlen Ng
Evaluators 2: Valerie Wells

TITLE: Effect of pharmacist-led targeted education on hepatitis B immunization rates in a community pharmacy
AUTHORS: T. Southers, PharmD, C. Layson-Wolf, PharmD, BCACP, FAPhA, H. Seung, MS, K. Hein, PharmD, AAHIVP, E. Kim, PharmD
OBJECTIVE: The objectives of this study are to determine the effect of pharmacist-led targeted education on hepatitis B (HepB) immunization rates and on the perceived importance of HepB vaccination.
METHODS: This is a single center, prospective study conducted in a grocery store chain pharmacy. Patients aged 19-59 presenting to the drop-off and pick-up areas of the pharmacy will be screened for inclusion. Patients who have not received one dose of a HepB vaccine or whose HepB vaccine status is unknown will be informed of the current HepB vaccine guidelines, offered an educational handout (EH) about the hepatitis B virus (HBV), and asked to complete an attached survey. Primary endpoints of this study include HepB immunization acceptance rates post educational intervention and HepB immunization rates in the intervention pharmacy versus a control pharmacy. The secondary endpoint will be post-educational perceptions and knowledge of the importance of HepB vaccination. Immunization rates will be analyzed quantitatively using corporate data, while survey data will be analyzed qualitatively.
RESULTS: To date, a total of eleven surveys have been completed. Preliminary data shows that sixty-four percent of patients answered â€œmaybeâ€□ to receiving the HepB vaccine the same day as viewing the EH. Eighty-six percent of patients who answered â€œmaybeâ€□ cited their reason as â€œI would like more information about Hepatitis B and the vaccineâ€□. Seventy-three percent of patients either agree or feel neutral about being at risk of becoming infected with HBV and fifty-five percent of patients feel neutral about the importance of HepB vaccination. Data collection and analysis is still ongoing.
CONCLUSIONS: This study will provide insight on how to improve upon educational methods provided by pharmacists to inform patients about HepB vaccinations and increase vaccine uptake. Additional methods in bridging the gap between HepB education and vaccination in adults may be needed.

4:40pm – 4:55pm Y **Fixed Dose 4-Factor Prothrombin Complex Concentrate for the Reversal of Factor Xa Inhibitors** Magnolia B

Presenters: Matthew Richardson
Evaluators: Angela Antoniello
Evaluators 3: Lubna E. Kousa
Evaluators 2: Mitesh Patel

TITLE: Weight-based vs fixed dosing of 4-factor prothrombin complex concentrate (4F-PCC) for the reversal of factor Xa inhibitors

AUTHORS: Matthew Richardson, Pharm.D., Taylor Schliesser, Pharm.D., Stacie Deslich M.A., MSHCA, Mathew Johnson, Pharm.D., BCCCP

OBJECTIVE: On December 21, 2021, our institution switched from weight-based dosing of 4F-PCC to a fixed dose strategy. This study assessed whether the use of fixed dose 4F-PCC for the reversal of factor Xa inhibitors had a similar hemostasis rate.

METHODS: This was a retrospective cohort study that assessed the efficacy of fixed dose 4F-PCC versus weight-based dosing for the reversal of factor Xa inhibitors due to a bleeding event between June 1, 2020 and August 31, 2022. The weight-based arm utilized a dose of 25 to 50 units/kg. For the fixed dose arm, patients less than 100 kg received 2000 units, while those greater than or equal to 100 kg received 2,500 units. Patients could receive a supplemental dose of 500 units if deemed necessary by the provider. Patients were excluded if they were less than 18 years old, pregnant, not taking an oral factor Xa inhibitor, received another reversal agent, or did not experience a bleeding event. The primary outcome was hemostatic efficacy. Secondary outcomes included in-hospital mortality, hospital length of stay, and incidence of thromboembolism at 30 days.

RESULTS: The fixed dose group (n = 57) had a hemostasis rate of 53% compared to 44% for the weight-based group (n =70) (p=0.35). In-hospital mortality was higher in the weight-based group (29% vs 11%, p=0.01). Hospital length of stay and incidence of VTE were similar between groups. In a subgroup analysis, patients that received a weight-based dose less than 35 mg/kg had higher mortality than those that received a higher weight-based or fixed dose (p=0.03). Outcomes were not significant when patients were stratified by bleeding location. Utilizing fixed dose 4F-PCC reduced cost by an estimated $39,418 per year.

CONCLUSIONS: This study found no difference in hemostasis between weight-based and fixed dose 4F-PCC, suggesting that fixed dose 4F-PCC is at least as efficacious as weight-based dosing but with significantly reduced cost. Although mortality was lower in the fixed dose group, this was likely due to chance or confounding factors. The results support the decision to switch from weight-based dosing to fixed dosing of 4F-PCC at our institution.

4:40pm – 4:55pm 1 **Rates of Antipsychotic Use in Older Adults within a Community Teaching Hospital** Wild Rose A

Presenters: Jamie Rickey
Evaluators: Bonnie Yu
Evaluators 3: Mark Sinnett
Evaluators 2: Christina Richards

TITLE: Rates of antipsychotic use in older adults within a community teaching hospital

AUTHORS: J. Rickey, V. Cavaliere, W. Chan; Luminis Health Anne Arundel Medical Center, Annapolis, Maryland

OBJECTIVE: Determine the prevalence of and characterize antipsychotic use in older adults admitted to Luminis Health Anne Arundel Medical Center (LHAAMC).

METHODS: This is a single-center, retrospective, descriptive analysis of older adults receiving antipsychotic medications at a community teaching hospital. Data for all patients 65 years or older admitted to LHAAMC from January 1, 2022 â€“ March 31, 2022 was extracted from the electronic medical record. Data regarding antipsychotic use prior to admission, while admitted, and after discharge was extracted for patients administered at least one dose of an antipsychotic medication while admitted, unless prochlorperazine was the only antipsychotic. Comfort care patients were excluded. The primary endpoint was to determine the rate of antipsychotic use among older adults admitted to LHAAMC. Secondary endpoints included determining the rates of new antipsychotic initiation while admitted and the rate of subsequent continuation at discharge, the rate of antipsychotic use in patients with dementia, and the all-cause mortality rate of older adults with and without antipsychotics admitted to LHAAMC.

RESULTS: The rates and characterization of the rates of antipsychotic use in older adults admitted to LHAAMC will be reported and presented.

CONCLUSIONS: It is anticipated that this project will demonstrate similar rates of antipsychotic prescribing among older adults in the inpatient setting compared to previous literature and highlight an area in which pharmacists can play a role in reducing inappropriate antipsychotic prescribing.

4:40pm – 4:55pm | **Clinical Impact of the BioFire FilmArray Blood Culture Identification 2 (BCID2) Panel on Patient Outcomes** Magnolia D

Presenters: Katie DelRusso
Evaluators: Patrick Huffman
Evaluators 3: Vidhi Gandhi
Evaluators 2: Nicole Leonida

TITLE: Clinical Impact of the BioFire FilmArray Blood Culture Identification 2 (BCID2) Panel on Patient Outcomes
AUTHORS: K. DelRusso, J. Colmerauer, J. Premus, Virtua Memorial Hospital, Mount Holly, New Jersey
OBJECTIVE: Evaluate time to antimicrobial escalation/de-escalation after implementation of the BioFire Blood Culture Identification 2 (BCID2) panel at Virtua Health in May 2022.
METHODS: A retrospective, multi-center, medical record review was performed at a comprehensive community health care system containing 5 hospitals in Southern New Jersey. Patients included had a positive blood culture on admission. Blood cultures using conventional methods (pre-BCID2) were assessed from 7/1/2021-8/31/2021 and cultures using the BCID2 (post-BCID2) were assessed from 7/1/2022-8/31/2022. Patients were excluded if they experienced death within 72 hours, comfort care within 7 days of admission, had an organism determined to be a contaminant, culture results with a pathogen not on BCID2 panel, or transferred from an outside facility. The primary outcome was time to escalation or de-escalation. The secondary outcomes were length of stay (LOS), in-hospital all-cause mortality, ICU LOS, duration of vancomycin use, duration of antimicrobials, and time to culture identification. Categorical data was analyzed using the Chi-squared test and continuous data using the studentâ€™s t-test.
RESULTS: A total of 190 patients were included in this study, with 95 patients in each group. Time to de-escalation in the pre-BCID2 group was 35.3 hours compared to 59.2 hours in the post-BCID2 group (p =

4:40pm – 4:55pm | **Evaluation of gentamicin synergy dosing strategies and the incidence of acute kidney injury in patients with endocarditis** Magnolia A

Presenters: Skyler Starkel
Evaluators: Raul Santiago
Evaluators 2: Polly Jen

TITLE: Evaluation of gentamicin synergy dosing strategies and the incidence of acute kidney injury in patients with endocarditis
AUTHORS: Skyler Starkel, PharmD; Melanie Goodberlet, PharmD, BCCCP, BCPS; Brian Schuler, PharmD, BCCCP, BCPS; Alex Rock, PharmD, AAHIVP, BCPS; Jeremy DeGrado, PharmD, BCCCP; Jeffrey C. Pearson, PharmD, BCIDP
OBJECTIVE: The objective of this analysis was to evaluate the incidence of acute kidney injury (AKI) with gentamicin synergy dosing, comparing divided daily and once daily dosing strategies for infective endocarditis.
METHODS: This was a multi-center, retrospective analysis of adult patients who received gentamicin synergy dosing for infective endocarditis between 2015 and 2022 at two academic medical centers (IRB approval #2022P002241). Groups were split into patients who received gentamicin divided daily dosing per institutional protocol and once daily (3 mg/kg) dosing strategies. Our primary outcome was the incidence of AKI defined by the RIFLE (Risk, Injury, Failure, Loss of kidney function, and End-stage kidney disease) criteria after starting gentamicin. Secondary endpoints included RIFLE criteria classification, hospital length of stay, need for gentamicin dose adjustment based on therapeutic drug monitoring, new requirements for dialysis, in-hospital mortality, and the assessment of each case of AKI via the Naranjo Algorithm. Continuous data was analyzed using a Studentâ€™s t-test or Mann-Whitney U test when appropriate, and the chi-square test was used to analyze categorical data.
RESULTS: During the study period, 245 patients were evaluated, of which 101 were included in the divided dosing group and 46 in the once daily group. AKI incidence was significantly higher in the divided dosing group compared to the once daily group (52.5% vs. 13%, p

4:40pm – 4:55pm

O **Impact of dexamethasone premedication regimens on paclitaxel infusion-related hypersensitivity reactions** Wild Rose B

Presenters: Mallori Anderson
Evaluators: Michelle Pasciolla
Evaluators 3: sharon mindel
Evaluators 2: Lindsay Schieb

TITLE: Impact of dexamethasone premedication regimens on paclitaxel infusion-related hypersensitivity reactions

AUTHORS: Mallori Anderson, Pharm D., Allison Lawrence, Pharm D., Allen Sexton, Pharm D., BCPS and Matthew West, RPh

OBJECTIVE: Comparing a high dose to a low dose dexamethasone premedication regimen, this study aims to determine which regimen is least associated with hypersensitivity reactions (HSRs) in patients treated with high dose paclitaxel.

METHODS: Medical records of patients who visited WVU Medicine Camden Clark Regional Cancer Center during a five-year period will be reviewed retrospectively. Data will be collected and integrated into an active secure database program to allow uniform review of each record. Each patient's medical record will be reviewed for paclitaxel dose, premedication regimen (including drug, dose, frequency, route) and grade of HSR if documented. Patients will be excluded if they have a known history of paclitaxel-associated HSR.

RESULTS: The incidence of paclitaxel infusion-related HSRs in patients who received the high doe dexamethasone premedication regimen versus the low dose dexamethasone premedication regimen will be determined and results will be presented.

CONCLUSIONS: It is anticipated that this study will demonstrate that the high dose dexamethasone premedication regimen will be associated with fewer paclitaxel infusion-related HSRs than the low dose dexamethasone premedication regimen.

4:40pm – 4:55pm

4 **Incidence of Hypotension with Concomitant Use of Intramuscular Olanzapine and Benzodiazepines for Acute Agitation** Magnolia C

Presenters: Erika Arato
Evaluators: Jasmine Carpenter
Evaluators 3: LaQuinta Atley
Evaluators 2: Tina Pho

TITLE: Incidence of hypotension with concomitant use of intramuscular olanzapine and benzodiazepines for acute agitation

AUTHORS: Erika Arato, PharmD and Sarah Benner, PharmD, BCPS, BCCP

OBJECTIVE: The purpose of this study was to evaluate the relationship between intramuscular olanzapine with benzodiazepines and hypotension following coadministration and compare it to intramuscular olanzapine administration alone.

METHODS: A retrospective chart review was conducted at TidalHealth Peninsula Regional to include patients 18 years of age or older who were managed in the emergency department or admitted as inpatients and received a dose of intramuscular olanzapine for acute agitation. A subset of these patients concomitantly received a parenteral benzodiazepine within 6 hours. The primary objective of the study was to determine if there is a clinically significant risk for hypotension with coadministration of intramuscular olanzapine and parenteral benzodiazepines compared to olanzapine alone.

RESULTS: After reviewing 276 patient charts, 200 patients were included in the study. The incidence of hypotension following administration of intramuscular olanzapine with a parenteral benzodiazepine within 1 hour and how that incidence compares to administration spaced out over greater than 1 hour will be presented. Safety outcomes, such as extrapyramidal symptoms, QTc prolongation, respiratory rate, heart rate and oxygen saturation will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate a role for pharmacist intervention to improve patient safety and provide guidance for the optimization of management of acute agitation.

4:40pm – 4:55pm T **Assessing the Impact of Pharmacist Counseling on Decreasing 30-day Readmission Rate Due to Incidence of Diabetic Ketoacidosis and Uncontrolled Hyperglycemia** Empire A

Presenters: Valine Nageb
Evaluators: Abigail Henry
Evaluators 3: Jeanmarie Perch
Evaluators 2: Amber Gross

TITLE: â€¯Assessing the impact of pharmacist counseling on decreasing 30-day readmission rate due to incidence of diabetic ketoacidosis and uncontrolled hyperglycemia

AUTHORS: Valine Nageb, PharmD; Jonathan Anson, PharmD, BCPS

OBJECTIVE: The purpose of this study is to assess whether Pharmacist-led interventions including inpatient and post-discharge counseling decrease 30-day readmission rate due to incidence of diabetic ketoacidosis and uncontrolled hyperglycemia.â€¯

METHODS: A single-center, retrospective and prospective cohort study assessing the impact ofâ€¯inpatient and post-discharge Pharmacist counseling, in reducing 30-day readmission rate due to incidence of DKA and uncontrolled hyperglycemia. Electronic Medical Records of patients admitted to Plainview Hospital with primary, secondary admission or incidental diagnosis of DKA or uncontrolled hyperglycemia will be reviewed. Collected data will include relevant patient demographics and readmission date if applicable. Retrospectively, records of patients admitted with either diagnosis that were not provided with inpatient Pharmacist counseling as well as post-discharge counseling from December 2021- February 2022 will be included in the study. Prospectively, patients admitted with similar criteria from December 2022- February 2023 will be provided with inpatient counseling as well as post-discharge counseling. Primary endpoint will be 30-day readmission rate which will be compared between both arms.

RESULTS: The 30-day readmission rate was 0% for the prospective group (n = 16) and 13% for the retrospective group (n = 15) (Pâ€¯= 0.23); therefore, there was no significant difference in 30- days readmission rate between the two arms. Limitations of this study include short follow up period, small sample size and inability to follow patient re-admission outside of the Northwell Health system.

CONCLUSIONS: The study did not meet its primary end point of reducing 30- day readmission rate among patients with DKA and uncontrolled hyperglycemia. While pharmacist led interventions failed to show a reduction in 30-day readmission in this population; pharmacists were able to intervene on numerous medication-related problems, educate patients on medications prior to discharge and assess adherence post discharge

5:00pm – 5:15pm A **Ambulatory Pharmacy Practice: A Comparison of Two Practice Models** Magnolia C

Presenters: Hannah Fifield
Evaluators: Jasmine Carpenter
Evaluators 3: LaQuinta Atley
Evaluators 2: Tina Pho

TITLE: Comparing Clinical Outcomes Across Two Ambulatory Pharmacy Practice Models

AUTHORS: Hannah Fifield, PharmD, Nabila Ahmed-Sarwar, PharmD, BCPS, BCACP, CDCES, BC-ADM, Patrick McCabe, Pharm.D., MBA, BCACP, Alexander DeLucenay, Pharm.D., BCACP

OBJECTIVE: To compare clinical outcomes associated with chronic disease state management achieved across two ambulatory pharmacy practice models, collaborative drug therapy management (CDTM) and nurse practitioner/pharmacist co-visit model

METHODS: A retrospective chart review was conducted to include patients diagnosed with type 2 diabetes (T2DM) and hypertension (HTN) who were receiving a minimum of one medication for their respective disease states. Patient records were stratified by service type, CDTM or co-visit model. Demographic data and objective clinical outcomes for T2DM, HTN, and hyperlipidemia were collected at baseline and following at minimum two visits with the clinical pharmacist. Primary outcome was to compare the change in A1c, and percent of patients at goal A1c from baseline between the two models. Secondary outcomes included a comparison of change in blood pressure and optimization of HMG-CoA reductase inhibitors. Data to compare frequency of medication adjustments by pharmacist and ordering of laboratory monitoring was also collected as secondary outcomes. Statistical analysis to compare both groups included Fisherâ€™s exact, Chi-square, and Mann-Whitney U test where appropriate.

RESULTS: A total of eighty patients were included in this analysis, equally divided between practice models. Baseline characteristics that were higher in the CDTM model include weight and BMI, 21.8kg and 6.4kg/m2, respectively (p-value

5:00pm – 5:15pm C **Evaluation of Ketamine Use for the Treatment of Refractory and Super Refractory Status Epilepticus** Empire D

Presenters: Celina Ferey
Evaluators: Kristen Audley
Evaluators 3: Brian Schuler
Evaluators 2: Sahil Sheth

TITLE: Evaluation of ketamine use for the treatment of refractory and super refractory status epilepticus

AUTHORS: C. Ferey, H. Seung, M. Armahizer; University of Maryland Medical Center (UMMC), Baltimore, Maryland

OBJECTIVE: There is no current standard of care for refractory status epilepticus. The objective of this study was to characterize the efficacy and safety of intravenous ketamine infusion for the treatment of refractory and super refractory status epilepticus.

METHODS: This retrospective study included adult patients admitted to the UMMC neurocritical care unit between March 2016 and September 2022 who received a ketamine infusion for the treatment of refractory or super refractory status epilepticus. Patients with clinically significant hepatic disease or status epilepticus caused by cardiac arrest were excluded. The primary endpoint was cessation of clinical and electrographic seizure activity within 24 hours after initiating ketamine. Secondary endpoints included cessation of seizure activity at any time after initiating ketamine, doses of ketamine and benzodiazepines administered, identity and sequence of other antiseizure drugs used, and the incidence of hypotension, new onset cardiac arrhythmias, and increased respiratory secretions requiring intervention during ketamine use. Descriptive statistics were used to characterize these data.

RESULTS: The percentage of patients achieving cessation of status epilepticus within 24 hours after ketamine initiation and other data relating to ketamine dosing, efficacy, and safety will be presented at the Eastern States Residency Conference.

CONCLUSIONS: This study is expected to support the efficacy of ketamine use for refractory and super refractory status epilepticus and identify associated adverse effects, including hypotension, cardiac arrhythmias, and respiratory secretions.

5:00pm – 5:15pm N **Assessment of Barriers and Facilitators of Implementation of Diabetes Educational Classes in a Community Pharmacy Setting** Empire C

Presenters: Jeuel Leigh Bayawa
Evaluators: Michael Pedro
Evaluators 3: Carlen Ng
Evaluators 2: Valerie Wells

TITLE: Assessment of Barriers and Facilitators of Implementation of Diabetes Educational Classes in a Community Pharmacy Setting

AUTHORS: Jeuel Leigh Bayawa, PharmD, Lindsey Landi PharmD, BCPS, BCCP, Ryan Lindenau, PharmD, John Croce, RPh, Alec Gillies, Jessica Anderson, PharmD, MPH, Kara Smith, PharmD, David M. Jacobs, PharmD, PhD, Erin M. Slazak, PharmD, BCPS, BCACP, Dr. Christopher Daly, PharmD, MBA, BCACP

OBJECTIVE: The primary objective of this study is to assess pharmacist perception on barriers and facilitators of implementing a diabetes educational program in a community pharmacy.

METHODS: This prospective study will utilize a cross-sectional survey containing multiple choice and essay style questions to assess pharmacist perception of the barriers and facilitators of implementing a DSMES program in a community pharmacy setting. This survey will be distributed to the main contact of the 8 Community Pharmacy Enhanced Services Network (CPESN) NY pharmacies that are DSMES accredited and currently participating in the sustainability program. The first half of the survey will ask participants to rate CDC-recognized programmatic barriers including but not limited to limited staffing, attendance/retention and limited reimbursement/low reimbursement rates. The second half of the survey will be an essay style question asking how barriers were addressed. Descriptive statistics will be used to analyze categorical responses and chi square or fisher exact contingency tables will be utilized to assess survey responses.

RESULTS: This study expects to 8 enroll contacts from the active DSMES programs to assess submissions and results will be presented.

CONCLUSIONS: Insights from this study will provide useful information to assess the most significant barriers and facilitators of implementing a DSMES program in a community pharmacy setting. Ultimately, identifying barriers and implementing strategies to address each barrier while also maintaining facilitators can help to smoothly implement a DSMES program in a community pharmacy setting.

5:00pm – 5:15pm Y **Evaluating the efficacy and safety of tenecteplase compared to alteplase as thrombolytic of choice in ischemic stroke patients** Magnolia B

Presenters: Dustin Moon
Evaluators: Angela Antoniello
Evaluators 3: Lubna E. Kousa
Evaluators 2: Mitesh Patel

TITLE: Evaluating the efficacy and safety of tenecteplase compared to alteplase as thrombolytic of choice in ischemic stroke patients

AUTHORS: Dustin P. Moon, PharmD, Tanya Claiborne, PharmD, Judd Compton, PharmD, BCPS, Tyler Sledge, PharmD, BCPS

OBJECTIVE: Tenecteplase is a thrombolytic with high fibrin specificity. Guidelines note that tenecteplase can be used instead of alteplase for ischemic stroke. This project aims to evaluate the transition to tenecteplase within Riverside Health System (RHS).

METHODS: Retrospective chart review will take place for adult patients with a diagnosis of ischemic stroke that received alteplase from January 1, 2022, to September 30, 2022, within RHS. Prospective chart review will take place for ischemic stroke patients that receive tenecteplase after go-live on February 7, 2023. Patient data were collected and compiled into a Microsoft Excel spreadsheet, including National Institutes of Health Stroke Scale (NIHSS) values and Modified Rankin Scale (mRS) values. Door to needle (DTN) times were also collected for patients in both groups. Outcomes for patients in each group will be directly compared to one another to determine if any meaningful clinical or safety outcomes exist. Patients from the alteplase and tenecteplase groups will be matched based on relevant comorbidities (hypertension, type 2 diabetes mellitus, hyperlipidemia, cardiac arrhythmias, and coronary artery disease), initial National Institute of Health Stroke Scale value, age, and gender.

RESULTS: The data to be presented will include a direct comparison of alteplase and tenecteplase patient outcomes, with a primary outcome of National Institute of Health Stroke Scale (NIHSS) value prior to and immediately after thrombolytic administration, as well as upon discharge. A secondary clinical outcome to be presented will be Modified Rankin Scale (mRS) value on admission, at discharge, and at 90 days after discharge.

CONCLUSIONS: It is anticipated that this project will show similar clinical outcomes (NIHSS and mRs values) for patients receiving tenecteplase compared to patients previously administered alteplase. Door to needle (DTN) times are expected to be less than what was previously reported with alteplase use due to more convenient administration of tenecteplase.

5:00pm – 5:15pm 1 **Characterizing Proton Pump Inhibitor Use in Hospitalized Older Adults** Wild Rose A

Presenters: Marissa Grillo
Evaluators: Bonnie Yu
Evaluators 3: Mark Sinnett
Evaluators 2: Christina Richards

TITLE: Characterizing Proton Pump Inhibitor Use in Hospitalized Older Adults

AUTHORS: Marissa Grillo, PharmD; Mary Bridgeman, PharmD, BCPS, BCGP; Deepali Dixit, PharmD, BCPS, BCCCP, FCCM; Ibiyonu Lawrence, MD

OBJECTIVE: To characterize the use of proton pump inhibitors (PPIs) among hospitalized adults over 65 years of age and identify possible associations of potentially inappropriate use.

METHODS: Adults 65 years and older hospitalized at the study site from June to November 2022 with active PPI orders were eligible for inclusion. Diagnosis codes were used to determine if patients had an appropriate or inappropriate indication for their PPI. If no diagnosis code was found to account for PPI use, retrospective chart review was conducted to evaluate if patients had a documented appropriate indication for PPI use compared with a potentially inappropriate or no indication for use. Appropriate indications for PPI use included FDA-approved indications, active upper gastrointestinal (GI) bleed, PPI prophylaxis for patients on dual antiplatelet therapy, long-term non-steroidal anti-inflammatory drug (NSAID) use in patients with risk of GI bleed, and indications acceptable for PPI use beyond eight weeks. Potentially inappropriate indications included stress ulcer prophylaxis, infrequent heartburn, acute dyspepsia, nausea/vomiting, undifferentiated abdominal pain, lower GI bleeding, and no documented indication. Patients were excluded from the analysis if incomplete, missing, or unknown data was recovered from chart review. SAS 9.4 was used for statistical analysis.

RESULTS: A total of 993 patients were included in the analysis. 730 patients were found to have an appropriate indication for a PPI and 263 patients were found to have a potentially inappropriate or no indication. When evaluating predictor values, investigators observed no differences between the groups for age category, sex, race, ethnicity, service admitted to, number of medications on admission, day of admission, and length of stay. No significant associations with inappropriate PPI use were identified from this analysis.

CONCLUSIONS: No significant predictors or associations with inappropriate PPI use were able to be identified from this analysis. PPI stewardship efforts should focus on reconciling and documenting indications for use when patients are hospitalized.

5:00pm – 5:15pm | **Comparison of extended duration vancomycin regimens for Clostridioides difficile infection**

Magnolia D

Presenters: Christopher Garzia
Evaluators: Patrick Huffman
Evaluators 3: Vidhi Gandhi
Evaluators 2: Nicole Leonida

TITLE: Comparison of extended duration vancomycin regimens for Clostridioides difficile infection in patients on prolonged antibiotic courses

AUTHORS: Christopher Garzia, PharmD; Angela Loo, PharmD, BCPS-AQID, BCIDP; Christine Kubin, PharmD, BCPS-AQID, BCIDP

OBJECTIVE: This study aims to compare whether there are differences in C. difficile infection (CDI) recurrence rates in patients who received extended oral vancomycin, at a dose of q12-24h compared to q6h, while on concomitant systemic antibiotic therapy.

METHODS: Patients included in this retrospective study must be at least 18 years of age, admitted to NewYork-Presbyterian Hospital, diagnosed with CDI during hospitalization between February 2020 and September 2022, and received concomitant broad-spectrum systemic antibiotics during CDI treatment course for at least 2 days and continued oral vancomycin beyond 14 days with no interruptions. Patients were grouped based on their vancomycin continuation dosing to either q6h or q12-24h. Patients will be excluded if CDI treatment regimen includes vancomycin pulse/taper or fidaxomicin, if >1 day interruption between final day of CDI treatment dosing and extended dosing, initiation of broad-spectrum antibiotics occurred after discontinuation of anti-CDI therapy, and incomplete resolution of CDI at day 14. For statistical considerations, the primary outcome of recurrent CDI will be compared between the two groups via chi-squared test.

RESULTS: Two extended oral vancomycin regimen groups will be compared: q6h and q12-24h. The expected study results will address both the primary outcome of incidence of CDI recurrence at 90 days and secondary outcome of recurrence at 180 days from completion of systemic antibiotic course. The study will also look at incidence of vancomycin-resistant enterococcus infection. Results will be presented.

CONCLUSIONS: We anticipate that there is no difference in clinical outcomes between oral vancomycin administered every 6 hours compared to less frequent dosing strategies. This information would support the use of lower frequency dosing when extended for patients on prolonged antibiotics to provide cost-savings and convenience to patients as well as avoid unnecessary high-dose vancomycin exposure.

5:00pm – 5:15pm | **Fluoroquinolone Utilization for UTI at the Finger Lakes VA Health Care System**

Magnolia A

Presenters: Taylor Culpepper
Evaluators: Raul Santiago
Evaluators 2: Polly Jen

TITLE: Fluoroquinolone utilization for urinary tract infections at the VA Finger Lakes Health Care System

AUTHORS: T. Culpepper, D. Goodman, K. Koller; Veterans Affairs Medical Center (VAMC) Bath, New York

OBJECTIVE: To determine if educating primary care providers on the proper diagnosis and treatment of urinary tract infections will reduce the number of fluoroquinolone prescriptions for this indication.

METHODS: Medical records were reviewed for patients who visited primary care clinics in the VA Finger Lakes HCS who were prescribed antibiotics during that visit over a 1 month period to determine the drug selected and the indication for the antibiotic. Education was offered to primary care providers via email twice over a 1 month period before materials were sent out to non-responders. The education initiative included a 5-10 minute video visit one on one with primary care providers to show them where to find the UTI order set and provide them with additional education materials about diagnosing and treating UTIs and when it may be appropriate to reserve fluoroquinolone antibiotics for more complicated infections. Rates of prescribing were compared between baseline and prescribing for a 1-month period after the education initiative was completed.

RESULTS: We will calculate the number of fluoroquinolone prescriptions per 1000 patient encounters and percentage of overall fluoroquinolone of all antibiotic prescriptions for urinary tract infections will be compared prior to and after the education initiative.

CONCLUSIONS: To be determined. It is anticipated that this project will demonstrate that academic detailing will reduce fluoroquinolone prescribing for this indication and reduce the amount of antibiotics prescribed for asymptomatic bacteriuria.

5:00pm – 5:15pm

O **A Retrospective Review on the Effects of Administration of Immunotherapy Relative to the Time of Day in Non-Small Cell Lung Cancer Patients** Wild Rose B

Presenters: Andrea Lee
Evaluators: Michelle Pasciolla
Evaluators 3: sharon mindel
Evaluators 2: Lindsay Schieb

TITLE: Retrospective review on the effects of administration of immunotherapy relative to the time of day in non-small cell lung cancer patients

AUTHORS: Andrea Lee, PharmD, Maya Leiva, PharmD, APh, Carolynne Yen, PharmD

OBJECTIVE: Current literature suggests the timing of immunotherapy administration may impact survival outcomes in patients with melanoma.We hypothesize similar implications in non-small cell lung cancer with immunotherapy administration and the circadian rhythm

METHODS: We conducted a retrospective review of the electronic health records of 61 patients diagnosed with metastatic non-small cell lung cancer (NSCLC) and who were treated with pembrolizumab, nivolumab, or atezolizumab as a single-agent or in combination with standard of care chemotherapy between January 1st, 2017 to March 1st, 2022. Patients included in this study were reviewed for average timing of administration of the respective immunotherapies (before or after 1630 h), grade 2 or higher treatment-related adverse events that resulted in treatment delays or corticosteroid use, and discontinuation or hospitalization attributed to the checkpoint inhibitor. We excluded pediatric patients, patients with NSCLC lung cancer receiving off-label use of immunotherapy, and those who received fewer than four doses of immunotherapy.

RESULTS: The results of this study will be recorded, and results will be presented.

CONCLUSIONS: In progress

5:00pm – 5:15pm

3 **Effects of a population management tool on appropriate dosing for Direct Oral Anticoagulants**
Presenters: Andrew La Empire B

Evaluators: Melissa Reams
Evaluators 3: AnnMarie Franklin
Evaluators 2: Andrea Winston

TITLE: Effects of a population management tool on addressing dosing discrepancies for direct oral anticoagulants

AUTHORS: Andrew La, Meghan Quilter, Peter Campo

OBJECTIVE: The population management tool (PMT) for direct oral anticoagulants (DOAC) streamlined the review and follow-up for patients on a DOAC. This study aimed to identify the effects of a PMT on addressing dosing discrepancies.

METHODS: Medical records of patients receiving apixaban 2.5 mg twice daily or rivaroxaban 15 mg daily for atrial fibrillation who were followed by the anticoagulation clinic in 2016 and 2021 were reviewed and followed for up to one year. The primary outcome was the time (in days) to address dosing discrepancies. Secondary outcomes included the total number of clinical notes, number of clinical interventions, efficiency (interventions per note), rates of thromboembolic events, and rates of major bleeding.

RESULTS: A total of 100 patients were reviewed; 50 in 2016 and 50 in 2021. Identified dosing discrepancies occurred in 13 patients (26%) in the 2016 cohort and 8 (16%) patients in the 2021 cohort. The mean time (in days) to address dosing discrepancies was 38 days and 3 days, respectively. A total number of 161 notes were documented in 2016 and 106 notes in 2021 with a total number of interventions of 69 and 58 respectively. Efficiency was 43% and 55% respectively. The outcome of thromboembolic events occurred in 1 (2%) patient in 2021 and no recorded events in 2016. Major bleeding was recorded in 3 (6%) patients in 2016 and 4 (8%) patients in 2021.

CONCLUSIONS: After implantation of a DOAC PMT the time to address dosing discrepancies was reduced for patients receiving reduced dosed apixaban or rivaroxaban for atrial fibrillation. Implementation of PMT for other medications may improve follow-up for time-sensitive issues.

5:00pm – 5:15pm T **Evaluation of pharmacist interventions during transitions of care from intensive care units**

Empire A

Presenters: Ashley Myers
Evaluators: Abigail Henry
Evaluators 3: Jeanmarie Perch
Evaluators 2: Amber Gross

TITLE: Evaluation of pharmacist interventions during transitions of care from intensive care unitsâ€¯
AUTHORS: Ashley Myers, Pharm.D; Karen Frock, Pharm.D, BCCCP; & Natasha Advani, PharmD.
OBJECTIVE: York Hospital initiated a subset of pharmacist interventions for documentation of transitions of care (TOC) recommendations. The purpose of this project is to evaluate pharmacist impact on TOC from ICUs to floors.
METHODS: This retrospective chart review utilizes an electronic medical record to identify patients from WellSpan York Hospital ICUs that were transferred to a medical/surgical floor from June 1st to December 31st 2022 and had a transition of care intervention documented by a pharmacist. Patients were included if they had at least one of the listed interventions: TOC checklist, TOC antimicrobials, TOC antithrombotic, TOC home meds, TOC PADIS (pain, agitation, delirium, immobility, sleep disruption), TOC SRMD (stress related mucosal disease), or TOC other. Patients were excluded if transfer occurred more than 48 hours after intervention, comfort care, or death in the ICU. The primary outcome of this project is to identify the percentage of TOC checklists with at least one intervention. Secondary outcomes included number of intervention type, number of interventions per transition and intervention acceptance
RESULTS: Out of 514 ICU patients with pharmacist evaluations, 375 were included based on criteria. There was a total of 106 interventions made with 24% of patients having at least one intervention. Majority of patients had one intervention (74 patients), 13 patients had two interventions and two patients had three interventions. The most common intervention made was PADIS with 37 interventions, followed by other, home medications, antithrombotic, SRMD, and antimicrobials. Pharmacist interventions were accepted 85% of the time.
CONCLUSIONS: Pharmacists documented a relatively low number of interventions compared to total patients evaluated during transitions of care from ICUs to floors with a majority of patients only having one intervention. Some reasons for this may include daily team discussions during rounds, differences in documentation between pharmacists, and unexpected transfers. Interventions were often accepted by teams with majority of interventions involving PADIS.

2023 Eastern States Conference

Program Book

MAY 8 • MONDAY

7:00am – 7:50am	S	**Breakfast**	White Room
8:00am – 8:15am	A	**Impact of Pharmacist-led Interventions on Improving Health Outcomes in Patients with Diabetes** *Presenters: Pooneh Azadikhah* *Evaluators: Katie Dempsey* *Evaluators 3: Amy Martin* *Evaluators 2: Krista Hein* TITLE: Impact of pharmacist interventions on improving health outcomes in patients with diabetes AUTHORS: P. Azadikhah, S. Muhammad, L. Gbadamosi, M. Senay, I. Chughtai OBJECTIVE: According to the Centers for Disease Prevention and Control in 2021, diabetes affects 37.3 million people in the United States. This study assesses the impact of pharmacist intervention on improving health outcomes in patients with diabetes. METHODS: This is a prospective, interventional study, comparing outcomes in patient who receive and who do not receive pharmacist interventions. Patients receive pharmacist interventions upon hospital discharge and during clinic follow up. The pharmacist interventions include reviewing and reconciling patientâ€™s medications, performing patient education, and adjusting medications dose. Patients 18 years of age or older, people who are underinsured, and with type 2 diabetes are included. Patients diagnosed with type 1 diabetes or discharged to nursing homes or assisted living facilities are excluded. The primary outcomes are difference in mean hemoglobin A1C change from baseline to 6 months, and percentage of patients who achieve glycemic control (A1C less than 7%). Secondary outcomes are 30-day hospital readmission due to diabetes-related problems, and difference in mean hemoglobin A1C change from baseline to 3 months. RESULTS: The mean A1C change, percentage of patients who achieved glycemic control, and 30-days hospital readmission will be recorded and presented. CONCLUSIONS: It is anticipated that this study will demonstrate the benefit of pharmacist interventions in lowering mean hemoglobin A1C from baseline to 6 months, achieving glycemic control, and reducing 30-day hospital readmissions in patients with diabetes.	Empire B

8:00am – 8:15am C **Utilization of a Calculator-Based Critical Care Intensive Insulin Protocol: A Pre- and Post-Implementation Analysis of Glycemic Control and Incidence of Hypoglycemia** Wild Rose A

Presenters: Emilie Burrill

Evaluators: Marybeth Boudreau

Evaluators 3: Amanda Staubs

Evaluators 2: Michael Hasbrouck

TITLE: Utilization of a calculator-based critical care intensive insulin infusion protocol: a pre- and post-implementation analysis of glycemic control and incidence of hypoglycemia

AUTHORS: Emilie Burrill, PharmD; Rafael Paganoni, PharmD Candidate; Marybeth Boudreau, PharmD, BCPS, BCCCP

OBJECTIVE: To compare glycemic control and incidence of hypoglycemia in adult patients admitted to an intensive care unit and prescribed a nurse-driven or calculator-based intensive insulin infusion protocol at Northern Light Eastern Maine Medical Center.

METHODS: This retrospective, observational cohort trial with pre- and post-implementation analysis included patients â‰¥ 18 years old that were admitted to an intensive care unit with an order for a critical care insulin infusion protocol and received therapy for at least 24 hours. Patients with diabetic ketoacidosis or diabetic hyperosmolar hyperglycemic syndrome were excluded. Pre-implementation data was collected from April 2019 to December 2019. Post-implementation data was collected from June 2022 to December 2022. The primary outcome assessed glycemic control, defined as the percentage of blood glucose results within the target range of 120 to 180 mg/dL compared between the pre- and post-implementation groups. The secondary outcomes evaluated incidence of moderate and severe hypoglycemia, defined as a blood glucose between 40 and 69 mg/dL and a blood glucose less than 40 mg/dL, respectively. Primary and secondary outcomes were analyzed using a Fisherâ€™s exact test.

RESULTS: A total of 127 patients were enrolled; 71 patients in the pre-implementation group and 56 patients in the post-implementation group. There were 1,105 (54.9%) blood glucose results within the target range of 120 to 180 mg/dL in the pre-implementation group, and 1,201 (53.9%) in the post-implementation group (p = 0.76). There were 3 (0.15%) episodes of moderate hypoglycemia in the pre-implementation group, and 7 (0.31%) episodes in the post-implementation group (p = 0.34). There was 1 (0.05%) episode of severe hypoglycemia in the pre-implementation group, and no episodes in the post-implementation group (p = 0.49).

CONCLUSIONS: Among patients in the intensive care unit prescribed either a nurse-driven or calculator-based intensive insulin infusion protocol, there was no difference in glycemic control and no difference in incidence of moderate or severe hypoglycemia. In comparison to the nurse-driven protocol, the calculator-based intensive insulin infusion protocol fulfills regulatory requirements and aligns with published guidelines.

8:00am – 8:15am Y **Implementing a Single Dose Antibiotic Prophylaxis Protocol for Open Fractures and the Effect on Antibiotic Administration Time** Magnolia A

Presenters: Joss Delaune
Evaluators: Matthew Lamb
Evaluators 3: Richard Bautz
Evaluators 2: Kathryn Bress

TITLE: Implementing a Single Antibiotic Prophylaxis Protocol for Open Fractures and the Effect on Antibiotic Administration Time

AUTHORS: Joss Delaune, PharmD; Matthew Lamb, PharmD, BCCCP; Ian Hong, MD; Sandy Moreau, PharmD, BCPS; Maria DeVivo, PharmD, MPA, BCPS, BCACP; Richard Yoon, MD, FAAOS, FIOTA

OBJECTIVE: The objective of this study is to observe the impact of a single antibiotic protocol in the setting of open fractures classified as trauma activations on time to administration of antibiotic at our institution.

METHODS: We implemented a protocol that guides initial administration of a single antibiotic in all open fracture patients with a trauma designation. The trauma bay was equipped with a premixed supply of the protocol antibiotics for ease of access. The electronic medical record was reviewed for patients who had diagnosis codes for open fracture and triggered a trauma activation from January 2021 to October 2022. Data collection included injury type, arrival time, administration time, difference of arrival to administration time, and type of antibiotic. A post-implementation cohort was retrospectively reviewed at 6 months, from November 2022 to March 2023. Our primary endpoint will be a comparison of antibiotic administration time between the pre- and post-protocol cohorts. Statistical significance will be determined with a one-sided t-test. Secondary endpoints include incidence of allergic reaction, acute kidney injury, ototoxicity, and infection.

RESULTS: The post-implementation primary and secondary endpoints will be compiled and presented with the pre-implantation data. Given the streamlined process enabled by our protocol, we expect to see a reduction in the time to administration of antibiotic for this sample of open fracture patients with no difference in safety outcomes.

CONCLUSIONS: Early administration of antibiotics in open fractures significantly reduces the risk of infection and is championed as best practice by the American College of Surgeons. It is likely that implementation of our protocol will reduce time to antibiotic administration, which can then be replicated at institutions who aim to improve their own administration time of antibiotic prophylaxis in this demographic.

8:00am – 8:15am I **Identification of Risk Factors for Low Initial Vancomycin Trough Concentrations in Adult Patients** Empire D

Presenters: Bhupinderjit Singh
Evaluators: John Cerenzio
Evaluators 3: Sonya Kremenchugsky
Evaluators 2: Beth Sutton Burke

TITLE: Identification of Risk Factors for Low Initial Vancomycin Trough Concentrations in Adult Patients

AUTHORS: Bhupinderjit Singh PharmD, Amanda Kennedy PharmD BCPS, John Ahern PharmD, Lindsey Smith MD, Juvena Hitt MPH, Julie MacDougall PharmD. MBA, BCPS, Meagan Langton PharmD, Bradley Tompkins MS, MPH and Krisi Stemple PharmD, MBA, BCPS

OBJECTIVE: Subtherapeutic vancomycin concentrations may result in drug resistance and suboptimal patient outcomes. This study's purpose was to identify variables that may be predictive of subtherapeutic initial vancomycin trough concentrations.

METHODS: This was a retrospective case-control study of adult patients at the UVM Medical Center who received intravenous vancomycin and had a trough concentration drawn after reaching presumed steady state between January 1, 2020 and December 31st, 2021. Case patients had an initial trough concentration 40kg/m2, history of cystic fibrosis, unstable renal function, and those whose administration data from an outside facility was unavailable were excluded. Variables found to be associated with sub-therapeutic vancomycin trough concentrations through univariate analysis were included in the multivariate analysis. The primary endpoint of this study was to identify variables associated with subtherapeutic initial vancomycin trough concentrations.

RESULTS: Of 686 medical records examined, 120 patients met the case definition while 79 patients were included as controls. Variables on the univariate analysis with a P value of

8:00am – 8:15am L **Impact of Jingle Implementation on HCAHPS Scores Through Patient Retention of Medication Information** Empire A

Presenters: Caroline Grabowski
Evaluators: Travis Dick
Evaluators 3: Allen Sexton
Evaluators 2: Rachel Best

TITLE: Impact of jingle implementation on hospital consumer assessment of healthcare providers and systems survey scores through patient retention of medication information

AUTHORS: Caroline Grabowski, PharmD and Jerry Van, PharmD, MBA, BCPS; Meritus Medical Center, Hagerstown, Maryland

OBJECTIVE: The purpose of this study is to determine if an increase in HCAHPS scores can be achieved by implementing a jingle that the patient care team recites to the patient when administering daily medications.

METHODS: Nursing staff received initial and continued education on how to incorporate our jingle into their medication administration educations. Resources were provided to our nurses to remind them to use the jingle each time they educate patients about the medications they are administering. Our primary outcome will be the change in our institution's HCAHPS scores. Patient specific data will not be collected during this study.

RESULTS: The preliminary and final HCAPS scores will be recorded and presented. Specific HCAPS scores being evaluated are the individual scores of each medication specific and the overall medication domain score.

CONCLUSIONS: It is anticipated that the results of this project will provide insight on meaningful ways pharmacist-led initiatives can impact patient satisfaction and HCAPS scores. Based on our findings and limitations, additional initiatives may be explored to evaluate their impact on HCAPS scores.

8:00am – 8:15am M **Clinical Impact of a Pharmacist-led Collaborative Drug Therapy Management (CDTM) Program in Diabetes Care** Wild Rose B

Presenters: Fabiana Orosz
Evaluators: Dimple Patel
Evaluators 3: Jessica Snead

TITLE: Clinical Impact of a Pharmacist-led Collaborative Drug Therapy Management (CDTM) Program in Diabetes Care

AUTHORS: F. Orosz, C. Richards, L. Johnson, R. Parekh; Lowell General Hospital, Lowell, Massachusetts

OBJECTIVE: The primary goal of this research is to measure the clinical impact of a pharmacist-led service and compare it to physician-led services in the management of diabetes.

METHODS: This retrospective analysis will include 150 patients 18 years or older, diagnosed with T2DM with a baseline HbA1c â‰¥6.5%, and initiated on either semaglutide or dulaglutide between March 1st of 2021 through January 30th of 2022. The primary endpoint of the study was the mean reduction in hemoglobin A1c values over a period of at least 3 months. The secondary endpoint was the time to maximum tolerated dose over 12 months. Descriptive statistics and inferential statistics were used in the data analysis. The study used a power of 80% to detect a difference in mean HbAa1c of 1.4%. Patient data for the physician-led group was retrieved from Lowell General Hospitalâ€™s Physician Hospital Organization (PHO) while the pharmacist-led patient data was retrieved from the hospitalâ€™s Connect Care Hub (CCH) outpatient clinic.

RESULTS: The statistical data and results will be presented. We anticipate that type 2 diabetic patients initiating a GLP-1 agonist and receiving pharmacist-led care will have a greater mean reduction in HbA1c levels after 12 months and will reach maximum tolerated doses in a shorter period of time in comparison to physician-led care.

CONCLUSIONS: The conclusion will be presented. We anticipate that the implementation of a pharmacist driven CDTM service positively impacts patient care by helping patients reach target health goals within a shorter period of time compared to physicians alone. The results of this study will be used to advocate for future pharmacist collaborative practice opportunities.

8:00am – 8:15am P **Evaluation of oxycodone and hydromorphone usage in elderly medical patients in a community hospital** Magnolia B

Presenters: Alexandra Mills
Evaluators: Nancy Love
Evaluators 3: Jessica Marx, Gregory Yugov
Evaluators 2: Alayna Miller

TITLE: Evaluation of oxycodone and hydromorphone usage in elderly medical patients in a community hospital

AUTHORS: Alexandra Mills, PharmD, Oliwia Welton, PharmD, Jennifer Fiebert, PharmD, BCPS, BCGP, BC-ADM

OBJECTIVE: This project's objective is to develop and evaluate a pharmacist-led opioid stewardship initiative focusing on the use of oxycodone and hydromorphone in geriatric medical patients.

METHODS: A medication use evaluation assessing the appropriateness of opioid prescribing among geriatric medical and surgical patients identified oxycodone and hydromorphone as the most utilized opioids in this population. A pharmacist-driven opioid stewardship program was initiated to increase appropriate use of these agents. A daily order utilization report was generated, and a dosing methodology flowsheet guided by CDC prescribing recommendations was developed. Opioid naÃ¯ve medical and surgical patients age 65 and older who were prescribed these agents for acute pain were assessed daily for appropriateness based on current best practices, morphine milligram equivalents (MME), and renal function. Dose optimization recommendations were then made in accordance with the flowsheet. Pain management related to sickle cell disease, cancer, palliative care, or co-management of opioid-use disorder were excluded. Patient data and reviews were recorded and analyzed, and interventions were documented.

RESULTS: Data regarding assessment of opioid prescribing practices and pharmacy-driven interventions will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate the positive impact that a dedicated opioid stewardship team, as well as a pharmacist-driven opioid dose optimization process, can have on opioid prescribing patterns, patient safety, and overall quality of care in accordance with evidence-based recommendations.

8:00am – 8:15am

2 **Effect of Electrolyte Abnormalities on Intravenous Fluid Ordering in Pediatric Diabetic Ketoacidosis**

Magnolia C

Presenters: Alyssa Wallace
Evaluators: Shahira Ghobrial PharmD, MPH, BCPPS
Evaluators 3: Jessica Lise
Evaluators 2: sini philip

TITLE: Effect of Electrolyte Abnormalities on Intravenous Fluid Ordering in Pediatric Diabetic Ketoacidosis
AUTHORS: Alyssa Wallace, PharmD; Franklin Huggins, PharmD, BCPPS, BCCCP
OBJECTIVE: The purpose is to quantitively describe the frequency and nature of IV fluid changes and electrolyte abnormalities prompting changes in DKA therapy to design empiric fluids that minimize the frequency of electrolyte abnormalities and fluid changes.
METHODS: This was a retrospective descriptive study of 308 patients admitted to the pediatric ICU with a diagnosis of DKA between September 2016 and December 2021 who were treated with current institutional protocol fluids. If a patient was started on the institutional fluid protocol, their initial, lowest, and highest serum values for sodium, potassium, chloride, magnesium and phosphate were recorded. These patients were then examined to see whether these changes resulted in IV fluid alterations or electrolyte boluses. Clinically significant additions or removal of electrolytes within the fluids were recorded. Patients were also assessed for hyperchloremic metabolic acidosis. In total, 443 patients were chart reviewed, and 135 patients were excluded because they were not started on the protocol fluid. Three children were excluded due to mechanical ventilation on or soon after arrival. Another patient was excluded after being admitted to a different unit.
RESULTS: Patients ranged from one to eighteen years of age with a median age of thirteen years. Females made up 56% of the study population. Of the patients that received protocol fluids initially, 40% had changes made to their IV fluid. The most common changes in fluids were a decrease in chloride (31%) and an increase in phosphate (28%). Hyperchloremic metabolic acidosis was detected in 40% of patients. Potassium decreased in 88% of patients during therapy with a median decrease of 0.8â€¯mEq/L. Magnesium decreased in 80% of patients with a median decrease of 0.3 mg/dL. Phosphate decreased in 64% of patients with a medianâ€¯decrease ofâ€¯0.5 mg/dL.
CONCLUSIONS: Based on the results of this study, a significant number of patients in DKA treated with the protocol fluids required electrolyte adjustments during therapy. These data suggest that DKA resuscitation fluids should contain less than 97â€¯mEq/L chloride and more than 14 mmol/L phosphate. This may be accomplished by substituting potassium phosphate for the potassium chloride in the fluid, and perhaps substituting other sodium salts for a portion of the sodium chloride.

8:00am – 8:15am

3 **Evaluating safety and efficacy of insulin detemir for glycemic control in critically ill patients**

Magnolia D

Presenters: Danielle Yu

Evaluators: Erica Maceira

Evaluators 3: Charisa

Evaluators 2: Jane Ching

TITLE: Evaluating safety and efficacy of insulin detemir for glycemic control in critically ill patients

AUTHORS: Danielle Yu, PharmD; Lisa Chen, PharmD; Keri Denchfield, PharmD, BCCCP

OBJECTIVE: The objective of this study is to assess the use of insulin detemir for hyperglycemia in a community hospitalâ€™s intensive care unit (ICU) to improve management of glycemic control.

METHODS: A retrospective review of patients with insulin detemir orders in the ICU was completed between April 2022 and October 2022. The primary outcome was the percentage of time spent within the target blood glucose range (> 70 mg/dL and < 180 mg/dL). Initial blood glucose and every 6 hour levels post-initiation of insulin detemir was collected for intensive care patients at Adventist HealthCare Shady Grove Medical Center. Information regarding length of stay and patientsâ€™ blood glucose levels was acquired from the institutionâ€™s electronic health record. In addition, number of patients requiring rescue treatment and requiring additional insulin for glycemic control was measured. Pediatric patients, patients started on insulin prior to admission to ICU, those who received only one dose in the ICU, and patients receiving insulin for toxic ingestions, hyperglycemic emergencies, or hyperkalemia were excluded. This study received a waiver from the Institutional Review Board.

RESULTS: Out of 211 patients, the 50 patients included in the study spent, on average, 41% of their time within the target blood glucose range. The mean blood glucose for these patients was 207 mg/dL. Secondary outcomes included a median length of stay of 7.5 days, mean APACHE II score of 18, and additional insulin orders for 98% of patients (n=49). Other outcomes included hypoglycemic episodes (< 70 mg/dL) which was experienced by 28% of patients (n = 14); whereas, 98% of patients (n = 49) had experienced hyperglycemic episodes (> 180 mg/dL).

CONCLUSIONS: Use of subcutaneous insulin for glycemic control in critically ill patients continues to present challenges due to the populationâ€™s dynamic clinical status. Improvements are needed for institutional glycemic control practices to improve time spent within target blood glucose range.

8:20am – 8:35am

A **Evaluation and optimization of direct oral anticoagulation use in the extended treatment of unprovoked venous thromboembolism within an anticoagulation management service clinic**

Empire B

Presenters: Rebecca Sek
Evaluators: Katie Dempsey
Evaluators 3: Amy Martin
Evaluators 2: Krista Hein

TITLE: Evaluation and optimization of direct oral anticoagulant use in the extended treatment of unprovoked venous thromboembolism within an outpatient anticoagulation management service

AUTHORS: Rebecca Sek, PharmD; Andrea R. Lewin, PharmD, RPh, CACP; Themio Papadopoulos, PharmD, RPh, CACP; Danielle Knowles, PharmD, RPh, BCPS, BCCP, CACP; Brigham and Womenâ€™s Hospital, Boston, MA

OBJECTIVE: The aim was to evaluate direct oral anticoagulants (DOAC) for the extended treatment of unprovoked venous thromboembolism (VTE) at a pharmacist-led outpatient anticoagulation management service (AMS) and ensure consensus guideline-recommended dosing.

METHODS: This single-center, prospective systematic chart review was conducted at a tertiary academic medical center. It was approved by Mass General Brigham Investigational Review Board (Protocol #: 2022P002253). Adult DOAC patients enrolled at Brigham and Women's Hospital AMS for extended treatment of unprovoked VTE or provoked VTE by a persistent risk factor were included. Exclusion criteria were if the acute-phase treatment period of six months for VTE was not complete or if the patient had an additional indication for anticoagulation. All DOAC doses were evaluated to ensure consensus guideline-recommended dosing. For those not on a recommended dose, the pharmacist at the AMS will suggest a dose change to the physician. The major outcome of this study is the number of patients not on a consensus guideline-recommended dose. Minor outcomes are the number of approved interventions and number of rejected recommendations with rationale. Descriptive statistics will be used to analyze results.

RESULTS: The number of patients not on a consensus guideline-recommended DOAC dose, along with the number of approved pharmacist-led interventions and the number of rejected recommendations with reasoning will be presented.

CONCLUSIONS: Results of this study will be utilized to incorporate proactive and ongoing assessment of DOAC dosing in patients for the extended treatment of VTE at Brigham and Womenâ€™s Hospital AMS. Pharmacist involvement may help increase the utilization of consensus guideline recommended dosing and mitigate risks associated with being on an off-label dose.

8:20am – 8:35am C **Comparison of Early Versus Late Vasopressin Initiation in Septic Shock** Empire C

Presenters: Vi Nguyen
Evaluators: Celeste Williams
Evaluators 3: Esther King
Evaluators 2: Melissa Tu

TITLE: Comparison of early versus late vasopressin initiation in septic shock
AUTHORS: V. Nguyen, N. Naik, N. Maaty, M. Shah, M. Johnson
OBJECTIVE: Surviving Sepsis guidelines recommend the addition of vasopressin (AVP) to norepinephrine (NE) in refractory sepsis-induced hypotension. This study evaluates if early initiation of AVP increases effectiveness of NE to improve organ perfusion.
METHODS: This is a single-center, retrospective, observational study evaluating the effect of AVP on the NE dose and hemodynamic response. This study included patients who were at least 18 years old, admitted to the ICU, and diagnosed with septic shock from 01/01/21 to 08/15/22. Death within 48 hours of ICU admission or pregnant were excluded. Early versus late NE initiation was defined as NE < 20 mcg/min or > 20 mcg/min. NE dose reduction was assessed within 6 hours of AVP initiation. Secondary objectives evaluated recurrence of NE uptitration and hemodynamic response at 6 hours after AVP initiation. ICU length of stay, incidence of adverse events, and adjunctive medication data were collected. Data was analyzed using descriptive statistics.
RESULTS: One hundred patients met inclusion criteria. Severity was similar in the early and late groups based on APACHE II (25.4 and 26.7) and SOFA (8.1 and 8.9) scores. Mean lactate level before AVP initiation was 4.17 mmol/L and 5.0 mmol/L, respectively. Both groups had similar number of patients that achieved both MAP goal and NE dose reduction (51.2% versus 56.1%). In the late group, 47.4% required NE to be titrated up, to or above, original starting NE dose within 6 hours of AVP initiation. In contrast, only 34.9% patients required uptitration of NE in the early group, which trends towards clinically signifigance. Potential confounders include concomitant medications and patients with mixed cardiogenic shock.
CONCLUSIONS: This study found that earlier initiation of AVP resulted in NE dose reduction and similar hemodynamic response in attaining MAP goal > 65 mmHg within 6 hours. The data suggests that earlier initiation of AVP is associated with reduced incidence of NE uptitration and need for additional third line vasopressors. Additional studies are needed to determine optimal of timing of AVP initation and NE uptitration rates in patients with septic shock.

8:20am – 8:35am C **Euglycemic Diabetic Ketoacidosis and Time to Anion Gap Closure â€“ Comparison of Outcomes to a Hyperglycemic Diabetic Ketoacidosis Cohort** Wild Rose A

Presenters: Emelia Pendergast
Evaluators: Marybeth Boudreau
Evaluators 3: Amanda Staubs
Evaluators 2: Michael Hasbrouck

TITLE: Euglycemic diabetic ketoacidosis and time to anion gap closure: comparison of outcomes to a hyperglycemic diabetic ketoacidosis cohort
AUTHORS: Emelia Pendergast, PharmD; Allison Gorseth, PharmD, BCPS; Emily Perriello, PharmD; David M. Oâ€™Sullivan, PhD; Caitlyn Fraielli, PharmD, BCCCP
OBJECTIVE: Evaluate the appropriateness of current treatment strategies and the time to anion gap closure for patients with diabetic ketoacidosis (DKA) who are euglycemic (EDKA) as compared to patients who are hyperglycemic at presentation.
METHODS: This IRB approved, multicenter, retrospective review included patients aged 18 to 89 years old who were admitted to a large healthcare system with DKA between August 2016 and July 2022. An EDKA cohort, defined as anion gap greater than 12 mEq/L with ketones present, blood glucose less than 300 mg/dL, and prescribed an SGLT-2 inhibitor prior to admission, was compared to a traditional DKA cohort using 1:3 matching to account for differences in incidence. The primary outcome was time to anion gap closure in hours (less than or equal to 12 mEq/L). Secondary outcomes included total amount of fluids administered (mL), total units of insulin administered prior to gap closure, ICU length of stay, hospital length of stay, and mortality. The primary safety outcome was incidence of hypoglycemia. It was determined that a sample size of 211 would afford 80% power using a mean difference of 8 hours. Statistical significance was set at p

8:20am – 8:35am Y **Evaluation of Fixed-Dose Four-Factor Prothrombin Complex Concentrate in Warfarin and Factor Xa Inhibitor Reversal Across Lifebridge Health Hospitals** Magnolia A

Presenters: Ji-Yeon Kim
Evaluators: Matthew Lamb
Evaluators 3: Richard Bautz
Evaluators 2: Kathryn Bress

TITLE: Evaluation of Fixed-Dose Four-Factor Prothrombin Complex Concentrate in Warfarin and Factor Xa Inhibitor Reversal Across Lifebridge Health Hospitals

AUTHORS: Ji-Yeon â€˜Lisâ€™ Kim, PharmD; David Berg-Lewis, PharmD; Ricky Amoateng, PharmD, BCPS, BCCCP

OBJECTIVE: The objective of this study was to assess protocol adherence, as well as safety and efficacy outcomes, after use of four-factor prothrombin complex concentrate (4F-PCC) to reverse warfarin and factor Xa inhibitors at Lifebridge Health hospitals.

METHODS: This retrospective medication use evaluation identified patients who were administered 4F-PCC from January 2021 to December 2021. Electronic health records were used to collect baseline demographics, coagulation lab values, achievement of effective hemostasis as defined by 2016 International Society on Thrombosis and Haemostasis Guidelines, thrombotic complications within 7 days of four-factor prothrombin complex concentrate administration, major bleeds during hospital stay, and in-hospital all-cause mortality. The administration of 4F-PCC was evaluated for adherence to hospital dosing protocol. Data on efficacy and safety outcomes for warfarin and factor Xa inhibitor reversal with 4F-PCC as well as protocol adherence will be analyzed using descriptive statistics.

RESULTS: The number and percentage of protocol adherence and safety and efficacy outcomes will be recorded, and results will be presented.

CONCLUSIONS: It is anticipated that the project results will demonstrate areas of potential improvement and further research within Lifebridge Health hospitals in its use of 4F-PCC dosing strategies for warfarin and anti-factor Xa reversal.

8:20am – 8:35am

Appropriate use and cost analysis of Legionella and Streptococcus urinary antigen testing in patients with community-acquired pneumonia Wild Rose B

Presenters: Justin May

Evaluators: Dimple Patel

Evaluators 3: Jessica Snead

TITLE: Appropriate use and cost analysis of Legionella and Streptococcus urinary antigen testing in patients with community-acquired pneumonia

AUTHORS: W. Mays, K. Orwig; St. Maryâ€™s Medical Center, Huntington, West Virginia

OBJECTIVE: This study aimed to investigate the appropriateness of urinary antigen testing (UAT) and the potential associated financial burden to the institution and patients in the management of community-acquired pneumonia (CAP) in an acute care setting.

METHODS: This was a single center retrospective study. Chart review included 325 adult patients admitted to St. Maryâ€™s Medical Center who were diagnosed with CAP based on ICD-10 code between October 1, 2022, and December 31, 2022. This study was approved by the Marshall University Institutional Review Board, in which informed consent was waived. Patients were excluded from the study if they were less than 18 years of age at the time of admission or if the patient was diagnosed with hospital-acquired or ventilator-associated pneumonia. Additional information such as patient demographics, vitals, radiographic results, and laboratory results was also recorded to classify severity of pneumonia. St. Maryâ€™s Medical Center Coding and Billing provided the cost per UAT, and Clinical Laboratory Services provided the cost of testing.

RESULTS: A total of 144 Legionella and 140 Streptococcus UAT were ordered during the study period. Of the 284 UAT ordered, 226 (79.5%) were deemed unnecessary as most patients presented with non-severe community-acquired pneumonia (n=253). Of the 284 UAT ordered, only 1 Streptococcus UAT (0.3%) was positive and 0 Legionella UAT were positive. The self-pay cost per UAT was $92.00. The total patient cost burden of unnecessary testing was $20,792 during the study period for an estimated cost of $83,168 per year. A total of $3,591.14 was spent on testing, not including cost of medical laboratory technician time, for an estimated facility cost burden of $14,364.56 per year.

CONCLUSIONS: Most UAT ordered during the study period were unnecessary and led to an undue cost to both patients and the facility. Legionella and Streptococcus UAT should only be used in select patients as recommended by guidelines. A positive Streptococcus UAT was discovered in the study period, but current antimicrobial recommendations for CAP have activity against this pathogen and testing would likely have little to no impact on treatment decisions.

8:20am – 8:35am | **Impact of Rapid Blood Culture PCR Panel on Optimal Antibiotic Use in MSSA Bacteremia** Empire D

Presenters: Jahnavi Yetukuri
Evaluators: John Cerenzio
Evaluators 3: Sonya Kremenchugsky
Evaluators 2: Beth Sutton Burke

TITLE: Impact of rapid blood culture identification polymerase chain reaction (PCR) panel on optimal antibiotic use in methicillin-susceptible Staphylococcus aureus (MSSA) bacteremia

AUTHORS: Jahnavi Yetukuri, PharmD; Dimple Patel, PharmD, BCIDP; Aiman Bandali, PharmD, AAHIVP, BCPS, BCIDP; Pamela Giordano, PharmD, BCPS, BCIDP

OBJECTIVE: Vancomycin is often used empirically for S. aureus bacteremia but is linked with suboptimal outcomes for MSSA infection compared to treatment with anti-MSSA Î²-lactams. Rapid identification of MSSA may improve antibiotic use and clinical outcomes.

METHODS: The objective was to assess the impact of the BioFire blood culture identification (BCID) PCR panel on antibiotic use and key clinical outcomes in patients with MSSA bacteremia. This was a retrospective chart review of inpatients 18 years of age or older with MSSA bacteremia. Patients were excluded if they did not have PCR testing performed (post-PCR group only), never achieved optimal antibiotic therapy, had polymicrobial infection, had positive blood cultures in the prior 90 days, underwent penicillin-skin testing or Î²-lactam desensitization, or were transitioned to comfort care or deceased within 24 hours of the gram stain. The primary endpoint was the difference between the pre-PCR and post-PCR groups in time to starting optimal MSSA antibiotic therapy (oxacillin or cefazolin). Secondary endpoints included duration of anti-MRSA antibiotic use, in-hospital mortality rate, hospital and ICU lengths of stay, bacteremia duration, and 30-day MSSA-related and all-cause readmission rates.

RESULTS: A total of 200 patients were included in the study, with 100 patients enrolled in each group. Interim analyses suggest similar baseline demographics between groups. Median (IQR) time to optimal MSSA antibiotic therapy was 48.9 hours (41.2 - 67.1) in the pre-PCR group compared with 29.1 hours (22.6 - 44.4) in the post-PCR group. Median (IQR) empiric anti-MRSA antibiotic duration was 44.3 hours (35.8 - 60.4) in the pre-PCR group and 22.9 hours (14.6 - 35.5) in the post-PCR group. Full results and statistical analyses are in progress.

CONCLUSIONS: The results of this study suggest that rapid BCID PCR panel implementation reduced time to optimal MSSA antibiotic therapy in patients with MSSA bacteremia. The duration of empiric anti-MRSA antibiotic therapy appeared to be shorter in the post-PCR group compared to the pre-PCR group. Statistical analyses will elaborate on the significance of these findings. It is anticipated that this study will support the role of rapid BCID PCR testing in optimizing targeted therapy for MSSA bacteremia.

8:20am – 8:35am L **Consolidation of Two Pharmacy Satellites** Empire A

Presenters: James Keogh
Evaluators: Travis Dick
Evaluators 3: Allen Sexton
Evaluators 2: Rachel Best

TITLE: Reduction of missing medications on patient care units within a large academic medical center

AUTHORS: James Keogh, PharmD; Elizabeth Getselevich, PharmD, BCPS; Alan Hui, PharmD, BCPS; Audrey Jones, PharmD, MBA, BCCCP; NewYork-Presbyterian Hospital, Weill Cornell Medical Center, New York, New York

OBJECTIVE: Improve the quality and efficiency of pharmacy operations to lower the number of missing medications on patient care units. This will help the pharmacy department provide better care to our patients.

METHODS: Operational quality and efficiency were measured by the number of missing medications on patient care units. Our team sought to reduce missing medications through Automated Dispensing Cabinet (ADC) optimization, adjustment of ADC restock timing, and pharmacy satellite consolidation. We collected monthly measures of missing medications through recorded medication dispenses in the electronic medical record. We first optimized our ADCs through the addition of high-volume medications to the ADC, adjusted PAR levels of medications to reduce stock outs, and removed low use medications to free up capacity in the ADC. Restocking of our ADCs was optimized to occur at times that would be less disruptive to patient care activities, and would capture a majority of new medication orders or changes from providers. Finally, consolidation of pharmacy satellites occurred to optimize inventory management and create a more unified pharmacy team.

RESULTS: Over a 14-month time frame from January 2022 to February 2023, there was a cumulative 32% decrease in missing medications across patient care units (373 to 252, daily average). Over a 5-month time frame from January to May 2022, in which we focused on ADC optimization, there was a 25% decrease in missing medications (373 to 281, daily average). Over a 3-month time frame after implementing restock timing optimization from August to October 2022, there was a negligible change in missing medications (256 to 259, daily average). Finally, over a 4-month time frame after consolidating pharmacy satellites from November 2022 to February 2023, there was a further 10% decrease in missing medications (279 to 252, daily average).

CONCLUSIONS: Through multiple interventions, we have been able to significantly improve the overall quality of pharmacy operations by lowering the amount of missing medications on patient care units. Furthermore, this lowers the overall workload placed upon our pharmacy staff, allowing them to spend more time on other patient care activities.

8:20am – 8:35am P **A retrospective analysis of abortive vs. preventative CGRP inhibitors in chronic migraine management in a rural veteran population** Magnolia B

Presenters: Ashley Lam
Evaluators: Nancy Love
Evaluators 3: Jessica Marx, Gregory Yugov
Evaluators 2: Alayna Miller

8:20am – 8:35am

2 **Evaluation of risk factors associated with acute kidney injury in a level IV regional NICU**

Magnolia C

Presenters: Kathleen Hartman

Evaluators: Shahira Ghobrial PharmD, MPH, BCPPS

Evaluators 3: Jessica Lise

Evaluators 2: sini philip

TITLE: Evaluation of risk factors associated with acute kidney injury (AKI) in a level IV regional neonatal intensive care unit (NICU)

AUTHORS: Kathleen Hartman, PharmD; Emily Geraci, PharmD; Julianna Spencer, PharmD Candidate Class of 2023; David Hutchinson, PharmD, BCPS, BCPPS; Meghan Kukla, PharmD, BCPPS; Andrew Decker, PharmD, BCPPS

OBJECTIVE: Neonatal AKI increases morbidity and mortality. The objectives of this study were to evaluate the risk factors associated with development of AKI in the NICU and provide a basis for the development of a renal acuity scoring tool at our institution.

METHODS: This was a single-center, case-control study at a level IV regional NICU. NICU patients were included if they had a corrected gestational age (GA) less than 45 weeks. Cases were those who developed AKI after day 4 of life; defined as a rise in serum creatinine of greater than 0.3 mg/dL within 48 hours or greater than a 1.5 to 1.9 times rise in serum creatinine or urine output less than 1 mL/kg/hr for 24 hours. Controls were defined as the next neonate admitted to the same NICU team without AKI. Patients were excluded if they required dialysis or had congenital kidney or heart disease. Analyzed risk factors included maternal and neonatal factors, exposure to nephrotoxic medications, and occurrence of procedures. Univariate analysis was used to assess the primary outcome. Multivariate analysis was used to account for potential confounding variables and determine the most influential risk factors.

RESULTS: The odds ratio for GA less than 27 weeks was 41 (95% CI 12.3â€“135.9) and birth weight less than 1500 g was 22.9 (95% CI 6.9-75.7). For low Apgar score, odds ratio was 3.4 (95% CI 1.5-8), intubation at birth was 30 (95% CI 6.6-140.2), BPD was 10.8 (95% CI 4.1-28.1), PDA was 20.8 (95% CI 6.3-68.4), necrotizing enterocolitis was 9.4 (95% CI 1.1-78.8), and sepsis was 9.4 (95% CI 1.1-78.8). There was a 13.1-fold increase in odds of AKI in patients with more than 4 risk factors. GA less than 27 weeks had an odds ratio of 7.7 controlling for intubation at birth, PDA, and vasopressor administration. Intubation at birth, PDA and vasopressor administration had odds ratios of 4.3, 6.9, and 4.4 respectively when controlling for each variable.

CONCLUSIONS: Several identified risk factors are consistent with previous literature. However, we did not find an increased odds of AKI with exposure to aminoglycosides, NSAIDs, and vancomycin which is not consistent with previous literature. Variables identified to be most associated with AKI include low gestational age, intubation at birth, patent ductus arteriosus, and vasopressor use. This data adds to the limited available and can assist in the continued development of acuity scoring in these patients.

8:20am – 8:35am 6 **Review of Valganciclovir Dosing Practices and Incidence of Cytomegalovirus Viremia in Renal Transplant Recipients Receiving Belatacept** Magnolia D

Presenters: Cameron Abbey-Mott
Evaluators: Erica Maceira
Evaluators 3: Charisa
Evaluators 2: Jane Ching

TITLE: Review of valganciclovir dosing practices and incidence of cytomegalovirus viremia in renal transplant recipients receiving belatacept

AUTHORS: Cameron Abbey-Mott, PharmD; Erica Maceira, PharmD, BCPS, BCTXP Albany Med Health System, Albany Medical Center Hospital, Albany, NY

OBJECTIVE: The purpose of this study is to determine if valganciclovir dosing in renal transplant recipients, on de novo belatacept, at our institution reflects package insert recommendations and to evaluate rates of breakthrough cytomegalovirus (CMV) viremia.

METHODS: Single-center, retrospective cohort review of renal transplant recipients 18 years and older who received valganciclovir as CMV prophylaxis between January 1st 2017 and January 31st 2022. Patients were excluded if they were treated for rejection or if they were a re-transplant. Data collection included age, gender, height, weight, date of transplant, CMV serostatus at time of transplant, patient induction and immunosuppression regimens, CMV PCR results and corresponding viral load, and valganciclovir regimen. Laboratory values (white blood cell count, serum creatinine, estimated glomerular filtration rate) were collected weekly for 4 weeks then at weeks 8, 12, 16, 20, and 24. CMV viremia was defined as having any positive CMV PCR (> 200 IU/mL). The primary endpoint is appropriate renal dose adjustments of valganciclovir per the package insert and the secondary endpoint is a comparison of breakthrough CMV viremia between CMV serostatus groups.

RESULTS: Seventy-four patients were reviewed, with 63 being included in the analysis, 8 being excluded due to re-transplantation and 3 for treatment of rejection. Valganciclovir dosing followed package insert recommendations 32.4% of the time; dosing was most commonly lower than recommended (58.6%). Breakthrough CMV viremia occurred in 9 of the 24 (37.5%) patients in the higher-risk group, while patients in the low-risk groups experienced no breakthrough CMV. Patients who experienced breakthrough CMV were dosed according to package insert 29% of the time compared to 48.9% in those without breakthrough CMV.

CONCLUSIONS: Valganciclovir was not dosed according to package insert recommendations more than half of the time with only 14.2% of the patients experiencing breakthrough CMV, all of which in the high-risk group. The results highlight the need for appropriate valganciclovir dosing, especially for patients who are at higher risk for CMV.

8:40am – 8:55am

A **Pharmacist-driven medication management for cardiovascular risk reduction therapies in patients with type 2 diabetes** Empire B

Presenters: Rachel Arnold
Evaluators: Katie Dempsey
Evaluators 3: Amy Martin
Evaluators 2: Krista Hein

TITLE: Pharmacist-driven medication management for cardiovascular risk reduction therapies in patients with type 2 diabetes

AUTHORS: R. Arnold, R. Cope

OBJECTIVE: To determine the use of guideline-directed cardiovascular risk reduction therapies in patients with type 2 diabetes (T2DM) at high risk for or with established atherosclerotic cardiovascular disease (ASCVD).

METHODS: This is a one-year retrospective chart review of outpatient visits at TBHC. Patients with T2DM at high risk for or established ASCVD will be included and evaluated for prescribing of guideline-recommended ASCVD risk reduction pharmacotherapy strategies. Demographics, clinical factors, and past medical history will be taken into account to establish patients as having or being at high risk for ASCVD as per American Diabetes Association 2022 Standards of Care in Diabetes and cardiovascular outcome trials of relevant T2DM medications. The primary outcome of this study is to determine the mean difference in prescribing habits of all recommended ASCVD risk reduction pharmacotherapy strategies between patients seen by an ambulatory care pharmacist (pharmacotherapy patients) compared to the general TBHC outpatient population. Prescribing patterns for each medication group will be assessed as secondary outcomes. Data will be analyzed using descriptive statistics and t-test where appropriate.

RESULTS: The mean difference in percent of pharmacotherapy patients with T2DM and ASCVD or at high risk for ASCVD that are prescribed a medication from each of the three groups 1) angiotensin-converting enzyme inhibitor (ACEI) OR angiotensin-receptor blocker (ARB) OR angiotensin receptor neprilysin inhibitor (ARNI), 2) statin, AND 3) sodium glucose cotransporter-2 inhibitor (SGLT2I) OR glucagon-like peptide-1 receptor agonist (GLP-1RA) with ASCVD benefit when compared to the general TBHC primary care outpatient population will be analyzed and results will be presented. Secondary endpoints will be similarly analyzed and presented.

CONCLUSIONS: It is anticipated that this project will demonstrate the role of pharmacist-driven medication management on the use of guideline-directed cardiovascular risk reduction therapies in patients with T2DM.

8:40am – 8:55am

C **Evaluation of Guideline-Directed Medical Therapy on Hospital Readmissions in Patients with Heart Failure with Reduced Ejection Fraction** Wild Rose A

Presenters: Rufina Tsur-Tsar
Evaluators: Marybeth Boudreau
Evaluators 3: Amanda Staubs
Evaluators 2: Michael Hasbrouck

TITLE: Evaluation of guideline-directed medical therapy on hospital readmissions in patients with heart failure with reduced ejection fraction

AUTHORS: Rufina Tsur-Tsar, PharmD, Christopher Greco, PharmD

OBJECTIVE: The objective of this review is to assess the impact guideline-directed use of quadruple medication therapy has on reducing hospitalizations among patients with heart failure with reduced ejection fraction (HFrEF).

METHODS: A retrospective chart review will be conducted using the electronic medical record system at a 385-bed community hospital. Data will be collected to assess heart failure readmissions within 30 days of discharge from January 1, 2022 â€“ December 31, 2022. The percentage of readmission rates among HFrEF patients on quadruple therapy will be compared to those not on quadruple therapy. Secondary outcomes include any documented contraindications to appropriate guideline-directed medical therapy (GDMT) and optimization of medication dosing. Patients included in the review will be those who are 18 years or older admitted to the hospital with HFrEF. Specific exclusion criteria includes pediatric population and those with heart failure with preserved ejection fraction. Appropriate statistical analyses will be performed based on data collected.

RESULTS: The percentage of readmission rates among HFrEF patients on quadruple therapy compared to those not on quadruple therapy will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate the need to establish a stronger pharmacist role in optimizing GDMT as well as reinforce the importance of optimizing GDMT for eligible patients with HFrEF to multidisciplinary healthcare teams.

8:40am – 8:55am C **Impact of a nurse-driven diuretic protocol on hospital length of stay in patients with acute heart failure exacerbations** Empire C

Presenters: Osama ElSherbini
Evaluators: Celeste Williams
Evaluators 3: Esther King
Evaluators 2: Melissa Tu

TITLE: Impact of a nurse-driven diuretic protocol on hospital length of stay in patients with acute heart failure exacerbations

AUTHORS: Osama ElSherbini, PharmD; Tiffany Zeng, PharmD; Alexis Swist, PharmD, BCPS; Jane Mueller, PharmD, BCPS

OBJECTIVE: A heart failure protocol utilizing novel dosing strategies for loop diuretics was recently implemented at our institution. We aim to compare clinical outcomes between patients treated with this protocol and those treated with standard practice.

METHODS: This retrospective chart review aims to evaluate clinical outcomes of a protocol for loop diuretic titration in patients with acute decompensated heart failure. Patients were included if they had a history of heart failure and were prescribed diuretics prior to admission. Patients were excluded if they were admitted to an ICU or if their hospitalization was prolonged by an unrelated condition. A total of 34 patients were analyzed â€“ 14 in the protocol group and 20 in the standard practice group. The primary efficacy outcome was hospital length of stay. Safety outcomes included incidence of hypotension, acute kidney injury, and electrolyte abnormalities. Four of the 14 patients in the protocol group were ultimately removed from the protocol; 1 due to a lab error, 1 due to an acute kidney injury, and 2 due to hypotension. Given our small sample size, we ran an intention-to-treat analysis with all patients as well as a per-protocol analysis of the 10 patients who completed treatment.

RESULTS: Hospital length of stay was significantly shorter for patients treated with the protocol than with standard practice (p=0.0284). However, this difference failed to achieve statistical significance in the intention-to-treat analysis (p=0.0523). Safety outcomes were similar in both groups; there was no difference in the incidence of acute kidney injury, hypotension, or electrolyte abnormalities. Baseline demographics were similar across both groups except patients treated per-protocol were on lower diuretic doses prior to admission compared to patients treated with standard practice (p=0.0212). Despite this, a regression analysis found that the only 2 significant covariates were study group and younger age.

CONCLUSIONS: A nurse-driven protocol for loop diuretic titration in patients with acute heart failure is associated with a significantly shorter hospital length of stay and similar safety outcomes compared to standard practice. While the intention-to-treat analysis did not achieve statistical significance, the per-protocol analysis showed a significant difference in efficacy. Further studies are needed to confirm these findings and to streamline the implementation of the nurse-driven protocol.

8:40am – 8:55am Y **Feasibility of trauma video review (TVR) for the collection of medication related information**

Magnolia A

Presenters: Anthony Hopkins

Evaluators: Matthew Lamb

Evaluators 3: Richard Bautz

Evaluators 2: Kathryn Bress

TITLE: Feasibility of trauma video review for the collection of medication related information

AUTHORS: Elizabeth Uttaro, Pharm.D.; Anthony Hopkins, Pharm.D.; Kate Kokanovich, Pharm.D., BCCCP; Kaylee Maynard, Pharm.D., BCCCP; Michael Vella, MD, MBA; Courtney MC Jones, Ph.D., Andrea Miglani, MD; Nicole M. Acquisto, Pharm.D., FASHP, FCCM, FCCP, BCCCP

OBJECTIVE: The feasibility of using trauma video review (TVR) to gather medication related information is unknown. This study evaluated TVR for this purpose and compares and describes differences between TVR and electronic medical record (EMR) data collection.

METHODS: Single center, retrospective, observational study comparing TVR and EMR data collection of medication related information in a convenience sample of patients during Level I or II trauma response between November 2022 and March 2023. Patients with video started within one minute of arrival, at least one medication administered on TVR or EMR documentation, and those with emergency medicine pharmacist participation in the trauma response were included. The number of data variables able to be collected by either TVR or EMR review including medication administration (e.g., medication, dose, route, time), adverse drug events (ADEs), medication errors (MEs), and communication variables (e.g., closed-loop communication, pharmacist recommendations) were compared. The number of discrepancies between the two data collection modalities were also quantified and described. Data are described as median (IQR) and agreement between TVR and EMR was assessed by intraclass correlation coefficient (ICC).

RESULTS: Twenty-five patients were included; age 44 years (50-69), 72% blunt injuries, injury severity score 19 (17-26). There were 758 variables collected by TVR, 1011 variables collected by EMR; 689 variables shared by both. TVR and EMR variables per trauma response were 28 (15-30) and 44 (28-44), respectively (ICC=0.677). Four patients (16%) had the same number of variables collected by TVR and EMR, 4 patients (16%) had more collected by TVR (difference 7.5 [1.75-17]) and 17 patients had more collected by EMR (difference 15 [14-17]). There were 45 (6.5%) discrepancies between shared variables, most communication related, and 75 variables collected by TVR but not EMR and 322 variables by EMR but not TVR, most medication administration related.

CONCLUSIONS: EMR review appears to be a more complete source of medication related information as compared to TVR. However, TVR was able to collect communication related variables of the trauma response more often compared to EMR. TVR may be a useful tool for future research related to medication administration or the pharmacistsâ€™ impact during trauma response but will need to be used in collaboration with EMR review.

8:40am – 8:55am | **Pharmacist-Driven Evaluation of Discharge Antibiotic Prescriptions with Post-Discharge Culture and Sensitivity Results** Empire D

Presenters: Sarah Troast
Evaluators: John Cerenzio
Evaluators 3: Sonya Kremenchugsky
Evaluators 2: Beth Sutton Burke

TITLE: Pharmacist-driven evaluation of discharge antibiotic prescriptions with post-discharge culture and sensitivity results

AUTHORS: S. Troast, S. SanFilippo, L. Brunetti

OBJECTIVE: This study aims to examine clinical pharmacists' impact on antimicrobial stewardship through culture-driven antibiotic recommendations at hospital discharge when culture and sensitivity results are not finalized during a patient's hospitalization.

METHODS: This institutional review board-approved prospective cohort study included patients with presumed infection at a community teaching hospital. Patients 18 years and older discharged with an oral antibiotic prescription between January 1, 2023, and March 31, 2023, with a pending culture and sensitivity analysis at the time of discharge, were included. Relevant patient demographic and clinical data were extracted from the medical record. The finalized culture and sensitivity analysis was used to evaluate the discharge antibiotic regimen in terms of the appropriateness of spectrum and pathogen-specific therapy. In scenarios where the antibiotic prescribed at discharge did not match the finalized culture results, a dedicated pharmacist would contact the prescriber with a recommendation for a new antibiotic regimen. The primary outcome of the study is the percentage of prescribers that accepted the pharmacistâ€™s recommendation.

RESULTS: As of March 7, 2023, 67 patients were included in the study. Of these patients, 33 were discharged on antibiotics that did not match culture and sensitivity results finalized after discharge. In 19 of these cases, contacting prescribers with new antibiotic recommendations was clinically significant. Six prescribers (31.6%) accepted the recommendations from the pharmacist, nine declined the recommendation, and four could not be reached. A clinical evaluation of prescriber responses and the final analysis of the three-month study will be presented.

CONCLUSIONS: This study is expected to demonstrate that pharmacist follow-up on culture and sensitivity results will improve antimicrobial stewardship by providing specific infection-directed care for patients transitioning throughout the healthcare system.

8:40am – 8:55am I **Risk factors for Methicillin-Resistant Staphylococcus aureus and Pseudomonas aeruginosa among patients with Community Acquired Pneumonia: a multicenter retrospective cohort study**

Wild Rose B

Presenters: Ashley Guishard
Evaluators: Dimple Patel
Evaluators 3: Jessica Snead

TITLE: Risk factors for Methicillin-Resistant Staphylococcus aureus and Pseudomonas aeruginosa among patients with Community Acquired Pneumonia: a multicenter retrospective cohort study

AUTHORS: Ashley R. Guishard, PharmD, Tyler Sledge, PharmD, BCPS

OBJECTIVE: This study will identify risk factors for Methicillin-Resistant Staphylococcus aureus (MRSA) and Pseudomonas aeruginosa (P. aeruginosa) in patients with community acquired pneumonia at 4 hospitals in Riverside Health System in southeastern Virginia.

METHODS: Adult patients diagnosed with community acquired pneumonia (CAP) between January 1, 2018 and December 31, 2020 were identified using International Statistical Classification of Diseases, Tenth Revision (ICD-10) coded billing data. Patients were excluded if aged less than 18 years at time of admission, had respiratory isolation of MRSA or P. aeruginosa in the past year, hospitalization in the past 90 days, if the patient met criteria for hospital-acquired or ventilator-associated pneumonia, or if patients were diagnosed with pneumonia due to coronavirus disease 2019. Data will be collected primarily through SQL Server Reporting Services (SSRS). A 1-month sample of data will be validated for data agreement, diagnosis code discrepancies, and duplications.

RESULTS: The primary outcome is the percentage of patients with at least one epidemiological risk factor for CAP caused by MRSA or P. aeruginosa recognized by the American Thoracic Society/Infectious Disease Society of America guideline for CAP, including chronic obstructive pulmonary disease, diabetes mellitus type 2, & others. Secondary outcomes include the percentage of patients with CAP whose sputum cultures grew MRSA or P. aeruginosa, days of therapy on anti-MRSA & antipseudomonal antibiotics, and inpatient length of stay. Analyses will involve descriptive statistics and multivariate logistic regressions to predict independent risk factors for CAP due to MRSA and P. aeruginosa, reported as adjusted odds ratios for each risk factor.

CONCLUSIONS: We anticipate these results will help us optimize use of anti-MRSA & anti-Pseudomonal agents in the treatment of community acquired pneumonia within Riverside Health System.

8:40am – 8:55am L **Impact of a Leadership-driven Standardized Medication Reconciliation Protocol in Patients at a Teaching Hospital System**

Empire A

Presenters: Teresa Tran
Evaluators: Travis Dick
Evaluators 3: Allen Sexton
Evaluators 2: Rachel Best

TITLE: Impact of a leadership-driven standardized medication reconciliation protocol in patients at a teaching hospital system

AUTHORS: Teresa Tran, PharmD, MBA; Kyoung-Sil Kang, PharmD, BCPS, BCOP; Jovan Erfan, PharmD, MFA; Charnicia Huggins, PharmD, MS, BCACP; Jennifer Ofori-Kyerewah, PharmD, MBA

OBJECTIVE: The objective of this study is to evaluate the effect of a leadership-driven standardized medication reconciliation protocol on improving medication reconciliation at a teaching hospital health system.

METHODS: This is a pre-post chart review of patients admitted from September 2022 to July 2023. The review will include patients above the age of 18 discharged from BronxCare Health System outpatient clinics and will exclude pregnant women and children, patients who left against medical advice or were a no-show to an appointment, and visits registered as sleep study, social services, or vaccination. Data collected will include provider specialty, discharge instructions, expired medications, duplicate medications, and omitted medications. Data collected will be reviewed to assess pre-post intervention of the medication reconciliation protocol. Medication reconciliation was considered accurate if discharge instructions were available and if there were no expired, duplicated, or omitted medications.

RESULTS: Pre-implementation data will be presented. Final data collection and review are pending.

CONCLUSIONS: A barrier to accurate completion of a medication reconciliation for providers was proper education on how to efficiently complete the process in the EHR during clinic visits. It is anticipated that the standardized protocol for the process will have a positive impact on the number of completed and accurate medication reconciliations.

8:40am – 8:55am P **Patient-Centered Approach to Evaluating the Role of Medical Cannabis in the Treatment of Chronic Pain** Magnolia B

Presenters: Sapna Basappa
Evaluators: Nancy Love
Evaluators 3: Jessica Marx, Gregory Yugov
Evaluators 2: Alayna Miller

TITLE: Patient-Centered Approach to Evaluating the Role of Medical Cannabis in the Treatment of Chronic Pain
AUTHORS: Sapna Basappa, PharmD, Connie Liang, PharmD, Shannon Tucker, MS, CPHIMS, Kathleen Pincus, PharmD, BCACP, BCPS
OBJECTIVE: Data regarding the use of medical cannabis (MC) for chronic pain is limited. The purpose of this study is to provide insight into patientsâ€™ perceptions about MC for chronic pain and use this information to develop patient-centered research questions.
METHODS: This is a qualitative, descriptive, focus group study of English-speaking participants 18 years or older. Focus group interviews included four domains of questions including efficacy, safety, cost, and convenience. Participants self-identified into one of three focus groups: individuals with chronic pain and have used MC, individuals with chronic pain and have not used MC, and individuals without chronic pain regardless of the use of MC. Focus group interviews were recorded, transcribed, and coded in two passes by different research assistants to identify themes. The primary outcome of this study is a characterization of participantsâ€™ attitudes and perceptions about the use of MC for chronic pain identified through thematic analysis. Secondary outcomes include identification of patient-centered research questions identified during these focus groups. NVivo software was used to organize coded responses. Descriptive statistics was used to analyze the patient demographic data.
RESULTS: Regarding efficacy, participants discussed comparative efficacy to other pain treatment modalities and additional benefits including improvements in sleep and well-being. Regarding safety, subthemes included comparative risk to other pain treatments, particularly opioids, as well as risk of addiction, renal and hepatic effects, and stigma. Other major themes of discussion included formulations, perceptions, and sources of knowledge and information. Overall, focus group participants were open to the potential use of MC for chronic pain, with a division between those that felt ready to incorporate MC into their pain regimen now and those that would like to see more research and acceptance from the medical community before considering use.
CONCLUSIONS: Focus group responses were used to develop a prioritized list of research questions which can guide future patient-centered research on the role of medical cannabis in the treatment of chronic pain.

8:40am – 8:55am

2 **Reticulocyte hemoglobin content to guide iron supplementation dosing in neonates with anemia of prematurity**

Magnolia C

Presenters: Emily Catalini
Evaluators: Shahira Ghobrial PharmD, MPH, BCPPS
Evaluators 3: Jessica Lise
Evaluators 2: sini philip

TITLE: Reticulocyte Hemoglobin Content to Guide Iron Supplementation Dosing in Neonates with Anemia of Prematurity

AUTHORS: : Emily Catalini, PharmD, Emily Tilton, PharmD, Jay Kerecman, MD, MSci

OBJECTIVE: To assess the utility of reticulocyte hemoglobin content (CHr) as a biomarker to guide oral iron supplementation dosing in very low birth weight infants receiving recombinant human erythropoietin (rHuEPO) for anemia of prematurity (AOP).

METHODS: This study is a retrospective, observational cohort review conducted at a community hospital with a level III NICU. Neonates hospitalized between January 1, 2017 and March 10, 2022 were deemed eligible for inclusion if they were â‰¤ 1500 grams at birth, received target exposure (at least 14 days of concomitant rHuEPO and oral supplemental iron therapy), received full enteral feeds during target exposure, and had red blood cell indices measured and available for evaluation. Patients were excluded if they received total parenteral nutrition (TPN) at any time during target exposure. Patients who received target exposure within the defined time frame were identified through reports generated via Neodata. Patient baseline characteristics were collected and compiled using Neodata. Data concerning RBC indices, medication dosing and intervals, and patient anthropometrics such as body length and weight were collected through manual patient chart review in Cerner.

RESULTS: 85 patients were identified and screened for study inclusion. 44 patients met inclusion criteria. 50% (n = 22) of included patients were male; 86% (n = 38) were Caucasian. Patients had a median gestational age at birth of 26.93 weeks, and median birth weight of 905 grams. The mean change in CHr observed among the cohort following rHuEPO and iron therapy was a 0.16 pg/day decrease. Conversely, reticulocyte count reliably increased at a mean rate of 0.29% per day. There was a weakly positive relationship identified between mean iron dose received in mg/kg/day over the course of therapeutic exposure and change in CHr (r = 0.24) as well as change in hemoglobin (r = 0.33) over time.

CONCLUSIONS: In the cohort evaluated, hemoglobin and CHr were found to decrease over time, while reticulocyte count increased. This study was not able to detect a clear association between average daily iron intake and change in CHr over time in this population of very low birth weight neonates with iron deficiency anemia.

8:40am – 8:55am

6 **Characterizing Tolerability and Outcomes of Second Lines**

Magnolia D

Presenters: Syeda Rahman
Evaluators: Erica Maceira
Evaluators 3: Charisa
Evaluators 2: Jane Ching

TITLE: Characterizing tolerability and outcomes of second line agents used for Pneumocystis jirovecii pneumonia prophylaxis in kidney transplant recipients

AUTHORS: Syeda Rahman, PharmD, Michael A. Wynd, PharmD, BCPS

OBJECTIVE: This study will determine the preferred second line agent (dapsone or atovaquone) for the prevention of Pneumocystis jirovecii Pneumonia (PJP) in kidney transplant recipients intolerant to sulfamethoxazole-trimethoprim (SMX-TMP) at our center.

METHODS: This IRB-approved study will evaluate tolerability of second line agents used for PJP prophylaxis. It is a retrospective chart review including first-time adult kidney transplant recipients from June 2013 - February 2022 at our institution. To be included, patients must have initiated either dapsone or atovaquone as second-line agents for PJP prophylaxis within 30 days of their transplant. The primary endpoint will be the percent of patients able to tolerate a complete course of prophylactic therapy. Intolerability will be defined as discontinuation of either agent due to reported hypersensitivity, adverse effects, or patient preference. Secondary endpoints will include incidence of PJP and readmissions due to PJP infection.

RESULTS: Thus far, 598 first-time adult kidney transplant recipients were screened for inclusion; 43 were initiated on either dapsone or atovaquone within the first 30 days after their transplant. The percentage of patients that discontinue either agent prior to completing a standard 6-month course of prophylactic therapy, as well as, the incidence of PJP and readmissions due to PJP will be presented.

CONCLUSIONS: It is anticipated that results of this study will help guide medication therapy for PJP prophylaxis in kidney transplant recipients who are unable to tolerate SMX-TMP.

9:00am – 9:15am A **Comparing the Anticholinergic Burden and Incidence of Fractures and Breaks in Patients with Osteoporosis** Empire B

Presenters: Rileigh Provenza
Evaluators: Katie Dempsey
Evaluators 3: Amy Martin
Evaluators 2: Krista Hein

TITLE: Comparing the anticholinergic burden and incidence of fractures and breaks in patients with osteoporosis

AUTHORS: Rileigh Provenza, PharmD; Nicole Slater, PharmD, BCACP; Iain Pritchard, PharmD, BCACP; Marcia Brackbill, PharmD, BCPS

OBJECTIVE: There is conflicting evidence on the effect of anticholinergic burden in patients with osteoporosis. The primary objective is to evaluate if high anticholinergic burden increases the incidence of fractures or breaks in patients with osteoporosis.

METHODS: This retrospective chart review was conducted at an outpatient ambulatory care clinic. Patients were included if seen by their provider between Nov 1, 2020-Nov 1, 2022 with a diagnosis of osteoporosis for at least 5 years. Patients < 18 years of age were excluded. The Anticholinergic Burden Scale (ABS) was used to place patients into either low or high anticholinergic burden groups. Low anticholinergic burden (LAB) was defined as ABSâ‰¤ 2 and high anticholinergic burden (HAB) was defined as ABSâ‰¥ 3. The primary endpoint is to determine the incidence of bone fractures or breaks in the LAB vs HAB group. Secondary endpoints include number of fractures, types of fractures or breaks, and types of joint replacement surgeries secondary to a fracture in each study group. The target sample size is 374 patients (187 patients in each group), assuming 80% power and a p value< 0.05. The endpoints will be analyzed using SPSS software.

RESULTS: Research in Progress

CONCLUSIONS: Research in Progress

9:00am – 9:15am C **Do missed doses of pharmacologic venous thromboembolism (VTE) prophylaxis increase VTE events in trauma patients with pelvis, femur, and acetabular fractures?** Empire C

Presenters: Lindsey Taupier
Evaluators: Celeste Williams
Evaluators 3: Esther King
Evaluators 2: Melissa Tu

TITLE: Association of Missed Doses of Venous Thromboembolism (VTE) Chemical Prophylaxis and VTE Events in Trauma Patients with Pelvis, Acetabulum, and Femur Fractures.

AUTHORS: Lindsey Taupier, PharmD; Nishant Merchant, MD, FACS; Brenda White, DNP, ACNP-BC, APRN; David Oâ€™Sullivan, PhD; Laura Hobbs, PharmD, BCPS

OBJECTIVE: Trauma patients are at high risk of thrombus formation due to prolonged stasis and coagulation abnormalities. This study analyzes if missing doses of chemical VTE prophylaxis in trauma patients with fractures correlated with increased VTE events.

METHODS: This retrospective chart review was conducted in trauma patients with fractures admitted to Hartford Hospital and receiving chemical VTE prophylaxis with either unfractionated heparin or enoxaparin. Patients were evaluated in reverse chronological order through Epic electronic medical record using data from the National Trauma Data Bank. Patients were grouped into two categories: those with a missed dose of VTE prophylaxis after 24 hours of admission or those without a missed dose. General patient demographics and data about trauma injuries, VTE events, length of stay, prophylaxis dosing, bleeding events, use of antiplatelets, and VTE risk score were recorded from the patient medical record. Inferential statistics were used to compare differences between the two groups of interest. Continuous data was evaluated with a Studentâ€™s t-test or a Mann-Whitney U test. Categorical data was evaluated with Pearson chi square or Fisherâ€™s Exact test, depending on the sample and cell size.

RESULTS: The number and percentage of patients with or without missed doses of chemical VTE prophylaxis who had VTE events will be presented along with other relevant findings.

CONCLUSIONS: It is anticipated that this project will demonstrate if there is a correlation between missed doses of chemical VTE prophylaxis and VTE events.

9:00am – 9:15am Y **Appropriateness of Antiepileptic Drug Initial Doses in Benzodiazepine-Refractory Status Epilepticus** Magnolia A

Presenters: Breah Johnson
Evaluators: Matthew Lamb
Evaluators 3: Richard Bautz
Evaluators 2: Kathryn Bress

TITLE: Appropriateness of antiepileptic drug initial doses in benzodiazepine-refractory status epilepticus
AUTHORS: Breah Johnson, PharmD; Jina Patel, PharmD, BCCCP; Henry Lederer, PharmD, BCPS
OBJECTIVE: To characterize clinical outcomes of patients receiving optimal and suboptimal loading doses of antiepileptic agents in benzodiazepine refractory status epilepticus
METHODS: This was a single-center, retrospective, observational study. Patients aged 18 years or older who were determined to have benzodiazepine-refractory seizures upon admission to the emergency department and received intravenous levetiracetam, fosphenytoin, or valproate were included. Patients that were pregnant, had history of alcohol use disorder or intubated prior to antiepileptic drug administration were excluded. Initial dosing of antiepileptic drugs were characterized as optimal or suboptimal based on current guideline dosing recommendations. The primary outcome was assessed based on clinically evident seizure recurrence within 60 minutes following completion of the initial antiepileptic agent given or need for mechanical ventilation. Secondary outcomes included duration of hospital stay and death.
RESULTS: The number and percentage of patients that received suboptimal versus optimal initial intravenous doses of levetiracetam, fosphenytoin, or valproate will be recorded. The results of the efficacy and safety outcomes for clinically evident seizure recurrence within 60 minutes following completion of the infusion will be presented.
CONCLUSIONS: It is anticipated that this project will demonstrate whether patients who receive initial intravenous doses of levetiracetam, fosphenytoin, or valproate that are lower than current guideline recommendations are at a higher risk for complications and worse clinical outcomes when compared to those who receive guideline recommended doses. The results of this study may be used to promote clinician education, support the need for policy/protocol updates, and standardize care at our institution.

9:00am – 9:15am I **Analysis of pharmacist role in vancomycin de-escalation of pneumonia in a community teaching hospital** Wild Rose B

Presenters: Rebecca Davey
Evaluators: Dimple Patel
Evaluators 3: Kunal Shah

Objective: The aim of this study was to determine whether pharmacist intervention decreased time to de-escalation of vancomycin therapy, as well as appropriateness of initial dosing and subsequent monitoring with or without pharmacist intervention.
Methods: The study was conducted at Nazareth Hospital in two phases. A retrospective chart review was performed on 25 patients who received vancomycin therapy for pneumonia from March 2022- October 2022. A prospective study was conducted involving 25 patients who received at least one dose of vancomycin from November 2022- March 2023. Exclusion criteria included indication other than pneumonia, multiple indications for vancomycin, and history for MRSA infection <30 days prior to hospitalization. Various criteria were used to determine whether the vancomycin use was indicated and dosed appropriately, such as age, weight, renal function, and patient specific parameters. The primary outcome is a comparison of the rate of patients de-escalated from vancomycin for pneumonia post negative MRSA result. Secondary outcomes include a comparison of initial dosing and monitoring between retrospective and prospective arms. Safety outcomes evaluated the instance of acute kidney injury between study arms.
Results: Fifty patients were screened and included. The rate of de-escalation in the pre-pharmacist intervention arm was 28% (7 of 25 patients). The de-escalation rate in the pharmacist intervention arm was 68% (17 of 25 patients). The rate of appropriate dosing and trough monitoring in the pre-pharmacist intervention arm was 44% (11 of 25 patients) and 16% (4 of 25 patients), respectively. In the pharmacist intervention arm the rate of appropriate dosing and monitoring was 96% (24 of 25 patients) and 92% (23 of 25 patients), respectively. The safety outcome of incidence of AKI was non-significant between the two study arms.
Conclusion: The addition of pharmacy to monitor vancomycin dosing and monitoring increases the likelihood of de-escalation occurring at the appropriate time. This can also lead to decreased length of stay, hospital costs, and better management of institutional resources.

9:00am – 9:15am I **Impact of fluid administration on acute kidney injury in adult patients on intravenous acyclovir**
Empire D

Presenters: Danya Almheiri
Evaluators: John Cerenzio
Evaluators 3: Sonya Kremenchugsky
Evaluators 2: Beth Sutton Burke

TITLE: Impact of fluid administration on acute kidney injury in adult patients on intravenous acyclovir

AUTHORS: Danya S. Almheiri BSc, MSc; Brian R. Schuler PharmD, BCCCP; Melanie Z. Goodberlet PharmD, BCPS, BCCCP; Kaylee K. Marino PharmD, BCPS, BCCCP; Lena K. Tran PharmD, BCCCP; Jeffrey C. Pearson PharmD, BCIDP; Department of Pharmacy, Brigham and Womenâ€™s Hospital, Boston, MA

OBJECTIVE: Intravenous (IV) acyclovir may result in acute kidney injury (AKI) 12-72 hours after therapy initiation. The objective of this analysis was to evaluate the impact of fluid administration on the incidence of AKI in patients receiving IV acyclovir.

METHODS: This was a single-center, retrospective analysis of adult hospitalized patients who received IV acyclovir for more than 48 hours at Brigham and Womenâ€™s Hospital between January 1, 2021 and June 30, 2022. The patients were divided into hydration and no-hydration groups based on the authorâ€™s definition of hydration therapy. The major outcome was the impact of fluid administration on the incidence of AKI, with severity assessed according to RIFLE classification (Risk, Injury, Failure, Loss of kidney function, and End-stage kidney disease). In addition, the Naranjo Adverse Drug Reaction Probability Scale was used to assess for causal relationships between AKI development and IV acyclovir administration. Minor outcomes included hospital mortality and length of stay, dialysis at discharge and acyclovir renal dose adjustments. Continuous data were evaluated with the Mann-Whitney U test, and categorical data were analyzed using chi-squared test.

RESULTS: Of the 593 patients evaluated, 175 patients met the inclusion criteria. Of these, 81 patients received IV hydration therapy. Median baseline serum creatinine of our population was 0.81 mg/mL, and mean acyclovir dose was 1,912.7 Â± 650.4 mg/day (26.4mg/kg/day). The incidence of AKI was not statistically different between groups, occurring in 4 patients (4%) in the non-hydrated group vs. 3 patients (4%) in the hydrated group (p=0.85). There were no statistically significant differences in hospital length of stay between the non-hydrated group [12 (6-27.8) days] and the hydrated group [12 (6-17) days] (p=0.68) or in-hospital mortality (8 vs. 11 patients respectively, p=0.28). No patients required renal dose adjustments or dialysis at discharge.

CONCLUSIONS: Fluid administration was not associated with a difference in the incidence of AKI, hospital mortality, or length of stay. The study also shed light on fluid administration procedures at our institution.

9:00am – 9:15am L **Impact of a Pharmacy Technician-Led Education and Outreach Program on Transplant Patient Retention in an Integrated Health-System Specialty Pharmacy**
Empire A

Presenters: Sarah Chong
Evaluators: Travis Dick
Evaluators 3: Allen Sexton
Evaluators 2: Rachel Best

TITLE: Impact of a pharmacy technician-led education and outreach program on transplant patient retention in an integrated health-system specialty pharmacy

AUTHORS: Sarah Chong, PharmD; Tracy Sparkes, PharmD, MS, BCTXP; Kathy Vranek, PharmD; Carla Williams, PharmD, BCPS

OBJECTIVE: To evaluate the impact of a pharmacy technician-led education and outreach program in an integrated health-system specialty pharmacy setting on (1) transplant patient retention, (2) pharmacy revenue, and (3) patient satisfaction.

METHODS: This study was conducted as a prospective cohort study in which transplant patients were provided with additional education by a specialty-trained pharmacy technician on pharmacy post-discharge processes, or were assigned to a control group in which transplant patients did not receive additional pharmacy-technician education. Participants were included in the study if they are â‰¥ 18 years of age, received a solid organ transplant at the University of Maryland Medical Center, and are eligible for insurance coverage through the UMMC specialty pharmacy. Transplant patient retention was assessed by immunosuppressive medication refills within the 3-month follow-up period. Pharmacy revenue capture was measured by the average cost of all medications filled per patient within the 3-month follow-up period.

RESULTS: The number and percentage of transplant patients that were retained through this intervention will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this study will demonstrate the utility in implementing a pharmacy technician-led education program on patient retention and revenue capture in an integrated health-systems specialty pharmacy for patients who are newly transplanted.

9:00am – 9:15am M **Pharmacist consult toÂ prevent hypoglycemia inÂ adult inpatients with renalÂ dysfunction**
Wild Rose A
Presenters: Katherine Dugan
Evaluators: Marybeth Boudreau
Evaluators 3: Amanda Staubs
Evaluators 2: Michael Hasbrouck
TITLE: Pharmacist consult to prevent hypoglycemia in adult inpatients with renal dysfunction
AUTHORS: Katherine Dugan, Angela Antoniello, Alison Brophy, Marissa Uricchio
OBJECTIVE: The objective of this study is to evaluate the impact of a pharmacist consult service on rates of hypoglycemia in adult patients with renal dysfunction receiving antidiabetic medications.
METHODS: This was a single-center, Institutional Review Board-approved, two-phase prospective study at a large community-teaching hospital. Adult inpatients admitted within 48-96 hours with renal dysfunction and an active antidiabetic medication order were included. Patients located in a critical care unit or with a previous or planned transplant were excluded. The retrospective pre-implementation study period occurred between July 1, 2022, and October 31, 2022, with a maximum of 150 patients included through a random number generator. The post-implementation phase involved a live-time list generator with a prospective pharmacy consult service that occurred between November 14, 2022, and March 14, 2023. The primary endpoint was the change in hypoglycemic episodes per patient day when comparing both cohorts. Secondary endpoints included the change in recurrent and severe episodes of hypoglycemia per patient day, occurrence of blood glucose greater than 300 mg/dL, and length of stay.
RESULTS: Overall, 322 patients were included with 150 patients assessed in the pre-implementation cohort and 172 patients intervened upon in the post-implementation cohort. In the post-implementation cohort, there was a significant decrease in the rate of hypoglycemia per patient day when compared to the retrospective cohort (0.06 vs. 0.09; incidence rate ratio 0.65; 95% CI 0.50-0.84; p

9:00am – 9:15am P **Comparing the Effectiveness of Zynrelef vs Exparel Based on Patient Reported Pain Severity Scores After Elective Orthopedic Surgeries**
Magnolia B
Presenters: Shanna Hunter
Evaluators: Nancy Love
Evaluators 3: Jessica Marx, Gregory Yugov
Evaluators 2: Alayna Miller

9:00am – 9:15am 2 **Use of Probiotics to Prevent Necrotizing Enterocolitis in Preterm Infants**
Magnolia C
Presenters: Jessica Tranchina
Evaluators: Shahira Ghobrial PharmD, MPH, BCPPS
Evaluators 3: Jessica Lise
Evaluators 2: sini philip
TITLE: Use of probiotics to prevent necrotizing enterocolitis in preterm infants
AUTHORS: J. Tranchina, J. Hunt, K. Patel
OBJECTIVE: This study aims to answer the following question: Does the use of probiotics in neonates born at less than 29 weeks' gestational age decrease necrotizing enterocolitis (NEC) rates?
METHODS: This was a retrospective medical record review that assessed NEC rates before and after implementation of a probiotic protocol at a single-center within a comprehensive community health care system. Probiotics are initiated in neonates born at less than 29 weeks gestation who are on a minimum of 40 mL/kg/day of enteral feeds, with parental assent. The probiotic is a blend that includes Bifidobacterium infantis, Streptococcus thermophilus, and Bifidobacterium lactis. The primary endpoint is rate of NEC in neonates receiving probiotic versus not receiving probiotic. The secondary endpoints include time to full feeds, feeding intolerance, infection rate with a subgroup analysis of late onset sepsis, mortality, and duration of stay. Culture data was analyzed to assess site of culture, pathogen, and correlation between onset of infection and probiotic administration. Categorical data was analyzed using the Chi-squared test and continuous data was analyzed using the studentâ€™s t-test.
RESULTS: Baseline characteristics were similar in both groups. There was no difference between the two groups in suspected NEC (p=0.38) or definite NEC (p=0.62). Time to full feeds was significantly shorter in the probiotic group (22.8 days versus 14.6 days; p

9:00am – 9:15am 6 **Kidney Donor Profile Index in Hepatitis C Positive Kidney Transplantation** Magnolia D

Presenters: Nicole Lewis
Evaluators: Erica Maceira
Evaluators 3: Charisa
Evaluators 2: Jane Ching

TITLE: Kidney Donor Profile Index in hepatitis C positive kidney transplantation

AUTHORS: Nicole Lewis, PharmD, Rachel Savilla, PharmD, Santosh Nagaraju, MD, Asa Ricketts, PharmD, Stacie Deslich, MA, MSHCA

OBJECTIVE: To evaluate patient and graft survival, biopsy-proven rejection (BPAR), and infection in relation to baseline Kidney Donor Profile Index (KDPI) of Hepatitis C infected donors compared to uninfected donors.

METHODS: A cohort retrospective observational chart review of kidney transplant patients admitted at our center between January 1, 2019, and October 31, 2021. The study group includes Hepatitis C (HCV) naÃ¯ve recipients who received a HCV NAT positive kidney (24 patients). The control group was HCV negative recipients who received a HCV negative kidney (48 patients) as a 2:1 match based on age, sex, and comorbidities of hypertension and diabetes mellitus. Variables collected were KDPI; HCV genotype and viral load; HCV treatment and duration; time between viral load detection and initiation of hepatitis treatment; time from initiation of treatment to HCV negative; graft function defined by serum creatinine; BPAR; and infections defined by BK virus, cytomegalovirus, urinary tract infections, bloodstream infections, and clostridium difficile infections. KDPI in the study group will be recalculated without incorporating HCV status to compare to the actual KDPIs.

RESULTS: Of the 24 patients who received HCV positive kidneys, 2 patients died within 1 year versus none in the HCV negative group. This difference in survival was not statistically different. BPAR occurred in 12.5% of the HCV positive recipients and 18.8% of the HCV negative recipients. The average serum creatinine was similar between the 2 groups. The KDPI values between the two groups did not have a statistically significant difference. The KDPI values had a wide range in both groups and did not correlate with any differences in the outcomes observed. Results of KDPI differences without consideration of HCV status are in progress.

CONCLUSIONS: This study adds to existing literature providing support for the efficacy and safety of HCV positive donor kidney transplantation. None of the outcomes were found to be statistically different between the HCV positive and HCV negative recipients. Therefore, the results of this study question the relationship between HCV status and KDPI.

9:20am – 9:35am A **The Implementation of Clinical Pharmacy Practitioners into the Management of Chronic Heart Failure: A Quality Improvement Initiative** Empire B

Presenters: Hannah Guererri
Evaluators: Katie Dempsey
Evaluators 3: Amy Martin
Evaluators 2: Krista Hein

TITLE: : Assessment of the implementation of clinical pharmacy practitioners (CPPs) into the management of chronic heart failure (HF): a quality improvement initiative

AUTHORS: Hannah Guererri, Pharm.D., Amy Martin, Pharm.D., BCPS, Nicholas Pisciotti, Pharm.D., BCACP, Jordan Csati, Pharm.D., BCGP, BCPS; Veterans Affairs Finger Lakes Healthcare System (VAFLHCS), New York

OBJECTIVE: At VAFLHCS there is a limited number of cardiology providers and there is a minimal role for CPPs in HF management. Our aim is to expand care for Veterans and create a collaborative model between cardiology and CPPs to improve patient outcomes.

METHODS: We performed a retrospective observational cohort project looking at optimization of HF guideline-directed medical therapy (GDMT) and the CPP role in the management of HF. Electronic medical records of patients diagnosed with HF enrolled in the home-based primary care (HBPC) program in the VAFLHCS from June 2021 to January 2023 were reviewed. Data were collected and integrated into a database creating a report viewer to allow uniform review of each record. Primary outcomes included evaluating compliance to GDMT set forth by the 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure and whether CPPs made interventions to optimize GDMT. In order to properly assess this adherence, data was also collected on the patient's type of HF (HF with reduced ejection fraction [HFrEF] or HF with preserved ejection fraction [HFpEF]), race, allergies, and whether or not they were co-managed with cardiology providers outside of the VA.

RESULTS: : From June 2021 to January 2023, there were 96 patients enrolled in the HBPC program diagnosed with HF. Of those patients, 72 were eligible for inclusion. There were 28 patients diagnosed with HFrEF and 38 diagnosed with HFpEF, comprising of 39% and 53% of the entire population, respectively. There were also six (8%) diagnosed with HF with moderately reduced ejection fraction (HFmrEF). During this time period, there were three total hospitalizations due to HF, 24 allergies reported to GDMT medications, and 19 total pharmacist interventions made. The numbers and percentages of patients on specific GDMT medication classes as well as the pharmacist interventions found will be recorded and results will be presented.

CONCLUSIONS: Our project demonstrates a role for pharmacist-driven patient assessment and intervention in order to increase compliance to evidence-based guidelines in the treatment of HF and ultimately improve patient outcomes. It also illustrates that there is a barrier of communication with co-managed care between community providers and VA providers that can be detrimental in patients care. Pharmacists can play a crucial role in bridging the gap between co-managed care.

9:20am – 9:35am C **Examination of Outcomes in Patients Prescribed Rivaroxaban after Peripheral Vascular Disease Revascularization Procedures** Empire C

Presenters: Jennie Xie
Evaluators: Celeste Williams
Evaluators 3: Esther King
Evaluators 2: Melissa Tu

TITLE: Examination of outcomes in patients prescribed rivaroxaban after peripheral vascular disease revascularization procedures

AUTHORS: J. Xie, F. Nehring, N. Paul, T, Grieshaber; Mercy Medical Center, Springfield, MA

OBJECTIVE: To examine prescribing practices and evaluate efficacy and safety outcomes of rivaroxaban to reduce the risk of major thrombotic vascular events after lower extremity peripheral vascular disease revascularization procedures.

METHODS: A retrospective descriptive cohort study of the current prescribing practices of rivaroxaban to reduce the risk of major thrombotic vascular after lower extremity PVD revascularizations was performed. Patients were included in the study if they were between the ages of 18 to 89 that underwent PVD revascularization and were initiated on rivaroxaban within ten days of the procedure from January 1, 2020, to July 30, 2021. Patients were selected based on the utilization of procedural codes and dispensing reports of rivaroxaban. The primary efficacy outcome after initiation of rivaroxaban therapy included the time of initiation to a cardiovascular event. The safety outcomes included bleeding (of any kind), the site of bleeding, and the number of transfusions received. These outcomes were assessed at six months and twelve months from the time of initiation using electronic outpatient medical records.

RESULTS: Rivaroxaban was prescribed for three (n = 3) out of 160 patients after the revascularization procedures. One patient received rivaroxaban 2.5mg by mouth twice daily, dosing with aspirin 81mg by mouth daily, which is congruent with current recommendations. The other two patients were prescribed 15mg by mouth twice daily for 21 days, then 20mg by mouth daily, or 20mg by mouth once daily, despite not having a concurrent diagnosis of a VTE or atrial fibrillation. One safety outcome of death was reported due to a possible myocardial infarction.

CONCLUSIONS: While the use of low-dose rivaroxaban and aspirin has been shown to reduce the rates of cardiovascular outcomes in patients with PVD that underwent revascularization, the results of the study are not able to show efficacy in patient outcomes. Current prescribing practices do not align with the usual FDA-approved dosing of rivaroxaban for the reduction of risk of major thrombotic vascular events in patients after lower extremity revascularization due to symptomatic PAD.

9:20am – 9:35am Y **Efficacy of fixed dose 4-factor prothrombin complex concentrate (4F-PCC) in the reversal of bleeding in patients taking DOACs** Magnolia A

Presenters: Blake Remensnyder
Evaluators: Matthew Lamb
Evaluators 3: Richard Bautz
Evaluators 2: Kathryn Bress

TITLE: Efficacy of fixed dose 4-factor prothrombin complex concentrate (4F-PCC) in the reversal of bleeding in patients taking DOACs

AUTHORS: B. Remenensyder, J. Dorchak

OBJECTIVE: The aim of this study is to compare the clinical efficacy of fixed-dose and variable-dose 4F-PCC used in patients taking apixaban or rivaroxaban presenting with bleeds requiring the administration of 4F-PCC.

METHODS: We will conduct a retrospective, multicentered data analysis to investigate the safety and efficacy of fixed doing versus weight-based dosing for 4F-PCC in patients taking DOACs presenting with bleeding. Data for the weight-based dosing strategy will be taken from the CMMC electronic medical records from January 2019 to December 2020, when the fixed dosing protocol was implemented. Data for the fixed dosing strategy will be taken from the CMMC electronic medical records from January 2021 to January 2023, following the implementation of the fixed dosing protocol. Clinical outcomes for these two 24-month periods will be compared to determine if the fixed dosing strategy is at least as effective as the weight-based dosing strategy with regard to clinical hemostasis. We will also look at the average cost per administration of 4F-PCC between the two groups.

RESULTS: The efficacy of fixed and weight-based dosing of 4F-PCC in achieving hemostasis in patients taking DOACs presenting with bleeding will be compared with data from our institution and the results will be presented.

CONCLUSIONS: This project is anticipated to show that fixed doses of 4F-PCC for the reversal of DOAC associated bleeding are as efficacious as weight-based doses.

9:20am – 9:35am | **Beta Get It Right! Impact of Implementation of Multidisciplinary Education on Allergy Documentation and Beta-Lactam Deprescribing** Wild Rose B

Presenters: Gabriella Salerno
Evaluators: Dimple Patel
Evaluators 3: Jessica Snead

TITLE: Beta get it right! Impact of multidisciplinary education on allergy documentation and beta-lactam deprescribing

AUTHORS: G. Salerno, G. Kuszewski, J. Aeschlimann, C. Doyno, M. Qureshi; John Dempsey Hospital at UConn Health, Farmington, Connecticut

OBJECTIVE: This study aims to evaluate the impact of multidisciplinary education on the quality of allergy documentation for patients with a documented beta-lactam antibiotic allergy.

METHODS: This IRB-approved quality improvement project consists of: (1) a retrospective chart review of patients admitted between September 2021-January 2022 who had a documented allergy to a beta-lactam antibiotic; (2) development & delivery of a standard educational presentation about optimal documentation of allergies to pharmacy students, medication history technicians (MHTs), and emergency department nurses; and (3) collection of data post-education from September 2022-January 2023 to evaluate impact of the education. Beta-lactam allergy documentation was rated by a novel scoring system that incorporates components of the â€œPEN-FASTâ€□ tool, rated on a one to four scale. A score of one indicates the patient has a beta-lactam allergy documented with no other details, whereas four indicates every field in the EMR is sufficiently completed (reaction description, reaction severity, reaction type, date of reaction, and any clarifying comments associated).

RESULTS: The primary outcome will be the observed change in median documentation score. Secondary outcomes that will be analyzed include: assessment of change in score based on type of healthcare provider documenting the beta lactam allergy, antibiotic use by class in patients pre- and post- educational interventions, and readmission rates.

CONCLUSIONS: It is anticipated that this project will demonstrate a positive impact of pharmacist-led education of various healthcare providers via quality improvement in allergy documentation and beta-lactam antibiotic prescribing.

9:20am – 9:35am | **Outcomes Associated with Utilizing Electronic Health Record Tools to Decrease the Inappropriate Use of Cephalosporins to Treat Enterococcal Urinary Tract Infections** Empire D

Presenters: Julia Pepper
Evaluators: John Cerenzio
Evaluators 3: Sonya Kremenchugsky
Evaluators 2: Beth Sutton Burke

TITLE: Utilization of guiding comments imbedded within culture results to improve antimicrobial prescribing for enterococcal urinary tract infections in the ambulatory setting

AUTHORS: J. Pepper, PharmD; J. Logsdon, PharmD, BCIDP; A. Rosenberger, PharmD, BCIDP

OBJECTIVE: Evaluate outcomes associated with utilizing guiding comments imbedded within the electronic health recordâ€™s (EHR) culture result to decrease the inappropriate use of cephalosporins in enterococcal urinary tract infections.

METHODS: Data collected retrospectively from a regional health system from 02/01/22 to 02/28/23. Inclusion criteria was urine culture positive for enterococcus and active cephalosporin order. Exclusion criteria was cephalosporin treatment prescribed for a non-enterococcal organism and age less than 18 years. Patients were evaluated 6 months pre- and post-implementation of a microbiology comment added to streptococcus gamma and enterococcal cultures: â€œEnterococcus sp. are resistant to cephalosporins.â€□ The primary outcome was rate of inappropriate prescribing of cephalosporins in enterococcal urinary tract infections in the ambulatory care setting. The secondary outcome was rate of 30-day follow-up visits required pre- and post-implementation of guiding comment. Follow-up was defined as either ambulatory visit, telephone visit, emergency department admission, or inpatient admission. Chi-Squared statistical test was utilized to compare nominal data.

RESULTS: 93 patients were not included based on inclusion and exclusion criteria. 141 patients in the pre group and 146 patients in the post group were analyzed. After guiding comment implementation, the incidence of inappropriate treatment continuation decreased from 67.4% to 43.8% (RRR=35%, p=0.001). Follow up events included patient encounters related to urinary symptoms such as emergency department admissions, inpatient admission, ambulatory visits, and telephone encounters. Total patients requiring follow-up decreased from 44.7% (63/141) to 26.0% (38/146); 41.8% relative risk reduction (p = 0.001).

CONCLUSIONS: Physicians incorrectly assume enterococcus sensitivity to ampicillin equates to sensitivity to all beta-lactams. The implementation of guiding comments on culture results significantly reduced the inappropriate use of cephalosporins to treat enterococcal urinary tract infections. Total follow-up visits were also significantly reduced which has the potential to improve patient experience. Enterococcal guiding comments should be implemented at heath care facilities when possible.

9:20am – 9:35am M **Pharmacist-initiated Naloxone Dispensing Protocol at Hospital Discharge for Patients at High Risk of Opioid Overdose: A Quality Improvement Project** Wild Rose A

Presenters: Helen Fita
Evaluators: Marybeth Boudreau
Evaluators 3: Amanda Staubs
Evaluators 2: Michael Hasbrouck

TITLE: Pharmacists initiated naloxone dispensing protocol for patients at high risk of opioid overdose at discharge from an acute care rehabilitation hospital.

AUTHORS: H. Fita, L. Kousa, E. Pitts, V. Gandhi; MedStar National Rehabilitation Hospital, Washington, DC.

OBJECTIVE: The objective of this study was to determine naloxone dispensing rates for patients identified as high risk for opioid overdose and to assess pharmacists' knowledge, attitude, and practice of naloxone dispensing pre-and post-intervention.

METHODS:Pharmacists identified patients at high risk for opioid overdose and provided naloxone with counseling on how to use it. Eligible patients were those discharged on daily opioid doses greater or equal to 50 morphine milligram equivalents per day, concomitant use of opioids with benzodiazepines, use of medication-assisted treatment, history of substance/opioid use disorder, or opioid overdose. A retrospective chart review was conducted to identify patients who met the above criteria and to collect naloxone dispensing data three months prior (Oct 2022 to Dec 2022) and three months post (Feb 2023 to Apr 2023) implementation of the intervention. Pharmacists' knowledge, attitude, and practice of naloxone dispensing also analyzed pre and post intervention . Descriptive statistics are used to characterize the outcomes.

RESULTS: The number of naloxones dispensed post-intervention was higher when compared to the pre-intervention cohort. The training session improved the pharmacist's knowledge and practice on how to initiate and dispense naloxone.

CONCLUSIONS: This project showed that naloxone dispensing at hospital discharge can be initiated and implemented in health systems. It also demonstrated the pharmacist's role in increasing awareness and patient access to naloxone

9:20am – 9:35am P **Impact of continuation versus discontinuation of buprenorphine in patients maintained on buprenorphine for acute pain at a community hospital** Magnolia B

Presenters: Luan Ma
Evaluators: Nancy Love
Evaluators 3: Jessica Marx, Gregory Yugov
Evaluators 2: Alayna Miller

TITLE: Impact of continuation versus discontinuation of buprenorphine in patients maintained on buprenorphine for acute pain at a community hospital

AUTHORS: L. Ma, K. Joyner, K. Morgan; Winchester Medical Center, Winchester, Virginia

OBJECTIVE: Continuing buprenorphine (BUP), a partial mu-opioid agonist, during hospitalization has long been controversial due to inadequate pain control. This study evaluates the impact of continuing versus discontinuing BUP on pain in hospitalized patients.

METHODS: This retrospective cohort study was conducted on patients who continued versus discontinued BUP treatment during their hospitalization at Winchester Medical Center. Patients were included if they were admitted between 01/01/2017 and 01/01/2022, 18 years of age or older, had an outpatient buprenorphine prescription (oral, sublingual, or buccal), and were hospitalized for at least 48 hours. Patients admitted to the behavioral health service, intensive care unit, or labor and delivery units were excluded. Patients who received epidural or spinal analgesia, continuous infusions of opioids, or other long-acting opioids prior to admission or during hospitalization were excluded. The primary outcome was the average pain score during the hospitalization. Secondary outcomes included hospital length of stay, 30-day readmission rate, opioid reversal agent use, and 24-, 48-, and 72-hour morphine milligram equivalents (MME) administered.

RESULTS: A total of 115 patients were included in the study; of these, 71 (61.7%) patients continued buprenorphine and 44 (38.3%) discontinued buprenorphine during their hospitalization. There was a significant decrease in the average pain score in the first 24 hours ($p = 0.032$), 24-48 hours ($p = 0.012$), 48-72 hours ($p = 0.015$) from the admission, and 24 hours prior to discharge ($p = 0.019$) in patients who continued buprenorphine. The total MME in the first 24 hours ($p = < 0.001$), 24-48 hours ($p = < 0.001$), 48-72 hours ($p = < 0.001$) from the admission were significantly lower in the continued buprenorphine group. There was no difference in length of stay ($p = 0.451$), 30-day readmission rate ($p = 0.077$), or opioid reversal agent use ($p = 0.383$).

CONCLUSIONS: The continuation of buprenorphine was associated with a significant decrease in pain scores during the hospitalization. In other words, patients were able to achieve adequate pain control while maintained on buprenorphine in the inpatient settings. However, larger prospective studies are needed to confirm the results of this study.

9:20am – 9:35am H **Assessing the Long-term Impact of Managing Vancomycin Dosing by Monitoring AUC Levels** Magnolia C

Presenters: Paige Gracin
Evaluators: Shahira Ghobrial PharmD, MPH, BCPPS
Evaluators 3: Jessica Lise
Evaluators 2: sini philip

TITLE: Assessment of sustained, longitudinal benefits of a vancomycin area under-the-curve dosing protocol on adverse drug reactions and time to optimization rates

AUTHORS: Paige Gracin, PharmD; Jessica Sobnosky, PharmD, BCPS, BCIDP

OBJECTIVE: The purpose of this study was to evaluate if the initial benefits of area under-the-curve (AUC) dosing protocols at our institution have been sustained over time.

METHODS: We performed a retrospective chart review of hospitalized adult patients who received vancomycin therapeutic drug monitoring (TDM) at our institution during November 2022. De-identified data collection included demographics, admission and discharge dates, renal function, vancomycin doses, TDM concentrations and in-hospital mortality. Data from November 2022 (cohort two) was compared to the previously collected study data from March to April 2022 (cohort one) to determine if there was a sustained benefit from the AUC dosing protocol implementation.

RESULTS: Fifty patient charts from cohort two were compared to fifty-six patients from cohort one. Time to therapeutic AUC increased from 0.8 to 2.47 days. In cohort one, 1.7% (1/56) of patients were discharged on vancomycin compared to 6% (3/50) patients in cohort two. ADRs occurred in 4% (2/50) patients in cohort two compared to 1.7% (1/56) in cohort one. Mean length of therapy increased from 2.51 to 4.55 days as well as the mean number of TDM levels collected (0.77 to 1.6). However, cohort two did maintain improved outcomes compared to the original trough based dosing method which demonstrated an average time to goal level of 3.1 days, ADR rate of 21.4% (12/56), mean length of therapy of 5.2 days, and 1.98 average number of levels collected.

CONCLUSIONS: Compared to cohort one, the median time to appropriate therapeutic AUC and rates of ADRs increased. However, despite this increase, the benefits achieved with AUC dosing compared to historical trough based dosing were preserved. Taken together, these results support our institutionâ€™s adoption of AUC based dosing strategies while also highlighting potential areas for quality improvement.

9:20am – 9:35am Q **Reduction of Methylnaltrexone Usage through Criteria Implementation** Empire A

Presenters: Melissa Rock
Evaluators: Travis Dick
Evaluators 3: Allen Sexton
Evaluators 2: Rachel Best

TITLE: Reduction of Methylnaltrexone Usage through Criteria Implementation

AUTHORS: Melissa Rock PGY-1 Pharmacy Resident, PharmD, MHS, BS and Terri Marxen, PharmD

OBJECTIVE: To evaluate laxative usage in patients with opioid-induced constipation (OIC) receiving methylnaltrexone.

METHODS: This was a retrospective cohort analysis overseeing any inpatient adult patient at The Valley Hospital who was administered methylnaltrexone bromide for any period of time during the study period. Data was obtained from patients EMR, Meditech. The timeframe for data collection was from June through July 2022 (Cohort 1) and February through March 2023 (Cohort 2). Between the data collection, prescribing criteria was developed and disseminated to prescribers and pharmacists. The EMR also included prescriber and pharmacist pop-ups. Data collected include: patient demographics, laxative-refractory OIC patients receiving methylnaltrexone bromide, patients who received methylnaltrexone within 24 hours of opioid administration, patients who discontinued methylnaltrexone after discontinuing opioid therapy, annualized methylnaltrexone usage cost, and provider specialties related to inappropriate prescribing.

RESULTS: The study included 52 patients. Cohort 1 had 43 patients and Cohort 2 had 9 patients. The number of laxative-refractory OIC patients that received methylnaltrexone in Cohort 1 was 6 (14%) and Cohort 2 was 3 (33%) (p=0.23). The number of patients who received methylnaltrexone within 24 hours of opioid administration in Cohort 1 and Cohort 2 was 42 (97%) and 8 (89%), respectively. The number of patients who discontinued methylnaltrexone after discontinuing opioid therapy in Cohort 1 was 11 (26%) and Cohort 2 was 9 (100%). The annualized cost of methylnaltrexone usage was $143,560 in Cohort 1 and $15,323 in Cohort 2.

CONCLUSIONS: This study evaluated laxative usage in OIC patients receiving methylnaltrexone to successfully decrease usage through development of prescribing criteria.

9:20am – 9:35am

6 **Evaluation of Safety and Tolerability of Mycophenolate mofetil Two Grams Daily dosing in Renal Transplant Recipients** Magnolia D

Presenters: Nada Ahmed
Evaluators: Erica Maceira
Evaluators 3: Charisa
Evaluators 2: Jane Ching

TITLE: Evaluation of safety and tolerability of mycophenolate mofetil two grams daily dosing in renal transplant recipients

AUTHORS: N. Ahmed, J. Ching; SUNY Downstate Health Sciences University, Brooklyn, New York

OBJECTIVE: The aim of this study is to evaluate the tolerability of mycophenolate mofetil two grams daily dosing and identify incidences of adverse events warranting dose reductions.

METHODS: This is a retrospective analysis evaluating the dosing patterns of mycophenolate mofetil in renal transplant recipients. Adult patients (â‰¥ 18 years old) who received a kidney transplant from the SUNY Downstate Health Sciences University from July 1st, 2021 to November 30th, 2022 were included. Pediatric patients and patients receiving alternative maintenance immunosuppressive therapy were excluded. The primary endpoint of this study was to determine the incidence of patients requiring mycophenolate mofetil dose adjustments due to one of its side effects (including hematological complications, infection, and gastrointestinal complications). Secondary endpoints include incidences of delayed graft function (DGF) and acute rejection diagnosed via renal biopsy within one year. Descriptive statistics will be utilized for statistical analysis

RESULTS: Patient characteristics and the rate of mycophenolate mofetil dose adjustments as well as patient adverse effects will be recorded, and the results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate the tolerability of mycophenolate mofetil two grams daily dosing and identify patient characteristics which may correlate with lower mycophenolate mofetil dosing requirements. Also, the occurrence rates of pre-specified adverse events related to this medication, such as hematological complications, infections, and gastrointestinal complications will be reported

9:40am – 9:55am A **ImPACT of heart failure education on the optimization of guideline-directed medical therapy managed by clinical pharmacy practitioners at a Veterans Affairs Hospital** Empire B

Presenters: Sylvia Lombardo
Evaluators: Katie Dempsey
Evaluators 3: Amy Martin
Evaluators 2: Krista Hein

TITLE: ImPACT of heart failure education on the optimization of guideline-directed medical therapy managed by Clinical Pharmacy Practitioners at a Veterans Affairs Hospital

AUTHORS: Sylvia Lombardo, PharmD; Melissa Reams, PharmD, BCPS; Meghan Bolinger, PA-C, PharmD, BCACP

OBJECTIVE: Describe the implementation and impact of heart failure education for Patient Aligned Care Team (PACT) Clinical Pharmacy Practitioners (CPPs) at a rural Veterans Affairs (VA) Hospital on the optimization of guideline-directed medical therapy (GDMT) .

METHODS: CPPs, Cardiology Providers (CPs), and Primary Care Providers (PCPs) within the PACT setting at a rural VA Hospital and its corresponding Community-Based Outpatient Clinics (CBOCs) collaborated to expand disease state management conducted by CPPs to include heart failure (HF). CPPs received HF education through various modalities on different topics over the course of several months. CPPs completed pre- and post-education surveys to evaluate knowledge and comfort level managing HF. CPs and PCPs then were able to refer veterans to the CPPs for HF management. The study population includes Veterans who began working with a CPP during the 2022 calendar year, had an echocardiogram on record during the past two calendar years, and had a diagnosis of HFrEF (LVEF â‰¤40%) or HFimpEF (previous LVEF â‰¤40% but most recent LVEF >40%). Longitudinal chart reviews were conducted from the date of the Veterans initial HF visit with the CPP through February 2023 to assess for optimization of GDMT.

RESULTS: A total of 23 Veterans met the criteria to be enrolled in the study (mean age 68.78 years old, 100% male). Of these, 4 (17.4%) were prescribed all four agents of GDMT prior to working with a PACT CPP. At baseline, 21 were managed on an ACE-I, ARB, or ARNI, 22 on a HF preferred beta blocker, 8 on an MRA, and 10 on an SGLT2-I. Pre-education survey for PACT CPPs included 7 questions to gauge experience/comfort level with the disease state (minimum score 7; maximum score 28). Pre-education survey was completed by all 8 PACT CPPs and results showed an average score of 17.125. Post-education survey results and data regarding optimization of GDMT while working with PACT CPP will be presented.

CONCLUSIONS: Expanding PACT CPPs disease state management to include HF is one strategy to optimize GDMT in Veterans with HF. Utilizing different modalities of education for disease state expansion education may be an effective strategy to ensure that CPPs are prepared and comfortable managing a new condition. CPPs are able to follow-up with Veterans more frequently than CPs and PCPs which allows for close monitoring and more opportunities to optimize HF medication regimen.

9:40am – 9:55am C **Improving Utilization of Caprini Risk Assessment Model for Management of VTE Prophylaxis in a Surgical Intensive Care Unit** Empire C

Presenters: Eric Gadecki
Evaluators: Celeste Williams
Evaluators 3: Esther King
Evaluators 2: Melissa Tu

TITLE: Improving utilization of Caprini risk assessment model for management of venous thromboembolism prophylaxis in a surgical intensive care unit

AUTHORS: Eric Gadecki, PharmD; Melissa Sterling, PharmD, BCCCP; St Elizabethâ€™s Medical Center, Boston, MA

OBJECTIVE: The American College of Chest Physician guidelines recommend venous thromboembolism prophylaxis in surgery patients based on Caprini risk. This project aimed for correct Caprini score documentation in â‰¥80% of surgical intensive care unit admissions.

METHODS: To identify root causes preventing documentation of correct Caprini scores, the authors of the project met with a surgical intensive care unit (SICU) attending physician and anesthesia and surgery residents. The authors then sent a survey to all anesthesia and surgery residents to further determine the root causes. SICU residents received monthly education reviewing the background of the Caprini score and its ability to help guide venous thromboembolism (VTE) prophylaxis selection in SICU patients. After providing two months of education, the authors placed reminder cards around SICU resident workspaces. The outcome measure was the number of post-op patients with a correct Caprini score documented on admission to the SICU. Process measures included percentage of post-op SICU patients with Caprini score documented for VTE risk assessment and percentage of times that a correct Caprini risk category was documented. The balancing measure was number of major bleeds.

RESULTS: Education for SICU residents increased the amount of correct Caprini scores documented from 0% before education to 23.5% after education. Caprini score on admission to the SICU was documented for 35.1% of patients before education and 58.8% after education. Caprini risk category documentation was correct for 1.9% of patients before education and 35.3% after education. Number of major bleeds was similar both before and after education at 9.3% and 7.7% respectively.

CONCLUSIONS: Implementation of the project resulted in increased utilization and documentation of the Caprini score in the SICU. The largest increase was in use of the Caprini score. Correct documentation of the Caprini score has been a more difficult metric to increase. The project aim, to have a correct Caprini score documented for â‰¥80% of patients admitted to the SICU, has not been met yet. Future possible interventions include changes to SICU checklists or changes to electronic order sets.

9:40am – 9:55am Y **Evaluation of the use of sugammadex for reversal of neuromuscular blockade outside of procedural areas** Magnolia A

Presenters: Shayma Alzaidi
Evaluators: Matthew Lamb
Evaluators 3: Richard Bautz
Evaluators 2: Kathryn Bress

TITLE: Evaluation Of The Use Of Sugammadex For Reversal Of Neuromuscular Blockade Outside Of Procedural Areas

AUTHORS: Shayma Alzaidi, PharmD; Kevin Dube, PharmD, BCCCP, BCPS; Kenneth Lupi, PharmD, BCCCP, BCPS; Mary Kovacevic, PharmD, BCCCP, BCPS; Kaylee Marino, PharmD, BCCCP, BCPS

OBJECTIVE: Sugammadex used to reverse paralysis induced by rocuronium and vecuronium in adults undergoing surgery with limited data outside procedural areas. This analysis aims to describe the use of sugammadex for adult patients outside of procedural areas.

METHODS: This study is a single-center, retrospective chart review conducted at a tertiary academic medical center approved by Mass General Brigham Investigational Review Board (Protocol #: 2022P002123). A system-generated report from the electronic health record was used to identify all adult patients who received sugammadex from January 1, 2016, to September 30, 2022. Patients who received sugammadex intraoperatively or postoperatively were excluded. The major endpoint is to report the use of sugammadex outside of procedural areas including neuromuscular blockade agents (NMBA) dosing and timing, sugammadex dosing and timing after paralytic administration, indications for sugammadex. The minor endpoints are the use of atropine after the administration of sugammadex, and train of four scores before and after sugammadex administration. Continuous variables will be presented as median with interquartile range and categorical data will be reported as absolute number and relative frequency.

RESULTS: Of the 37,893 patients evaluated, 119 patients met the inclusion criteria. The mean dosing and timing of sugammadex, and NMBA will be presented.

CONCLUSIONS: This analysis will contribute to the limited literature on the use of sugammadex for adult patients outside of procedural areas by describing our institutional practice including sugammadex indications, dosing, timing, and safety.

9:40am – 9:55am I **Determining Vancomycin Associated AKI Incidences with Trough-Guided Dosing at a Community Hospital versus AUC-Guided Dosing** Wild Rose B

Presenters: Vivian Truong
Evaluators: Dimple Patel
Evaluators 3: Jessica Snead

TITLE: Determining Vancomycin Associated AKI Incidences with Trough-Guided Dosing to AUC-Guided Dosing at Community Hospitals

AUTHORS: Vivian Truong, Kristin Marge, Evan Hurley

OBJECTIVE: Patients requiring vancomycin during hospitalization frequently present with AKI. Guidelines do not address AUC dosing in AKI. The objective is to compare pre-and post-AUC dosing for VA-AKI in adults on IV vancomycin therapy in community hospitals.

METHODS: This chart review was conducted at Inova Alexandria and Mount Vernon Hospital. Trough dosing was retrospectively reviewed from October 2021 to May 2022. AUC dosing was prospectively reviewed from Jan 2023 to April 2023. Adults were eligible if they received IV vancomycin for â‰¥48 hours and had â‰¥1 vancomycin level. Patients required â‰¥1 SCr collected in the admission before the level and at least one subsequent SCr after the level. Patients were excluded if they were on PD or continued IV vancomycin from prior to admission. AKI was defined as an increase in SCrâ‰¥0.3 mg/dL within 48 hours and/or an increase in SCr to â‰¥1.5 times baseline, which occurred within the last 7 days. The primary outcome compared the rate of VA-AKI in patients with baseline AKI between trough and AUC dosing methods. The secondary outcome compared the rates of VA-AKI on trough versus AUC dosing for all patients. The primary outcome was analyzed using a fisher exact test.

RESULTS: In Progress

CONCLUSIONS: In Progress

9:40am – 9:55am I **Effect of Vancomycin Associated Acute Kidney Injury Among Hospitalized Patients with Skin and Soft Tissue Infection at a Teaching Community Hospital** Empire D

Presenters: Maria Xidias
Evaluators: John Cerenzio
Evaluators 3: Sonya Kremenchugsky
Evaluators 2: Beth Sutton Burke

TITLE: Impact of chronic kidney disease and nephrotoxins on the rate of vancomycin associated acute kidney injury among hospitalized patients with skin and soft tissue infection at a teaching community hospital
AUTHORS: Maria Xidias, PharmD; Jiyeon Joy Park, PharmD, BCOP; Kelvin Reynolds, PharmD, BCPS; Rina Ivanova, PharmD, BCCCP; GaEun Joung, PharmD, BCPS
OBJECTIVE: The study was conducted to assess the impact of chronic kidney disease and nephrotoxins on the rate of vancomycin associated acute kidney injury in patients with acute bacterial skin and skin-structure infections (ABSSI) at a community hospital.
METHODS: A retrospective chart review of patients who received at least two consecutive doses of vancomycin from January 1, 2022 to February 28, 2023 was conducted using Epic reports. Patients 18 years or older with appropriately drawn vancomycin trough levels were included. Patients with end stage renal disease or stage 5 chronic kidney disease (CKD) and with active infections other than ABSSI were excluded. There were two arms in the study. Arm A included patients with creatinine clearance above 90 mL/min, and Arm B included patients with CKD stages 2 to 4. The primary endpoint was the rate of acute kidney injury (AKI) within 48 hours of vancomycin administration. Secondary endpoints included the rates of AKI with supratherapeutic, therapeutic, and subtherapeutic vancomycin trough levels and the rate of AKI with concurrent use of nephrotoxins. Fisher Exact test and student t test were used to analyze the data.
RESULTS: The total number of patients included in the study was 214. The rates of AKI were 6.3% in Arm A and 0% in Arm B (p=0.61). The rate of AKI with supratherapeutic vancomycin levels was 20% (p=0.56), with therapeutic vancomycin levels was 4.3% (p=1.00) and with subtherapeutic vancomycin levels was 2.1% (p=1.00). The rate of AKI with concurrent use of nephrotoxins was 6.3% (p=1.00).
CONCLUSIONS: There was no statistically significant difference in the rates of vancomycin associated kidney injury between patients with normal renal function and patients with CKD. Future studies with a larger sample size are needed to determine the true impact of CKD and nephrotoxins on the rate of vancomycin associated acute kidney injury and to promote more optimal institutional vancomycin monitoring practices such as AUC24:MIC method.

9:40am – 9:55am M **Pharmacy-driven allergy documentation initiative in an emergency department** Wild Rose A

Presenters: Annette Bielen
Evaluators: Marybeth Boudreau
Evaluators 3: Amanda Staubs
Evaluators 2: Michael Hasbrouck

TITLE: Pharmacy-driven allergy documentation initiative in an emergency department
AUTHORS: Annette Bielen PharmD, Jesse Sullivan PharmD, BCPS, BCCCP, Sandra Eid, PharmD, Marina Pittiglio PharmD, BCCCP, Andrew Vassallo, PharmD, BCPS, BCCCP
OBJECTIVE: Recent literature supports the role of medication history technicians (MHT). The study evaluated miscategorized documented allergies before and after the implementation of a trained MHT-based program within an emergency department (ED).
METHODS: In the retrospective phase, nurse-documented allergy histories of patients held in the ED for 24-hour observation or admitted to an inpatient unit between September 1, 2021 and September 13, 2021 were examined. In the prospective phase, MHT-documented allergy histories of patients held in the ED for 24-hour observation or admitted to an inpatient unit between September 1, 2022 and November 30, 2022 were examined. The primary outcome was percentage of miscategorized documented allergies. Secondary outcomes included percent difference in the following outcomes among nurse-documented and MHT-documented cohorts: true allergies, no known drug allergies (NKDA) and adverse drug reactions (ADR). ADR were further broken down to show the difference between cohorts in the following outcomes: sensitivities, side effects, intolerances, idiosyncratic reactions and toxicities.
RESULTS: A total of 1,055 patients were included in the study, with 586 patients in the retrospective group and 469 patients in the prospective group. The percentage of miscategorized allergies was significantly reduced from 37.69% in the retrospective group to 10.48% in the prospective group (risk difference, 0.27; 95%CI 0.22 to 0.33; p

9:40am – 9:55am P **Opioid Prescribing Upon Emergency Department Discharge: Then and Now** Magnolia B

Presenters: Laura Lee
Evaluators: Nancy Love
Evaluators 3: Jessica Marx, Gregory Yugov
Evaluators 2: Alayna Miller

TITLE: Opioid prescribing upon emergency department discharge: then and now
AUTHORS: L. Lee, T. Marxen; The Valley Hospital, Ridgewood, New Jersey
OBJECTIVE: Opioids are commonly prescribed in the emergency department (ED). Exposure to an opioid upon ED discharge is related to chronic opioid use. This study will evaluate whether there has been an improvement in opioid prescribing upon ED discharge with a focus on patients with high use pain conditions.
METHODS: A retrospective cohort study was conducted using electronic medical record data for patients discharged from the ED in 2016 and 2022. The study population included patients who were 18 years or older, with the subgroup analysis focusing on patients with a primary diagnosis of a high use pain condition, such as abdominal pain, back pain, chest pain, dental pain, extremity pain, fracture injury, headache/migraine, nonfracture injury, or urolithiasis. Patients who were admitted into the hospital, pregnant, or incarcerated were excluded. The primary endpoint was the rate of ED visits with opioids prescribed at discharge in 2016 vs 2022. The subgroup analysis looked at the number of opioid prescriptions per patient discharge and the opioid quantity per prescription at ED discharge. Data collected included patient gender, age at administration, ED discharge date/time, primary diagnosis code, opioid prescribed at discharge, strength of opioid prescribed at discharge, and quantity of opioid prescribed at discharge.
RESULTS: The rate of ED visits with opioids prescribed at ED discharge in 2016 and 2022 will be analyzed, recorded, and presented.
CONCLUSIONS: It is anticipated that this project will show an improvement in opioid prescribing upon ED discharge at The Valley Hospital from 2016 to 2022 due to prescriber education and the implementation of a pain protocol.

9:40am – 9:55am H **Use of the Acetaminophen Absorption Test in Critically Ill Patients: A Retrospective Analysis**
Presenters: Cassandra Lopane Magnolia C
Evaluators: Shahira Ghobrial PharmD, MPH, BCPPS
Evaluators 3: Jessica Lise
Evaluators 2: sini philip

TITLE: Use of the acetaminophen absorption test in critically ill patients to assess bowel function and predict absorption of oral medications
AUTHORS: C. Lopane, D. Holden; Albany Medical Center (Albany Med Health System), Albany, New York
OBJECTIVE: No standards exist for assessment of gastrointestinal dysfunction and drug absorption in critically ill patients. This study examines the correlation between the acetaminophen absorption test (AAT) and bowel function in this population.
METHODS: Medical records of patients admitted to the surgical ICU during a ten-year period were reviewed. Patients were excluded for acetaminophen levels monitored due to overdose, medications administered through jejunostomy tubes, or short-bowel syndrome. Data collection included bowel function parameters, acetaminophen serum levels, patient demographics, use of mechanical ventilation, concomitant medications, and non-acetaminophen drug levels. A positive acetaminophen test was defined as an acetaminophen level above 10 mg/L within four hours of administration. Poor bowel function was defined as at least one of the following: the presence of an ileus, residual gastric volume of 500 mL or greater, not tolerant of enteral feeds, and the use of a prokinetic agent (erythromycin or metoclopramide). A Chi-square Test was utilized to compare bowel function and the results of acetaminophen absorption test (AAT). A Chi-Square Test was utilized to compare AAT results and non-acetaminophen drug levels.
RESULTS: 56 patient charts were reviewed with 50 patients included in the analysis. Of the 50 patients included, 15 met the criteria for poor bowel function while 35 met the criteria for adequate bowel function. In patients with adequate bowel function, 57.1% (20/35) had a positive AAT. In patients with poor bowel function, 53.3% (8/15) had a positive AAT. Positive and negative AAT tests were similar in the adequate and poor bowel function groups, implying the AAT is not well suited to discriminate between these two groups in clinical practice (p= NS). 8 patients were monitored for non-acetaminophen drug levels with 3 patients in both the negative and positive AAT groups with therapeutic drug levels, showcasing no difference between groups (p= NS).
CONCLUSIONS: This study demonstrates that the ability of the AAT to discern poor bowel function and predict oral absorption in critically ill patients is significantly limited.

9:40am – 9:55am

Q **Use of iron dextran vs iron sucrose for iron infusions at a single Veterans Affairs Medical Center.**

Empire A

Presenters: Miranda Godfrey
Evaluators: Travis Dick
Evaluators 3: Allen Sexton
Evaluators 2: Rachel Best

TITLE: Use of iron dextran vs iron sucrose for iron infusions at a single Veterans Affairs Medical Center.
AUTHORS: Use of iron dextran vs iron sucrose for iron infusions at a single Veterans Affairs Medical Center.
OBJECTIVE: The objective of this medication use evaluation is to assess if iron dextran will be a safe and effective alternative to iron sucrose for intravenous iron infusions.
METHODS: The objective of this medication use evaluation is to assess if iron dextran will be a safe and effective alternative to iron sucrose for intravenous iron infusions.
RESULTS: The data collected from each group will be recorded and compared. The results will be presented.
CONCLUSIONS: The data collected from each group will be recorded and compared. The results will be presented.

9:40am – 9:55am

6 **A Contemporary Analysis of Basiliximab as a Renal-sparing Strategy Early After Heart Transplant**

Magnolia D

Presenters: Bayleigh Carver
Evaluators: Erica Maceira
Evaluators 3: Charisa
Evaluators 2: Jane Ching

TITLE: Contemporary analysis of basiliximab as a renal-sparing strategy early after heart or simultaneous heart-kidney transplantation
AUTHORS: Bayleigh Carver, PharmD, Jason Choe, PharmD, David Salerno, PharmD, Tara Shertel, PharmD, Douglas Jennings, PharmD
OBJECTIVE: To determine if basiliximab as induction therapy in patients with renal impairment during heart transplant or simultaneous heart-kidney transplant is safe and can effectively delay the initiation of calcineurin inhibitors.
METHODS: This IRB-approved, retrospective cohort study at Columbia University Irving Medical Center included adult patients who underwent heart transplantation or simultaneous heart-kidney transplantation from August 2019 to August 2022. The primary outcome of this study was to evaluate the incidence of acute cellular rejection (ACR) within the first six months of transplantation. ACR was defined as International Society for Heart and Lung Transplantation-2004 grade 2R or 3R for heart transplant and Banff Classification IB or higher for renal transplant. Secondary outcomes included rate of infection defined as initiation of antibiotics within the first six months after transplant, change in renal function post-transplant, development of de-novo anti-HLA antibodies, and time to initiation and therapeutic levels of tacrolimus post-transplant. Descriptive statistics will be utilized to characterize the use of basiliximab and assess its efficacy and safety in clinical practice.
RESULTS: Results will be presented and include baseline characteristics, the incidence of rejection associated with basiliximab induction, the incidence of infection and timing of antibiotic initiation, serum creatinine and estimated glomerular filtration rates from baseline to one-year post transplant, single antigen bead assays at predefined time points to assess for the development of donor specific antibodies, and tacrolimus therapeutic drug monitoring.
CONCLUSIONS: It is anticipated that this project will demonstrate that basiliximab can safely and effectively delay the initiation of tacrolimus in heart transplant patients with renal impairment and simultaneous heart-kidney transplant patients in the era of contemporary immunosuppression.

10:20am – 10:35am A **Impact of Pharmacist-led Interventions on Polypharmacy Amongst Elderly Patients in the Ambulatory Care Setting** Empire B

Presenters: Xian Shaw
Evaluators: Maureen Brady
Evaluators 3: Caitlin Prather
Evaluators 2: Cameron Golden

TITLE: Impact of pharmacist interventions on polypharmacy amongst elderly patients in the ambulatory care setting

AUTHORS: Xian Shaw, PharmD; Kikelola Gbadamosi, MBA, MS, PharmD, BCPS; Sheheryar Muhammad, PharmD, BCCCP, BCCP, BCPS, CACP; Gaelle Njonku , PharmD, BCPS; Claude Manjo , PharmD, BCPS

OBJECTIVE: This study evaluates the impact of pharmacist interventions on polypharmacy (five or more medications) in adults aged 65 years and older.

METHODS: This is a prospective, interventional study evaluating the impact of pharmacist interventions on polypharmacy amongst patients 65 years and older in the ambulatory care setting. Pharmacists at the ambulatory care clinic will conduct comprehensive medication reviews (CMRs) and perform deprescribing interventions through a collaborative practice agreement. The deprescribing interventions will consist of dose reduction, tapering, or stopping potentially inappropriate medications (PIMs.) The primary outcomes are the difference in mean number of medications at baseline and post-intervention and the number of deprescribed PIMs. The secondary outcomes are the number of deprescribing interventions implemented and utilization of emergency services. A paired t-test will be used to analyze the mean number of medications at baseline and post-intervention.

RESULTS: The results will be analyzed and presented.

CONCLUSIONS: This study is anticipated to demonstrate the importance of pharmacists in optimizing patientsâ€™ medication regimens through conducting CMRs and reducing patientsâ€™ pill burden due to deprescribing PIMs.

10:20am – 10:35am C **Impact of COVID-19 hospitalizations on the incidence of heart failure, all cardiovascular hospitalizations, and new onset atrial fibrillation** Empire C

Presenters: Katharine Lawrence
Evaluators: Lucy Gin
Evaluators 3: Andrew Vassallo
Evaluators 2: Stephen Alkire

TITLE: Impact of COVID-19 hospitalizations on the incidence of heart failure, all cardiovascular hospitalizations and new onset atrial fibrillation

AUTHORS: Katharine Lawrence, PharmD; Tanvi Patil, PharmD, BCPS; John Minchak BS, PharmD, MBA, BCPS, BCGP; Nabil Jarmukli, MD; Amitabh Parashar, MD

OBJECTIVE: This study aimed to assess the incidence rate (IR) of heart failure hospitalizations, all cardiovascular hospitalizations, and new-onset atrial fibrillation in Veterans hospitalized with COVID-19.

METHODS: This retrospective nationwide Veterans Health Administration (VHA) observational cohort study included hospitalized COVID-19 patients aged 18 years and older from January 2020 through January 2022 as the intervention cohort while the control cohort consisted of patients who were hospitalized for reasons other than COVID-19 without a positive COVID-19 test prior or during the study duration. Propensity scores were utilized for 1:1 matching. The primary outcomes included heart failure hospitalizations and all cardiovascular hospitalizations at 90-and 180-days post hospitalization for COVID-19. The secondary outcome was new-onset atrial fibrillation (AF) at 90-and 180-days post hospitalization in patients without prior AF. Primary outcomes were analyzed using Poisson or negative binomial regression while the secondary outcome was analyzed using logistic regression.

RESULTS: The matched cohort included 50,805 patients in each group. Primary outcome results showed that incidence rates of both heart failure hospitalizations [90-day IR ratio (IRR) 1.13 (95% CI 1.10-1.16), p

10:20am – 10:35am C **Safety of rapid intravenous push in comparison to intravenous infusion valproate sodium**
Magnolia B

Presenters: Felicia Wang
Evaluators: Aditi Hoffman
Evaluators 3: Darren Wilson
Evaluators 2: Rebecca Berhanu

TITLE: Safety of rapid intravenous push in comparison to intravenous infusion valproate sodium
AUTHORS: Felicia Y. Wang, PharmD; Kevin C. McLaughlin, PharmD, BCPS, BCCCP; Michael J. Schontz, PharmD, BCPS, BCCCP; Jeremy R. DeGrado, PharmD, BCCCP; Robert E. Dannemiller, BCPS, BCCCP
OBJECTIVE: The purpose of this analysis is to examine the safety of valproate sodium (VPA) administered via undiluted intravenous push (IVP) compared to diluted intravenous infusions (IVI) at an academic medical center.
METHODS: This retrospective, pre-post descriptive analysis will evaluate patients who received at least one dose of intravenous VPA at Brigham and Womenâ€™s Hospital. The pre-group (March to May 2022) received IVI VPA and the post-group (June to August 2022) received IVP VPA. In May 2022, our institution switched from patient-specific diluted IVI to delivery via IVP to expedite administration in the acute care setting. Major safety outcomes include infiltration, phlebitis, and drug-induced sedation. The Naranjo algorithm, or Adverse Drug Reaction Probability Scale, will be used to identify the causality of the reactions that were associated with VPA. Time from pharmacy order verification review to first-dose VPA administration will be assessed. Adverse events between IVP and IVI will be compared utilizing chi-square and studentâ€™s t-test analyses, as appropriate. This was approved by the Mass General Brigham Investigational Review Board (Protocol number: 2022P002045).
RESULTS: The safety of VPA when administered as undiluted IVP compared to IVI will be presented along with the time from pharmacy order verification to first-dose administration.
CONCLUSIONS: This study will provide insight into the safety of IVP VPA. Administration of VPA via IVP may allow for more optimal clinical and operational outcomes.

10:20am – 10:35am D **Impact of pharmacist driven interventions on PrEP use in at risk veteran populations to increase PrEP initiation, retention and laboratory compliance**
Wild Rose B

Presenters: Ethan Gervais
Evaluators: Myroslava Sharabun
Evaluators 3: Meaghan Watson
Evaluators 2: Kelvin Reynolds

TITLE: Impact of pharmacist driven interventions on PrEP use in at risk veteran populations to increase PrEP initiation, retention and laboratory compliance
AUTHORS: Ethan Gervais, PharmD
OBJECTIVE: The purpose of this study is to determine the impact of pharmacist-led PrEP (pre-exposure prophylaxis) prescribing on PrEP initiation, retention and laboratory compliance in VA Maine Healthcare System Veterans
METHODS: This is a 24 month retrospective chart review of VA Maine Veterans receiving PrEP medications Truvada and Descovy prescribed by a physician or pharmacist at the VA Maine Healthcare System between October 1, 2020 and September 30, 2022. Vista prescribing software will be used to generate reports on a month by month basis to identify Maine VA Veterans who received a prescription for PrEP over the 24 month study period. Data will be used to perform a retrospective chart review using the VA Computerized Patient Record System (CPRS) to determine the percentage who received additional PrEP prescriptions within 90 days of the previous prescription and were in compliance with required follow up laboratory testing. Primary and secondary objectives will be analyzed using t-tests to determine if there exists a statistical difference between groups.
RESULTS: Refill history and laboratory compliance rates will be recorded and presented.
CONCLUSIONS: We anticipate that the pharmacist led PrEP clinic will increase PrEP prescription refills, laboratory compliance and optimize guideline directed medical therapy utilization.

10:20am – 10:35am Y **Evaluation of the efficacy of topical tranexamic acid in the management of epistaxis** Magnolia D

Presenters: TONY FENG
Evaluators: Alyssa Robertson
Evaluators 3: Daniella Defonte
Evaluators 2: Kristin Marge

TITLE: Evaluation of the efficacy of topical tranexamic acid in the management of epistaxis

AUTHORS: Tony Feng, PharmD; Jessica Morales, PharmD; Tiffany Jomoc, PharmD; Vani Thiyagarajan, PharmD, BCPS

OBJECTIVE: This study aims to evaluate the effectiveness of topical tranexamic acid (TXA) versus standard of care in managing epistaxis.

METHODS: This study is a retrospective chart review of adult patients presenting to the ED with a diagnosis of epistaxis from January 1, 2019, to July 1, 2022, identified from South Shore University Hospitalâ€™s electronic medical record. Patient demographics will include relevant outpatient medication(s), past medical history of cirrhosis, alcohol use, and adjunctive treatments used for management. Exclusion criteria include pregnancy, active nasopharyngeal malignancy, and bleeding disorders. Patient charts with documentation of topical TXA administration were included in the intervention arm. Patient charts with documentation of other standard of care treatments were included in the control arm. The primary endpoint is time to epistaxis control as defined by the length of stay. Secondary endpoints include the incidence of admission, the incidence of revisits with time, the incidence of adjunctive therapies, and time to epistaxis control in patients on anticoagulants and antiplatelet therapy.

RESULTS: Data will be compiled, and the primary and secondary outcomes will be recorded and presented.

CONCLUSIONS: It is anticipated that this project will add to the current body of literature to further define the role of TXA in the management of epistaxis.

10:20am – 10:35am Y **Urinary pathogens, resistance patterns, and empiric antibiotic selection in patients presenting to a community hospital emergency department** Magnolia A

Presenters: Adrianna Goodin
Evaluators: Christopher Shaw
Evaluators 3: Victoria Hearn
Evaluators 2: Hadeia Farooque

TITLE: Urinary pathogens, resistance patterns, and empiric antibiotic selection in patients presenting to a community hospital emergency department

AUTHORS: Adrianna Goodin, PharmD; Alyssa Robertson, PharmD, BCPS, BCCCP; Aundrea Rosenberger, PharmD, BCIDP; Matthew Walbrown, PharmD, BCPS

OBJECTIVE: The aim of this study is to determine the most commonly isolated bacteria causing urinary tract infection in the emergency department and identify local resistance patterns to potentially encourage prescribing habits to select better empiric coverage

METHODS: Patients were identified retrospectively via a computer-generated report from the electronic health record for patients in the ED with a urine culture collected who were discharged with antimicrobial treatment for urinary tract infection at WellSpan York Hospital. Patients were excluded if they were under 18 years old, or their culture resulted as contamination. Relevant data included the following: patient demographics, inpatient and/or discharge antibiotic prescription (drug, dose, route, frequency, duration), culture organism(s) and susceptibility data. The primary endpoint was the percentage of UTI organisms covered by empiric antibiotics. Secondary endpoints included the most isolated organisms, most commonly prescribed antibiotics at discharge, most common organisms not covered by empiric antibiotics, and resistance patterns of top three isolated organisms plus enterococcus.

RESULTS: The results are in process.

CONCLUSIONS: The purpose of this project was to identify the most common UTI causing organisms in this patient population and determine if there is a need to alter empiric antibiotic selection in our ED patient population.

10:20am – 10:35am G **Phenobarbital for Alcohol Withdrawal** Wild Rose A

Presenters: Erin Altmeyer
Evaluators: Laura Hobbs
Evaluators 3: Scott Baker
Evaluators 2: Jovan Erfan

TITLE: Phenobarbital for Alcohol Withdrawal

AUTHORS: Erin Altmeyer, PharmD; Samantha Formeck, PharmD, BCPS, BCCCP; Jesse Dorchak, PharmD, BCPS

OBJECTIVE: The purpose of this project is to design an additional protocol for alcohol withdrawal at Conemaugh Memorial Medical Center (CMMC) in order to provide an alternative treatment option in the face of the benzodiazepine shortage.

METHODS: Data to be collected retrospectively. Data collection will occur from January 1, 2021 through March 31, 2023. Inclusion criteria will include patients ordered CIWA protocol with lorazepam or phenobarbital and age â‰¥ 18 years old. Phenobarbital for alcohol withdrawal order set was created and added to the CIWA order set with the option to choose between lorazepam or phenobarbital. The addition of phenobarbital to the CIWA order set as well as phenobarbital oral taper was approved through CMMC P&T committee and Clinical Task Force. Education was provided to all service lines as well as nursing. Through the creation of this protocol utilizing phenobarbital for alcohol withdrawal, we will assess efficacy of regimen in regards to length of stay, treatment duration as well as intubation rates required for alcohol withdrawal and compare that to lorazepam CIWA protocol that is currently in place.

RESULTS: Data collection pending, collection through 3/31/23.

CONCLUSIONS: Pending based on results

10:20am – 10:35am I **Oral Step-Down Therapy for Uncomplicated Enterococcus Bacteremia** Empire D

Presenters: Jessica Ni
Evaluators: Nicole Bonacasa
Evaluators 3: Sandeep Devabhakthuni
Evaluators 2: Meredith Todd

TITLE: Oral step-down therapy for uncomplicated enterococcus bacteremia

AUTHORS: Jessica Ni PharmD, Yanina Dubrovskaya PharmD, Justin Siegfried PharmD, Kassandra Marsh PharmD, Dana Mazo MD, Ioannis Zacharioudakis MD, Arnold Decano PharmD

OBJECTIVE: The objective is to determine the clinical outcomes, safety, and economic impact of early step down to oral antibiotics in uncomplicated Enterococcus bacteremia at a large academic health system.

METHODS: This is an IRB-approved, retrospective study from January 2013 to October 2022 at NYU Langone Health Tisch, Brooklyn, and Orthopedic hospitals. All patients ages > 18 with an initial bacteremia episode and positive blood culture for Enterococcus spp. and who completed a treatment course with oral or IV antimicrobial therapy were included. Patients were excluded if they were pregnant, had an uncontrolled source of infection, polymicrobial infection, infection at another site caused by other organisms, received initial treatment at an outside hospital, or made hospice. Patient demographics, past medical history, comorbidities, microbiologic data, and treatment details (antibiotics, dose, frequency, duration) were collected. The primary endpoint evaluated will be the clinical cure. Secondary endpoints include mortality, microbiological cure, length of stay, and readmissions. Safety endpoints include C. difficile or any adverse drug event leading to discontinuation or change in therapy.

RESULTS: The number and percentage needed to calculate the clinical cure, microbiological cure, durations and types of therapy, readmissions, hospital length of stay, mortality, and adverse drug events will be recorded, and results will be presented.

CONCLUSIONS: This study is anticipated to describe the role of oral step-down therapy in treating uncomplicated enterococcal bacteremia.

10:20am – 10:35am O **Impact of primary prophylaxis for Clostridioides difficile in hematopoietic stem cell transplant and chimeric antigen receptor T-cell therapy recipients** Empire A

Presenters: Lucy Yu
Evaluators: Monica Stjacques
Evaluators 3: Jeff Endicott
Evaluators 2: Amber Carter

TITLE: Impact of primary prophylaxis for Clostridioides difficile in hematopoietic stem cell transplant and chimeric antigen receptor T-cell therapy recipients

AUTHORS: Lucy Yu, PharmD; Julia Fadul, PharmD; Pinguang Yang, MD; Nicholas Love, MD; Jane Liesveld, MD; Andrea Baran, MS; Kara Kubli, PharmD, BCOP

OBJECTIVE: Investigate the impact of oral vancomycin prophylaxis in adults receiving allogeneic hematopoietic stem cell transplant (HSCT), autologous HSCT, and chimeric antigen receptor (CAR) T-cell therapy on Clostridioides difficile infection (CDI) incidence.

METHODS: A retrospective chart review was conducted for adults 18 years of age and older who received autologous HSCT, allogeneic HSCT, and CAR T-cell therapy at the Wilmot Cancer Institute between April 1, 2018 and April 30, 2022. Routine CDI prophylaxis with oral vancomycin was implemented in March 2022; subjects were divided into pre- and post-implementation groups. Subjects with a history of CDI, who did not receive at least 75% of oral vancomycin doses ordered in the post-implementation group, and who received fidaxomicin for prophylaxis were excluded. The primary endpoint was the incidence of first CDI during initial hospitalization and through day +100 from HSCT or CAR T-cell therapy. Secondary outcomes included incidence of acute GI GVHD in alloHSCT recipients, hospital length of stay, non-relapse mortality, ICU admissions, and other transplant-related factors. Cumulative incidence analyses were performed for all outcomes.

RESULTS: A total of 424 subjects were included (216 subjects in the pre-implementation group and 208 subjects in the post-implementation group). The cumulative incidence of CDI during initial hospitalization decreased from 7.9% in the pre-implementation group to 3.9% in the post-implementation group (p=0.03), primarily driven by autologous HSCT recipients. The cumulative incidence of CDI through day +100 decreased from 13.0% to 9.1% (p=0.20). The cumulative incidence of ICU admissions decreased from 12.4% to 6.2% (p=0.03). There was a non-statistically significant increase in the incidence of acute GI GVHD during hospitalization and through day +100. No significant differences were seen in non-relapse mortality or hospital length of stay.

CONCLUSIONS: Oral vancomycin effectively reduced the incidence of CDI during initial hospitalization for HSCT and CAR T-cell therapy recipients at our institution. The results of this study support an opportunity for practice revision and further discussion regarding the continuation of routine CDI prophylaxis in HSCT and CAR T-cell therapy recipients.

10:40am – 10:55am A **Evaluating the Tolerability of Empagliflozin in an Older Veteran Population** Empire B

Presenters: Michael Burkett
Evaluators: Maureen Brady
Evaluators 3: Caitlin Prather
Evaluators 2: Cameron Golden

TITLE: Evaluating the tolerability of empagliflozin in an older veteran population

AUTHORS: M. Burkett, A. Krevat

OBJECTIVE: Sodium-glucose cotransporter-2 inhibitors (SGLT2-i) have shown benefit for various disease states. Limited evidence is available to guide prescribing of SGLT2-i for older adults. This evaluation aims to better understand the safety of empagliflozin.

METHODS: Retrospective chart review of 129 Veterans aged 80 years or older who started empagliflozin during the calendar year of 2021 was performed. After exclusion of 31 Veterans for leaving Veterans Affairs (VA) care, death or non-adherence, 98 patients were evaluated for a primary outcome of continuation of empagliflozin at one year. A secondary outcome of all reasons for discontinuation of empagliflozin was recorded. All outcomes were measured as percentages.

RESULTS: Veterans included in the analysis had an average age of 87 years and every patient was male (n=98). At one year, 68.4% (n=67) of patients were still actively taking empagliflozin. During the study period, 31.6% (n=31) of patients discontinued empagliflozin. Reasons for discontinuation included AKI/reduced renal function (n=7, 22.6%), UTI (n=3, 9.7%), hypotension (n=3, 9.7%) and increased urinary frequency (n=3, 9.7%). Among the 31 patients who discontinued empagliflozin, 3 patients visited urgent care and 4 patients were hospitalized for primary diagnoses related to empagliflozin therapy. Patients who discontinued empagliflozin were most likely to stop the medication in the first three months of therapy (n=20, 64.5%).

CONCLUSIONS: This evaluation found the majority of patients aged 80 years or older were able to tolerate and remain on empagliflozin after one year. Patients may be most vulnerable to experiencing intolerable adverse effects during the first three months of therapy which supports close monitoring during this period. Further evaluations should consider including female patients, evaluating the rate of continuation beyond one year and including a comparison group.

10:40am – 10:55am C **Assessing the efficacy of loading doses of phenobarbital in patients with alcohol withdrawal** Magnolia B

Presenters: Mary Eibye

Evaluators: Aditi Hoffman

Evaluators 3: Darren Wilson

Evaluators 2: Rebecca Berhanu

TITLE: Assessing the efficacy of loading doses of phenobarbital in patients with alcohol withdrawal

AUTHORS: Mary Eibye, PharmD; Kristina Milewski, PharmD, BCPS; Raul Santiago, PharmD, BCPS, BCIDP; Matthew Wu, PharmD

OBJECTIVE: Phenobarbital has been increasingly used for the treatment of alcohol withdrawal. The purpose of this study is to assess the impact of initial phenobarbital dosing on alcohol withdrawal symptoms and safety outcomes.

METHODS: This was a retrospective, observational cohort study of adult patients admitted for alcohol withdrawal with administration of a phenobarbital loading dose, in accordance with an institutional protocol. Collected data included highest-recorded CIWA-Ar score during each day of admission and past medical history including alcohol withdrawal, delirium tremens, and seizure. Patients were excluded if administered propofol or dexmedetomidine prior to phenobarbital administration, administered any benzodiazepine during active treatment with phenobarbital, or treated for other types of substance withdrawal. The primary outcome is the administration of subsequent doses of phenobarbital following the initial load, defined as phenobarbital administered off-protocol. Secondary outcomes include need for mechanical ventilation, over-sedation, development of delirium, and use of adjunct therapy. It was determined that 166 encounters would provide a power of 90% and alpha of 0.05.

RESULTS: A total of 179 patient encounters during the period of January to September 2022 were included for review. Of these encounters, nine were excluded due to inability to meet inclusion criteria. A chi-square test of independence was performed to examine the relationship between initial loading dose and requirement for subsequent dose. The relation between these variables was found to be insignificant, Ï‡2 (3, N = 167) = 7.46 p = 0.058. Of the secondary outcomes measured, the development of delirium was more likely to occur in patients who were initially inadequately treated and received a subsequent dose of phenobarbital than those who did not, Ï‡2 (1, N = 170) = 12.68 p = < 0.05.

CONCLUSIONS: The study showed that there was no measurable difference in the initial loading dose and requirement of a secondary, off-protocol dose of phenobarbital for the treatment of alcohol withdrawal syndrome. The development of delirium is associated with the administration of a subsequent dose of phenobarbital. Further study is needed to correlate initial phenobarbital doses with incidence of subsequent, off-protocol dosing for further control of withdrawal-related symptoms.

10:40am – 10:55am C **Incidence of Multi-Drug Resistant Organisms in Obese Patients Receiving Piperacillin/tazobactam for Complicated Intra-abdominal Infections** Empire C

Presenters: Andrew Rosenblum
Evaluators: Lucy Gin
Evaluators 3: Andrew Vassallo
Evaluators 2: Stephen Alkire

TITLE: Incidence of Multi-Drug Resistant Organisms in Obese and Non-obese Patients after Receiving Piperacillin/Tazobactam for Complicated Intra-abdominal Infections

AUTHORS: Rosenblum Andrew PharmD, Zadikian Nune PharmD, Callas Peter PhD, Erb Andrew Larson MD; University of Vermont Medical Center, Burlington, VT

OBJECTIVE: The primary objective is to compare the development of new MDR infections in obese (BMI â‰¥ 35 kg/m2) and non-obese (BMI < 35 kg/m2) patients after receiving piperacillin/tazobactam IV for the treatment of complicated intra-abdominal infections (cIAI).

METHODS: This is a retrospective, single center chart review, consisting of patients admitted to the ICU with intra-abdominal infections from January 2011, to December 2021. Patients who are â‰¥18 years of age that received piperacillin/tazobactam for the treatment of cIAI will be included in the chart review. Exclusion criteria included patients with an active malignancy, taking immunosuppressant medications, pregnant, or died or underwent comfort measures only within the first 48 hours after admission. Results were analyzed using chi-squared and unpaired studentâ€™s T-test.

RESULTS: A total of 527 charts were pulled from the electronic medical record and 100 patients met the inclusion criteria. There were 71 patients in the non-obese group and 29 patients in the obese group. There were three patients in the obese group and two patients in the non-obese group that developed MDR infections (P = 0.58). There were no statistically significant differences between the two groups in age, gender, mortality, number of piperacillin/tazobactam doses administered, initial or peak serum creatinine, hospital length of stay, or ICU length of stay.

CONCLUSIONS: The results show that obesity was not associated with increased incidence of new MDR infections in obese patients compared to non-obese patients who receive piperacillin/tazobactam for the treatment of complicated intra-abdominal infections

10:40am – 10:55am D **Gram-Negative Antimicrobial Therapy for Pneumonia and Bacteremia Based on Local Risk Factors** Wild Rose B

Presenters: Shane Softy
Evaluators: Myroslava Sharabun
Evaluators 3: Meaghan Watson
Evaluators 2: Kelvin Reynolds

TITLE: Gram-Negative Antimicrobial Therapy for Pneumonia and Bacteremia Based on Local Risk Factors
AUTHORS: Shane J. Softy, PharmD; Salwa Elarabi, R.Ph., BCPS-AQ ID; Jorge Fleisher, MD
OBJECTIVE: Establish risk factors associated with resistant gram-negative organisms in pneumonia and bacteremia at our institution. Pharmacy and Infectious Disease will use the data to develop use criteria for empiric broad-spectrum gram-negative therapy.
METHODS: This is a retrospective, single-center chart review. Patients were included if they were admitted to an inpatient unit at our institution between 01/01/22 and 09/01/22, aged â‰¥ 18 years, had a positive respiratory or blood culture on admission for a gram-negative organism, and received treatment. Patients were excluded if their admission lasted less than 24 hours. Resistant organisms were identified in alignment with the IDSA 2022 guidelines for antimicrobial resistant infections. A report of eligible samples was extracted from the microbiology laboratory. A list of pre-identified potential risk factors, such as hospitalization or antibiotic use within previous 90 days, were evaluated for each subject. Statistical analyses will be run on each potential risk factors for association with resistant gram-negative organisms compared to non-resistant counterparts at our institution. Outcome measures will include antimicrobial selection, duration of therapy, and length of hospitalization.
RESULTS: A total of 94 samples met criteria for inclusion, 48 non-resistant and 46 resistant gram-negative organisms. A total of 58 (62%) subjects had bacteremia, 13 (14%) had community acquired pneumonia, 11 (12%) had healthcare acquired pneumonia, and 12 (13%) had ventilator-associated pneumonia. Subjects who had a blood and respiratory sample for the same organism were counted once. Of the samples, 51 (54%) were male and 71 (76%) were white. Average age was 67 years old with an average BMI of 27.8 kg/m2. Potential risk factors and empiric antimicrobials utilized have been collected for each sample. Univariate and multivariate analyze still needs to be performed on the data to establish statistical significance of potential risk factors.
CONCLUSIONS: After multivariate analyses are performed to ensure no confounding variables, we will be able to establish local risk factors associated with gram-negative pneumonia or bacteremia. The pharmacy department, in conjunction with the Department of Infectious Disease, will update the empiric usage of broad-spectrum gram-negative antimicrobials to align with the established risk factors. Limitations include retrospective analysis, sample size and exclusion of culture-negative subjects.

10:40am – 10:55am Y **Evaluation of Timeliness of Antibiotic Administration for Sepsis and Septic Shock in the Emergency Department** Magnolia D

Presenters: Chi Ham
Evaluators: Alyssa Robertson
Evaluators 3: Daniella Defonte
Evaluators 2: Kristin Marge

TITLE: Evaluation of Timeliness of Antibiotic Administration for Sepsis and Septic Shock in the Emergency Department
AUTHORS: Chi Ham
OBJECTIVE: According to the Surviving Sepsis Campaign, it is recommended to administer broad spectrum antibiotics within 1 hour of recognition. This study will evaluate the impact of quality improvement efforts on the timeliness of antibiotic administration.
METHODS: This study will be a single-centered, retrospective, pre-post intervention at a community teaching hospital. The pre-intervention data will include adult patients from October to December 2022 seen in the emergency department with sepsis or septic shock. The quality improvement efforts will include education to providers, nurses, and pharmacists on the importance of timely antibiotic administration and implementation of provider-nurse communication tool. The post-intervention data will include adults with sepsis or septic shock from January to March 2023. The primary outcome is the time of antibiotic order to time of administration. Secondary outcomes include time from triage to antibiotic order and time from triage to antibiotic administration. This study will be submitted to the Institutional Review Board for approval.
RESULTS: The number and percentage of antibiotic administration within 60 minutes for septic patients will be presented.
CONCLUSIONS: It is anticipated that this research will demonstrate that pharmacist quality improvement efforts will increase the proportion of antibiotics administered within 60 minutes of sepsis/septic shock recognition.

10:40am – 10:55am Y **Potassium Binders as Adjunct Treatment for the Management of Acute Hyperkalemia** Magnolia A

Presenters: Nishi Patel
Evaluators: Christopher Shaw
Evaluators 3: Victoria Hearn
Evaluators 2: Hadeia Farooque

TITLE: Potassium Binders as Adjunct Treatment for the Management of Acute Hyperkalemia
AUTHORS: Nishi Patel, PharmD; Christopher Shaw, PharmD, BCPS, BCCCP; Allison Barnum, PharmD, BCCCP
OBJECTIVE: The objective of this study is to assess the efficacy of potassium binders as adjunct therapy for the management of acute hyperkalemia.
METHODS: This single-center, retrospective cohort study will evaluate adult patients with serum potassium levels of 5.5 mEq/L or greater who received treatment for acute hyperkalemia between October 1, 2021 and September 20, 2022. Patients were divided into two cohorts, those who did and did not receive adjunct potassium binders for acute treatment. Patients were excluded from the study if they lacked a follow-up potassium level within 12 hours of acute treatment. The primary outcome to be compared is the reduction in serum potassium within 6 hours of the initial level between those treated with and without a potassium binder. Results of potassium binder group will be further stratified by the specific potassium binding agent. Secondary outcomes include percentage of patients with repeat potassium measurements within 2 hours, mean time to potassium level follow-up, and serum potassium reduction at 12 hours. Potassium binder related adverse events such as electrolyte imbalances will be reported.
RESULTS: Results will be presented.
CONCLUSIONS: It is anticipated that this study will demonstrate the effectiveness of potassium binders for reducing serum potassium levels in patients with acute hyperkalemia as compared to treatment without potassium binders. In addition, it is hypothesized that sodium zirconium cyclosilicate will be more effective as an adjunct treatment for reducing serum potassium levels in patient with acute hyperkalemia when compared to other potassium binders.

10:40am – 10:55am G **Comparison of transversus abdominis plane blocks with liposomal bupivacaine versus ropivacaine-dexamethasone with or without dexmedetomidine in patients undergoing major abdominal surgery in a community teaching hospital** Wild Rose A

Presenters: Lauren Proctor
Evaluators: Laura Hobbs
Evaluators 3: Scott Baker
Evaluators 2: Jovan Erfan

TITLE: Comparison of transversus abdominis plane blocks with liposomal bupivacaine versus ropivacaine-dexamethasone with or without dexmedetomidine in patients undergoing major abdominal surgery in a community teaching hospital
AUTHORS: L. Proctor, C. Do, N. Tran; Greater Baltimore Medical Center (GBMC), Towson, Maryland
OBJECTIVE: The primary objective is to compare clinical outcomes in patients treated with or without liposomal bupivacaine that underwent a major abdominal surgery. Outcomes to be assessed include postoperative opioid consumption and pain score until discharge.
METHODS: This is a retrospective, observational study extracting patient data via medical chart review conducted on adult patients who underwent a major abdominal surgery from October 1st 2022 to June 30th 2023, and received either transversus abdominis plane (TAP) block with liposomal bupivacaine or with ropivacaine, dexamethasone with or without dexmedetomidine (RD +/- D). Patients were excluded if not managed with the enhanced recovery after surgery (ERAS) institutional protocol, had contraindications to regional anesthesia including allergy or hypersensitivity to amide-type local anesthetics, had an allergy to any component of the medication regimen, or had a history of chronic opioid use (defined as 60mg MME/day for 30 days preoperatively). Statistical tests used include t-test for continuous variables, and the use of chi-square for categorical endpoints. The retrospective nature of the analysis limits any selection of sample size to ensure sufficient power.
RESULTS: The differences in clinical outcomes between cohorts will be recorded and results will be presented.
CONCLUSIONS: It is anticipated that this project will demonstrate whether the use of liposomal bupivacaine in major abdominal surgeries is associated with similar clinical outcomes as an alternative regimen and determine if use is cost effective.

10:40am – 10:55am | **Antimicrobial Stewardship Initiative on Prescribing at Discharge From a community medical center** Empire D

Presenters: Gargi Adenkar
Evaluators: Nicole Bonacasa
Evaluators 3: Sandeep Devabhakthuni
Evaluators 2: Meredith Todd

TITLE: Antimicrobial stewardship initiative on prescribing at discharge from a community medical center

AUTHORS: G. Adenkar, K. Raja, B. Chen, M. Patel, M. Philips; Clara Maass Medical Center (CMMC), Belleville, New Jersey

OBJECTIVE: Antimicrobial stewardship interventions in our discharge setting are limited. The study objective is to assess impact of a discharge antimicrobial initiative by comparing appropriateness of antimicrobial regimens before versus after implementation.

METHODS: Components of this discharge antimicrobial stewardship initiative included development of an institution-specific prescribing protocol, clinician education, and pharmacist prospective audit and feedback at discharge. This IRB-approved study evaluated appropriateness of discharge antimicrobial regimens before and after initiative implementation. Adult patients were included irrespective of encounter type or discharge destination. Pregnant and post-partum patients were excluded. The validated National Antimicrobial Prescribing Survey (NAPS) tool was used to categorize antimicrobial appropriateness as appropriate (optimal or adequate), inappropriate (suboptimal or inadequate), or not assessable. Hospital-specific treatment guidelines, literature references, and patient-specific factors, including microbiology data, were used to determine appropriateness. Data were analyzed using Chi-square tests.

RESULTS: Final results are pending. One hundred randomized antimicrobial regimens were included in each group. The proportion of appropriate discharge antimicrobial regimens will be compared between the pre- and post- intervention groups. Other results that will be recorded and presented include proportion of each NAPS appropriateness category; most common antimicrobials and infections associated with inappropriate prescribing; prescribing trends based on specialty; appropriateness of antimicrobial choice, dose, frequency, duration, and allergy mismatch; and proportion of prescriptions with direct pharmacist intervention.

CONCLUSIONS: The anticipated results of this study will demonstrate an increased proportion of appropriate antimicrobial regimens prescribed at discharge with targeted stewardship intervention.

10:40am – 10:55am I **Cost effectiveness of dalbavancin compared to standard of care antibiotics in hospitalized persons who inject drugs with serious Gram-positive infections** Magnolia C

Presenters: William DePasquale
Evaluators: Joanna DeAngelis
Evaluators 3: Courtney Hoffman
Evaluators 2: Jiyeon Joy Park

TITLE: Cost-effectiveness of dalbavancin compared to standard of care antibiotics in hospitalized persons who inject drugs with serious gram-positive infections

AUTHORS: W. DePasquale, D. Donnelly, A. Debnath, K. Pillinger, T. Louie, S. Munsiff, C. Jones, S. Shulder; University of Rochester Medical Center (URMC), Rochester, New York

OBJECTIVE: Persons who inject drugs (PWID) face risk of serious Gram-positive infections requiring extended hospitalization and intravenous (IV) antibiotic therapy. Dalbavancin (DBV), a long-acting lipoglycopeptide, may be cost-effective for this population.

METHODS: This was a retrospective review of PWID with serious Gram-positive infections including bacteremia, endocarditis, epidural abscess, non-superficial abscesses, or bone and joint infections. Patients who received standard of care (SOC) IV antibiotic therapy between January 1, 2017-November 1, 2019 (SOC group) or SOC IV therapy followed by DBV between November 15, 2019-March 31, 2022 (DBV group) were included. The primary outcome was the total cost to the healthcare system per patient. Total cost was defined as the sum of direct variable costs, fixed costs, and costs related to outpatient visits, emergency department visits, and readmissions. Secondary outcomes included treatment failure, survival at 90 days from the end of therapy, treatment-related adverse effects, and hospital days saved.

RESULTS: A total of 87 patients were included (37 DBV, 50 SOC). Patients were a median of 34 years old and were predominantly Caucasian (82%). Staphylococcus aureus (82%) was the most common organism and bacteremia (71%) was the most common infection. Patients in the DBV group had a median of 14 hospital days saved, compared with 0 hospital days saved in the SOC group (p = 0.014). There was a significantly lower median total cost to the healthcare system in the DBV group ($31,698.00 DBV vs. $45,093.50 SOC, p = 0.035). Rate of treatment failure was similar (32.4% DBV vs. 36% SOC, p = 0.729).

CONCLUSIONS: Dalbavancin is a cost-saving alternative to SOC IV antibiotics for serious Gram-positive infections in PWID. Larger prospective studies, including other patient populations, may demonstrate additional benefit.

10:40am – 10:55am O **Assessing the Financial Toxicity Among Early Triple Negative Breast Cancer Patients Treated with Pembrolizumab plus Chemotherapy** Empire A

Presenters: Carolynne Yen
Evaluators: Monica Stjacques
Evaluators 3: Jeff Endicott
Evaluators 2: Amber Carter

TITLE: Assessing the financial toxicity among early triple negative breast cancer patients treated with pembrolizumab plus chemotherapy

AUTHORS: Carolynne Yen, PharmD; Maya Leiva PharmD, BCOP, Aph; Andrea Lee, PharmD

OBJECTIVE: With the emerging use of checkpoint inhibitors, there is also an associated increase in cost. This study aims to evaluate financial toxicity of pembrolizumab plus chemotherapy in early triple negative breast cancer patients.

METHODS: Electronic health records of patients diagnosed with early triple negative breast cancer who were receiving neoadjuvant pembrolizumab and chemotherapy as described in the KEYNOTE 522 trial were reviewed. Patients included in this study were reviewed for indication of financial concern with the Social Determinants of Health Questionnaire. Financial toxicity was evaluated according to their answer to the question â€œHow hard is it for you to pay for the very basics like food, housing, medical care, and heating?â€□. Patients were excluded if they were deceased at the time of review, did not complete the questionnaire, or had not received immunotherapy prior to questionnaire. Analysis of cost-effectiveness was restricted to the results in the KEYNOTE 522 trial.

RESULTS: Of 50 patients who met the inclusionary criteria, 9 (18%) were identified as being medium to high risk for financial toxicity. The majority of patients who reported financial concern were either of Black or Hispanic race and were also more likely to have food insecurity and be under emotional distress.

CONCLUSIONS: A considerable proportion of patients treated with pembrolizumab plus chemotherapy for early triple negative breast cancer report financial burden, impacting quality of life. Financial toxicity remains a concern in cancer care, more noticeably among patients in minority racial groups.

11:00am – 11:15am A **Impact of pharmacist-led clinical services in a free clinic setting** Empire B

Presenters: Lora-Maria Koytcheva
Evaluators: Maureen Brady
Evaluators 3: Caitlin Prather
Evaluators 2: Cameron Golden

Title: Impact of pharmacist-led clinical services on vaccine compliance and preventative screenings in a charitable clinic setting

Authors: Lora-Maria Koytcheva, PharmD, Jamie Huff, PharmD, BCACP, BC-ADM, and Marcia Brackbill, PharmD, BCPS

Objective: The purpose of this study is to evaluate the effect of adding clinical pharmacy services to a charitable clinic setting on health outcomes in patients with type II diabetes mellitus (T2DM).

Methods: This retrospective chart review was conducted at a charitable clinic. Patients with a T2DM diagnosis, seen at least 3 times at the clinic by any PCP or clinical pharmacist with at least one visit between August 1, 2020, and August 1, 2022, were included. Patients who were <18 years old, pregnant, insured, or who did not have at least 3 independent visits during the trial period with their PCP or pharmacy were excluded. Patients were placed into one of two groups, those managed by a PCP alone or those managed by a pharmacist. The primary endpoint was a composite endpoint of patients up to date with all of the following guideline recommended vaccines based on age: Tdap, Pneumococcal, Hepatitis B, and Zoster. Secondary endpoints assessed partial or full rate of completion of each vaccine or series based on age, annual diabetic foot exams, annual diabetic eye exam referrals, and hemoglobin A1c. Nominal data will be evaluated by Chi Square analysis and continuous data by Students t-test.

Results: In progress

Conclusions: In progress

11:00am – 11:15am C **Evaluation of Oral Antihypertensive Medication Use After Spontaneous Intracerebral Hemorrhage** Magnolia B

Presenters: RABYA MIRZA
Evaluators: Aditi Hoffman
Evaluators 3: Darren Wilson
Evaluators 2: Rebecca Berhanu

TITLE: Evaluation of oral antihypertensive medication use after spontaneous intracerebral hemorrhage

AUTHORS: Rabya Mirza, Pharm.D.; Keri Bicking, Pharm.D., BCPS, BCNSP, FCCM; Anthony Rocco, BSN; Danielle Tompkins, Pharm.D., BCCCP

OBJECTIVE: To characterize the transitioning practices from parenteral to oral antihypertensives after spontaneous intracerebral hemorrhage (ICH) and to compare the safety and efficacy of various classes of oral antihypertensive medications in this setting.

METHODS: This retrospective, observational study included adult patients with spontaneous ICH, requiring parenteral antihypertensives which were transitioned to oral antihypertensives in the hospital setting. Key exclusion criteria were traumatic brain injury, non-traumatic subarachnoid hemorrhage, transition to hospice or death within 72 hours, and a duration of nicardipine infusion of < 6 hours. Data was collected and integrated into REDCap to allow uniform review of each record. The primary endpoint was the incidence of hypotension (defined as percentage of SBP readings

11:00am – 11:15am C **Phenobarbital Compared to Lorazepam for the Treatment of Alcohol Withdrawal** Empire C

Presenters: Brianne Comstock
Evaluators: Lucy Gin
Evaluators 3: Andrew Vassallo
Evaluators 2: Stephen Alkire

TITLE: Phenobarbital compared to lorazepam for the treatment of alcohol withdrawal
AUTHORS: Brianne Comstock, Mindee Hite
OBJECTIVE: To determine the impact on efficacy and safety for phenobarbital (PHB) compared to lorazepam (LOR) utilizing a symptom driven treatment protocol for patients experiencing acute alcohol withdrawal.
METHODS: A retrospective chart review was performed for 60 adult patients at a community teaching hospital treated with a symptom driven alcohol withdrawal protocol utilizing the Clinical Institute Withdrawal Assessment for Alcohol-Revised (CIWA-Ar) scale. Patients were excluded if they left against medical advice within 24 hours of presentation or received benzodiazepines or phenobarbital as maintenance medication outpatient. Outcome measurements collected included patient demographics, all protocol doses given, ICU and hospital length of stay (LOS) in days, respiratory intervention, use of adjunct medications, and mortality. Baseline comparisons were performed using the Fishers exact test for equal proportions. Non-normally distributed parameters were compared using Wilcoxon rank sum tests.
RESULTS: Normally distributed parameters are reported as percentages and non-normally distributed parameters as medians and interquartile ranges. Baseline characteristics differed between groups with PHB patients more likely to be male and overweight. There was no difference in ICU admission (LOR 17%, PHB 30%, p = NS), ICU LOS (LOR {n = 5} 5.6 [3.9-7.0], PHB {n = 9} 5.6 [2.1-7.2], p = NS), hospital LOS (LOR 5.9 [2.9-10.1], PHB 4.5 [3-12.3], p = NS), respiratory intervention (LOR 7%, PHB 20%, p = NS), or mortality (LOR 3%, PHB 3%, p = NS). Those managed with a PHB protocol had a statistically significant higher requirement of adjunctive agents (LOR 3%, PHB 37%, $p < 0.01$) with the most common agent being haloperidol.
CONCLUSIONS: To date there has been minimal data comparing phenobarbital to benzodiazepines for symptom driven treatment of alcohol withdrawal. These results show that both phenobarbital and lorazepam adequately treat alcohol withdrawal using a symptom driven protocol with no significant difference in patient safety outcomes. In the setting of a drug shortage or patient intolerances, phenobarbital symptom-triggered protocol provides an alternative treatment option with a comparable safety profile.

11:00am – 11:15am D **Evaluating prescribing patterns of thromboprophylaxis among patients with newly diagnosed multiple myeloma using two NCCN-recommended risk assessment models** Wild Rose B

Presenters: Gabrielle Sanza
Evaluators: Myroslava Sharabun
Evaluators 3: Meaghan Watson
Evaluators 2: Kelvin Reynolds

TITLE: Evaluating prescribing patterns of thromboprophylaxis among patients with newly diagnosed multiple myeloma using two NCCN-recommended risk assessment models
AUTHORS: Gabrielle Sanza, PharmD. David Turberville, PharmD, BCOP.
OBJECTIVE: The purpose of this study is to assess the utilization and prescribing patterns of thromboprophylaxis in patients with newly diagnosed multiple myeloma and evaluate adherence to NCCN guidelines recommendations based upon quantified patient risk.
METHODS: This study was submitted to the Institutional Review Board for approval. This is a retrospective, single-center chart review of patients with a date of initial multiple myeloma diagnosis between April 16, 2020 (publication date of the NCCN Guideline Version 1.2020 for Cancer-Associated Venous Thromboembolic Disease which included recommendations for utilization of the IMPEDE-VTE and SAVED risk assessment models for the first time) and October 1, 2022, and for which treatment was received at The Valley Hospital/Valley Health System ambulatory infusion center. The IMPEDE-VTE score uses the following patient variables: immunomodulatory agent utilization; BMI ≥25 kg/m2; pelvic, hip or femur fracture within 30 days; erythropoietin stimulating agent use; dexamethasone/doxorubicin; Asian ethnicity/race; VTE history; tunneled line/central venous catheter; and existing thromboprophylaxis. Variables for the SAVED score risk assessment model included prior surgery; Asian race; VTE history; age ≥80 years old; and dexamethasone dose. Patients were identified using ICD-10 codes and all variables for quantification of risk collected from patient charts.
RESULTS: Data collection and analysis are currently in progress. Results and conclusions will be presented at the Eastern States Residency Conference in May, 2023.
CONCLUSIONS: Data collection and analysis are currently in progress. Results and conclusions will be presented at the Eastern States Residency Conference in May, 2023.

11:00am – 11:15am Y **Alteplase versus Tenecteplase for Stroke to Improve Door- to-Needle Time in Community and Critical Access Hospitals** Magnolia A

Presenters: Meredith Sylvester
Evaluators: Christopher Shaw
Evaluators 3: Victoria Hearn
Evaluators 2: Hadeia Farooque

TITLE: Improvement of door-to-needle time for stroke with alteplase versus tenecteplase in community and critical access hospitals

AUTHORS: M. Sylvester, A. Staubs

OBJECTIVE: This study will compare alteplase to tenecteplase for acute ischemic stroke thrombolysis regarding workflow, safety, and efficacy. Tenecteplase lacks FDA approval for this indication despite recent studies showing similar outcomes to alteplase.

METHODS: A multi-center retrospective chart review was done of adult patients with a diagnosis of acute ischemic stroke who received either alteplase or tenecteplase as thrombolytic therapy after presentation. The primary outcome was the change in door-to-needle time at the time of stroke alert and the administration of either alteplase compounded in the inpatient pharmacy or tenecteplase stored in the emergency department. The secondary outcomes were the National Institutes of Health Stroke Scale (NIHSS) scores pre- and post-thrombolytic administration, change in CT/MRI results, length of inpatient hospitalization, complications requiring greater than 48-hour length of inpatient hospitalization, and discharge disposition.

RESULTS: The number and statistical significance of door-to-needle time for alteplase versus tenecteplase as well as scoring and assessments will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate a shorter door-to-needle time with tenecteplase and similar safety outcomes in comparison with alteplase.

11:00am – 11:15am Y **Evaluation of Emergency Department Length of Stay Following Acute Pain Management in the Pre-Hospital, EMS Setting** Magnolia D

Presenters: Megan A Gray
Evaluators: Alyssa Robertson
Evaluators 3: Daniella Defonte
Evaluators 2: Kristin Marge

TITLE: Evaluation of emergency department length of stay following acute pain management in the pre-hospital, emergency medical services setting

AUTHORS: M. Gray, C. Doyno, K. Chamberlin, E. Hasimllari, M. Pantos, R. Kamin, P. Canning

OBJECTIVE: Appropriate analgesia management is a challenge in the emergency department (ED) as many patients report inadequate pain control. This evaluation aims to determine if early pain management in the pre-hospital setting would decrease ED length of stay.

METHODS: In this single-center retrospective chart review, ED patients brought in by EMS who received early pain management (by EMS ± < 30 minutes from ED admission) were compared to those with delayed pain management (> 30 minutes from ED admission). Patients aged 18 years and older who presented to the ED via EMS from January 1, 2022, to December 31, 2022, with a chief complaint of pain were included. Patients were excluded if they were experiencing pain associated with sickle cell crisis, migraines, pregnancy, had a past medical history of substance/opioid abuse or current use of suboxone, had no EMS record on file, or presented from the Department of Corrections. The primary outcome is mean and median ED length of stay (LOS). Secondary outcomes include mean and median hospital LOS, mortality, analgesic administered, and percent reduction in ED pain score.

RESULTS: During the study period 303 patients were screened for inclusion, based on the inclusion and exclusion criteria. A total of 207 patients met study criteria and were include for analysis. Out of the included patients, 14 (7%) received early pain management and a total of 193 patients (93%) received delayed pain management. Patients had similar demographic information in both the early and delayed intervention group. The mean age was 67 ± 18.4 years with 43% of patients being male. The overall ED LOS for the 207 included patients was a mean of 11.9 hours (± 17.3) and a median of 5.8 hours (range, 0.75-18.6). The mean ED LOS was 4.2 (± 1.8) hours and 12.5 (± 17.8) hours for patients who received early and delayed pain management, respectively. In addition, the median ED LOS was 3.5 hours (range, 1.7-8.2) and 5.9 (range, 0.8-18.6) for patients who received early and delayed pain management, respectively.

CONCLUSIONS:The majority of patients who presented to the ED via EMS for pain did not receive analgesic medication en route or within 30 minutes of ED arrival. Overall, the most common analgesic administered was oral acetaminophen with 21% and 31% for patients who received early and delayed pain management, respectively. Further research is warranted to identify barriers for early pain management in the pre-hospital setting to improve patient outcomes.

11:00am – 11:15am G **Real-World Safety and Efficacy of SGLT2 Inhibitors** Wild Rose A

Presenters: Maya Muhieddine
Evaluators: Laura Hobbs
Evaluators 3: Scott Baker
Evaluators 2: Jovan Erfan

TITLE: Real-world safety and efficacy of sodium-glucose cotransporter-2 inhibitors

AUTHORS: Maya Muhieddine, PharmD; Payal Desai, PharmD, BCCCP; Kajal Patel, PharmD, BCPS; Rupal Mansukhani, PharmD; Atlantic Health System, Morristown, NJ

OBJECTIVE: Recent data demonstrate sodium-glucose cotransporter-2 inhibitors dapagliflozin and empagliflozin reduce cardiovascular death and worsening of heart failure. This study aims to assess their safety and efficacy in real-world HFrEF and HFpEF patients.

METHODS: This retrospective study evaluated subjects admitted to a community teaching hospital from January to December 2022. Subjects were included if they were 18 years of age or older and were admitted for heart failure exacerbation. Subjects were excluded if they previously failed an SGLT2i, had a history of acute coronary syndrome, stroke or transient ischemic attack 90 days prior to index hospitalization, had cardiac surgery 30 days prior to index hospitalization, were a heart transplant recipient, were dialysis-dependent, or expired during or within 90 days of index hospitalization. Subjects who received an SGLT2i were case matched on a 1:1 basis to those who did not by sex, age category, and LACE score. The primary endpoint was 30-day all-cause readmission. Key secondary endpoints include 60- and 90-day all-cause readmission rates, total heart failure related readmissions within 90-days, length of stay on index and first readmission, and adverse events within 90-days.

RESULTS: Of the 3608 subjects screened, 130 met criteria for inclusion. Baseline demographics were similar between groups, with approximately 75% of the subjects being Caucasian males. Approximately, 13 (20%) subjects in the control group and 12 (18.46%) subjects in the SGLT2i group (p=0.82) had a 30-day all-cause readmission. The 60- and 90-day all-cause readmission rates were not statistically different between the control and SGLT2i groups (11 (16.92%) and 8 (12.31%) in the control group versus 6 (9.23%) and 13 (20%) in the active group, respectively). When evaluating the difference in total heart failure readmissions, there was no statistical difference (p >0.999). The frequency of adverse events was also similar between both groups.

CONCLUSIONS: Although two landmark trials demonstrated the benefits of SGLT2i in heart failure patients, this study showed no statistically significant difference in readmission rates or readmission length of stay. Future studies including a larger sample size and analysis of use of other heart failure guideline-directed medical therapies in addition to SGLT2i may allow for more significant differences between the groups.

11:00am – 11:15am | **Determining the Utility of MSSA/MRSA Nares in Patients Evaluated with the BioFireÂ® FilmArrayÂ® Pneumonia (PN) Panel at a Large Academic Health System** Magnolia C

Presenters: Irene-Constantina Papamanolis
Evaluators: Joanna DeAngelis
Evaluators 3: Courtney Hoffman
Evaluators 2: Jiyeon Joy Park

TITLE: Determining the Utility of MSSA/MRSA Nares in Patients Evaluated with the BioFireÂ® FilmArrayÂ® Pneumonia (PN) Panel at a Large Academic Health System

AUTHORS: Irene-Constantina Papamanolis PharmD, Yanina Dubrovskaya PharmD, Justin Siegfried PharmD, Kassandra Marsh PharmD, Dana Mazo MD, Ioannis Zacharioudakis MD, Arnold Decano PharmD

OBJECTIVE: To determine the Negative and Positive Predictive Value of the Methicillin-Resistant and Methicillin-Susceptible Staphylococcus aureus nares screen by culture in patients with S.aureus pneumonia evaluated with the BioFire FilmArray PN Panel.

METHODS: This is an IRB-approved, retrospective study of patients admitted from January 2019 to June 2022 at NYU Langone Health Tisch-Kimmel, and Brooklyn campuses. Patients were included if they were age 18 years of age or older and had a pneumonia PCR panel paired with an MRSA/MSSA nasal screen by culture. Patients were excluded if they had a confirmed polymicrobial PNA, infection(s) at another site, an MRSA/MSSA nasal screen > 48 hours after onset of signs and symptoms, and known recurrent S.aureus infection. Patient demographics, past medical history, comorbidities, microbiologic laboratory data, and treatment details (antibiotics, dose, frequency, duration) were collected. The primary endpoint is the NPV and PPV of the MSSA/MRSA nasal screen by culture in patients with BioFire FilmArray PN Panel. Secondary endpoints include de-escalation or discontinuation of empiric anti-MRSA therapy, hospital length of stay, adverse effects, and decolonization status.

RESULTS: The number and percentage needed to calculate the NPV and PPV for the MRSA/MSSA screen by culture in patients with BioFire FilmArray PN Panel, anti-MRSA durations of therapy, hospital length of stay, and adverse effects will be recorded, and results will be presented.

CONCLUSIONS: This project is anticipated to demonstrate comparable NPV and PPVs between the MRSA/MSSA nasal screen by culture and the BioFire FilmArray PN Panel in the setting of S.aureus PNA to other PCR assays.

11:00am – 11:15am | **Minimizing Treatment of Asymptomatic Bacteriuria via Best Practice Advisory** Empire D

Presenters: Casey Holliday
Evaluators: Nicole Bonacasa
Evaluators 3: Sandeep Devabhakthuni
Evaluators 2: Meredith Todd

TITLE: Minimizing treatment of asymptomatic bacteriuria via best practice advisory

AUTHORS: Casey Holliday PharmD, Bret Chapman PharmD, BCIDP, Jesse Dorchak PharmD, BCPS

OBJECTIVE: The objective of this study is to evaluate a Best Practice Advisory (BPA) alert by assessing the change in percentage of patients who received ceftriaxone for asymptomatic bacteriuria (ASB) within 24 hours of emergency department (ED) presentation.

METHODS: A retrospective data extraction of electronic medical records at Conemaugh Memorial Medical Center (CMMC) will be assessed between the control group from October 2021 - March 2022 and the experimental group from October 2022 - March 2023. Inclusion criteria include adults (age >/= 18 years), WBCU 0-10/HPF, and prescribed ceftriaxone. Exclusion criteria include minors (age

11:00am – 11:15am O **Assessing the Discordance Rate of HER2 expression by Immunohistochemistry between Primary and Secondary Prostate Cancer Biopsies** Empire A

Presenters: Joshua Mabellos
Evaluators: Monica Stjacques
Evaluators 3: Jeff Endicott
Evaluators 2: Amber Carter

TITLE: Assessing the Discordance Rate of HER2 Expression by Immunohistochemistry between Primary and Secondary Prostate Cancer Biopsies

AUTHORS: Joshua Mabellos, Puneet Gill, Coen Lap Alexandra Rozalen, Guoqing Diao, Shanshan Liu, Shrina Thomas, Ramesh Subrahmanyam, Victor Nava, Maneesh Jain

OBJECTIVE: Human epidermal growth factor receptor 2 (HER2) was expressed in 20% in prostate biopsies from patients with prostate cancer. The prevalence and discordance rate of HER2 in multiple prostate biopsies at a Veterans Affairs hospital were assessed.

METHODS: A single-center, retrospective chart review of at least 30 patients with prostate cancer that had two prostate biopsies based on data collected from the Computerized Patient Record System (CPRS) and Veterans Information Systems and Technology Architecture (VISTA). Demographic and laboratory data including age, race, Gleason score, and stage of cancer were collected under IRB-approved waivers for consent and HIPAA authorization. Formalin-fixed paraffin embedded(FFPE) prostate tumors were evaluated for IHC analysis by the Washington DC Pathology Department. HER2 expression was assessed using the VENTANA anti-HER2/neu (4B5) rabbit monoclonal primary antibody and scored as 0, 1+, 2+, and3+. HER2 scores of 0 and 1+ to 3+ were categorized as HER2-negative and HER2-positive, respectively. The primary endpoints are the prevalence and discordance rate of HER2 expression in paired prostate samples.

RESULTS: In our predominately African American (94%) cohort of 32 patients with a mean age of 60 years, overall HER2 prevalence was 25% (n = 8) and 56% (n = 18) in the primary and secondary biopsies, respectively. The mean time between biopsies was 41 weeks and overall HER2 discordance was 56% (n = 18). Discordance from HER2-negative to HER2-positive was 38% (n = 12), while discordance from HER2-positive to HER2-negative was 6% (n = 2). The remaining discordance were from HER2-low to HER2-positive or vice-versa. The most common variance between primary and secondary biopsies was observed as +1 HER2 scoring category (n =11). No significant associations were found between HER2 discordance and Gleason score or stage of cancer.

CONCLUSIONS: HER2 expression was observed in 25% of initial biopsies and over 50% of secondary biopsies. Discordance of HER2 expression was found in over 50% of patients. The majority of HER2 discordance involved patients who had initial HER2-negative biopsies and secondary HER2-positive biopsies with most showing +1 difference in IHC scores. This study could lead to the consideration of multiple prostate cancer biopsies to determine eligibility for anti-HER2 therapy in future trials.

11:20am – 11:35am A **Real-world comparison of oral versus injectable semaglutide for the reduction of HbA1c and weight in patients with type 2 diabetes mellitus** Empire B

Presenters: Maria Pinto
Evaluators: Maureen Brady
Evaluators 3: Caitlin Prather
Evaluators 2: Cameron Golden

TITLE: Real-world comparison of oral versus injectable semaglutide for the reduction of hemoglobin A1c and weight in patients with type 2 diabetes

AUTHORS: Maria Pinto, PharmD; Shally Lin, PharmD; Katie Diehl, PharmD, BCACP; Sarah Amering, PharmD, BCACP; Lillian Brennan, PharmD, BCPS; Samantha Heacock, PharmD, BCACP, BC-ADM

OBJECTIVE: Semaglutide (SG) is used to treat Type 2 Diabetes (T2D). No head-to-head comparisons of SG formulations exist in the literature. Our study compared the effect of oral versus injectable SG on weight and hemoglobin A1c (HbA1c) in patients with T2D.

METHODS: This was a retrospective, single-center, observational study of adult patients within a large, academic, health system who had a diagnosis of T2D and were treated with oral SG 7 mg or 14 mg daily or injectable SG 0.5 mg or 1 mg weekly. Patients with an active prescription (re-filled at least once) for oral or injectable SG between November 1, 2019 and July 31, 2022 were included. The primary outcome was to compare change in weight (kg) and HbA1c (%) from baseline to 6 months between patients receiving oral versus injectable SG; stratified according highest dose received. Secondary outcomes included describing trends and patterns related to dose reductions and discontinuations, achievement of clinically significant reductions in weight and HbA1c, and presence of an embedded clinical pharmacist at patientsâ€™ primary care providerâ€™s office. A Wilcoxon Rank test was used to evaluate the primary outcome and descriptive statistics were used for secondary outcomes.

RESULTS: A total of 105 patients were included; median age 60 years and 54% male. Patients experienced mean decreases in weight and HbA1c from baseline to 6 months of â€“3.64kg (p=0.015) and â€“1.75% (p

11:20am – 11:35am C **Cardiovascular Safety and Effectiveness of Sotalol Initiation at Higher Than Recommended Doses in Sotalol-NaÃ¯ve Patients** Magnolia B

Presenters: Preston Mayo
Evaluators: Aditi Hoffman
Evaluators 3: Darren Wilson
Evaluators 2: Rebecca Berhanu

TITLE: Cardiovascular Safety and Effectiveness of Sotalol Initiation at Higher Than Recommended Doses in Sotalol-NaÃ¯ve Patients

AUTHORS: Preston Mayo, PharmD; Sunjeev Konduru, PharmD, BCPS

OBJECTIVE: Sotalol is often initiated at higher than the recommended starting dose of 80mg twice a day, which may increase risk of adverse events. This study will assess the safety and effectiveness of initiating sotalol at doses higher than 80mg twice daily.

METHODS: Single center retrospective review of patients 18 years and older initiated on sotalol from January 1, 2020, to August 20, 2022. Patient were divided into two groups, 120/160 milligrams twice daily and 80 milligrams twice daily. Patients were excluded if sotalol was a home medication. Data collection included patient demographics (age, gender, weight, sotalol indication, past medical history), creatinine, QRS and QTc intervals, heart rate, blood pressure, and concomitant QT/QTc prolonging medications. The primary endpoint was a composite of the percentage of patients that experienced bradycardia (HR

11:20am – 11:35am C **Standardized Phenobarbital in Addition to CIWA-AR vs Reactive CIWA-AR Protocol for Alcohol Withdrawal Syndrome: A Retrospective Study** Empire C

Presenters: Zachary Harris
Evaluators: Lucy Gin
Evaluators 3: Andrew Vassallo
Evaluators 2: Stephen Alkire

TITLE: Standardized Phenobarbital in Addition to CIWA-AR versus Reactive CIWA-AR Protocol for Alcohol Withdrawal Syndrome: A Retrospective Study

AUTHORS: Zachary Harris, PharmD; Sheshadri Hoque, PharmD; Stacie Deslich,MA, MSHCA; Wesley Kafka, PharmD, BCCCP, MBA

OBJECTIVE: To evaluate if phenobarbital administration for AWS early in administration may decrease ICU and hospital length of stay, benzodiazepine usage, and use of additional agents for symptom control.

METHODS: Single-center, retrospective, cohort study evaluated patients at a 956-bed teaching, tertiary health system (CAMC). Patients >18 years of age who presented to the ER with the primary diagnosis of alcohol withdrawal syndrome diagnosed between 1/1/2020 through 5/31/22 were assessed for inclusion. Exclusion criteria included pregnancy, benzodiazepine addiction or usage, and Propofol for sedation. The primary outcome of the study was to assess the total milligrams of lorazepam or chlordiazepoxide administration per CIWA-Ar protocol used for AWS. Secondary outcomes included ICU length of stay, hospital length of stay, and time on mechanical ventilation. The total daily benzodiazepine dosage administered per CIWA-Ar was assessed in lorazepam equivalents. Per institutional CIWA-Ar protocol patients could be placed on either chlordiazepoxide or lorazepam for treatment of AWS. If the patient was placed on chlordiazepoxide the total daily dose was converted to lorazepam equivalents.

RESULTS: Within a 24-hour period, the phenobarbital taper arm on average utilized higher doses of benzodiazepines in comparison to the CIWA-Ar alone arm (41.7mg vs 24.5mg, P

11:20am – 11:35am D **Comparison of antiepileptic loading doses on resolution and overall outcomes of status epilepticus patients** Wild Rose B

Presenters: Kabas Abou Jahjah
Evaluators: Myroslava Sharabun
Evaluators 3: Meaghan Watson
Evaluators 2: Kelvin Reynolds

TITLE: Comparison of antiepileptic loading doses on resolution and overall outcomes of status epilepticus patients

AUTHORS: K. Abou Jahjah, D. Schulingkamp, J. Kunkel, J. Cheng; Jefferson Abington Hospital, Abington, Pennsylvania

OBJECTIVE: Antiepileptic drug (AED) loading doses are often administered to status epilepticus (SE) patients; however, the agent, dose, and efficacy, remains controversial. This study aims to analyze the effectiveness of AED loading dose on seizure cessation.

METHODS: This Institutional Review Board (IRB) approved single-center, retrospective study analyzed all SE patients treated with antiepileptic drugs. The study included adult patients â‰¥18 years of age with a confirmed diagnosis of SE who were admitted at Jefferson Abington Hospital or seen in the emergency trauma center between March 2021 and December 2022. Data collected included patient demographics, initial antiepileptic agent administered, dose, and subsequent additional agents. The primary endpoint was clinical response defined as seizure cessation without the need of further intervention. Secondary endpoints included refractory seizures, length of stay, and adjunctive agents.

RESULTS: A total of 62 patients were screened for this study, of which 22 met the inclusion criteria. Overall, 17 patients received a loading dose of levetiracetam whereas 5 patients did not. Of the patients who received a loading dose, 12 patients did not experience continuation of seizure. However, 5 patients who received a loading dose experienced continuation of seizure that required additional therapy.

CONCLUSIONS: Managing seizures in SE patients is critical as prolonged seizure duration contributes to neuronal damage. Levetiracetam loading doses appear to be efficacious in seizure cessation and prevention of recurrence. Further studies are needed to establish the optimal antiepileptic loading dose in SE patients.

11:20am – 11:35am Y **Comparison of the Efficacy and Safety of Tenecteplase versus Alteplase for Acute Ischemic Stroke Patients at a Community Teaching Hospital** Magnolia A

Presenters: Michael Dinh
Evaluators: Christopher Shaw
Evaluators 3: Victoria Hearn
Evaluators 2: Hadeia Farooque

TITLE: Comparison of the efficacy and safety of tenecteplase versus alteplase for acute ischemic stroke patients at a community teaching hospital

AUTHORS: M. Dinh, A. Arau; Unity Hospital, Rochester, New York

OBJECTIVE: There is growing primary literature supporting tenecteplase's use in acute ischemic stroke. The purpose of this retrospective review is to assess the efficacy and safety outcomes following alteplase or tenecteplase in acute ischemic stroke.

METHODS: A single-center, retrospective chart review will be conducted to include patients who received tenecteplase for the indication of acute ischemic stroke from April 30, 2022 to March 15, 2023. Selection of the alteplase treatment group will be done using reverse chronological order starting from April 30, 2022 and moving back in time until an equal number of patients have been selected for both the alteplase and tenectaplse groups or up until January 1, 2021.

RESULTS: Early neurological improvement defined as percentage change in NIHSS at 24 hours as compared to NIHSS upon admission will be collected and presented. Secondary outcomes will include symptomatic intracranial hemorrhage (intracranial hemorrhage combined with neurological deterioration leading to an increase of ≥4 on the NIHSS from baseline or the lowest NIHSS value between baseline and 24 hours) and 90 day modified Rankin score (mRS).

CONCLUSIONS: It is anticipated that this project will demonstrate similar efficacy and safety between alteplase and tenecteplase further supporting tenecteplase's use in acute ischemic stroke.

11:20am – 11:35am Y **Pre and Post Evaluation of the Diabetic Ketoacidosis and Hyperosmolar Hyperglycemic Syndrome Insulin Drip Titration Protocol at LifeBridge Health** Magnolia D

Presenters: Lorraine Chang
Evaluators: Alyssa Robertson
Evaluators 3: Daniella Defonte
Evaluators 2: Kristin Marge

TITLE: Pre and post evaluation of the diabetic ketoacidosis and hyperosmolar hyperglycemic syndrome insulin drip titration protocol at LifeBridge Health

AUTHORS: L. Chang, A. Hoffman, F. Buzzalino; Sinai Hospital, Baltimore, Maryland

OBJECTIVE: The objective is to assess the efficacy of the updated diabetic ketoacidosis (DKA) and hyperosmolar hyperglycemia (HHS) protocol based on time to resolution of hyperglycemic state and incidence of hypoglycemia, when appropriately titrated.

METHODS: Adult patients presenting to Sinai and Northwest Hospital with DKA or HHS between prespecified time frame pre-and post-protocol updates and ordered the DKA or HHS power plan were reviewed. Post-protocol update included maintaining the insulin rate, instead of decreasing rate to 0.05units/kg/hr once blood glucose reached target level and dextrose containing fluids are started on the patient. Each patient's medical management was evaluated for adherence to protocol including: starting insulin drip rate, adherence to drip titration over the first 4 hours, appropriate transition to dextrose containing fluids. Other endpoints included duration of continuous IV insulin treatment, time to resolution of hyperglycemic state defined as closing of the anion gap, reaching target serum osmolality, achieving target blood glucose. Incidences of hypo-and hyperglycemia were also noted in relation to protocol changes. Data was analyzed using descriptive statistics.

RESULTS: Total of N=100 encounters were included in the study. The titration adherence, time to resolution, and rates of hyper- and hypoglycemia will be recorded, and results will be presented.

CONCLUSIONS: It is anticipated that the new DKA/HHS protocol will reflect tighter glucose control in patients by lowering rates of hyperglycemia while keeping rates of hypoglycemia low when the insulin rate is maintained during the addition of dextrose containing fluids.

11:20am – 11:35am G **Evaluating the impact of phenobarbital boluses in patients experiencing alcohol withdrawal across a health system** Wild Rose A

Presenters: Sarah Pacheco
Evaluators: Laura Hobbs
Evaluators 3: Scott Baker
Evaluators 2: Jovan Erfan

TITLE: Evaluating the impact of phenobarbital boluses in patients experiencing severe alcohol withdrawal across a health system

AUTHORS: Sarah M Pacheco PharmD, Andrew Gentry PharmD BCIDP, Colleen Teevan PharmD BCCCP, BCPS, Shally Sinha PharmD CACP

OBJECTIVE: Alcohol Withdrawal Syndrome (AWS) poses serious health risks for patients with chronic alcohol use disorder. The purpose of this study is to assess whether phenobarbital decreases hospital length of stay for patients admitted for AWS.

METHODS: A multicenter, retrospective, chart review was conducted for patients admitted for alcohol withdrawal in the year 2021. This review compared seventy-seven patients who received phenobarbital boluses as either 10 mg/kg or 5 mg/kg per dose and 75 patients who did not receive phenobarbital during the admission for alcohol withdrawal. Patients were excluded if they were greater than eighteen years of age, on baseline mechanical ventilation, pregnant, using scheduled phenobarbital or benzodiazepines for other indications, or had a seizure history. The primary outcome evaluated was total hospital length of stay. Secondary endpoints included total benzodiazepine requirements, presence of mechanical ventilation, ICU length of stay, use of lorazepam infusions, and average benzodiazepines per day. A p-value of

11:20am – 11:35am I **Evaluation of Timing of Antimicrobial Surgical Prophylaxis on Rates of Surgical Site Infections** Empire D

Presenters: Colin Duell
Evaluators: Nicole Bonacasa
Evaluators 3: Sandeep Devabhakthuni
Evaluators 2: Meredith Todd

TITLE: Evaluation of timing of antimicrobial surgical prophylaxis on rates of surgical site infections

AUTHORS: Colin H. Duell, PharmD; David M. Oâ€™Sullivan, PhD; Anastasia Bilinskaya, PharmD, BCIDP, AAHIVP; Kristin E. Linder, PharmD, BCPS, BCIDP, AAHIVP

OBJECTIVE: National surgical guidelines recommend that antimicrobials be administered 60 minutes prior to incision. This study assesses the impact of timing of antimicrobial administration on rates of surgical site infections (SSIs) within Hartford HealthCare.

METHODS: This multi-center retrospective analysis included inpatients who underwent abdominal hysterectomy, colorectal surgery, or craniotomy between 9/1/20 and 2/28/21, who were at least 18 years old and received antimicrobial prophylaxis (AP) within 60 min of first incision. Patients were excluded if they had a pre-existing infection prior to the first incision or a documented fungal SSI. The primary outcome, incidence of SSI, was compared between patients who received AP 0-30 min vs 31-60 min prior to incision. Secondary outcomes include appropriateness of antimicrobial selection and dosing, in-hospital mortality, and 30-day readmissions. SSI definitions and surveillance periods were consistent with National Healthcare Safety Network criteria. Continuous data were compared using a Studentâ€™s t-test if normally distributed, or a Mann-Whitney U test if non-normally distributed. Categorical data were evaluated with a Pearson Chi-square test or Fisherâ€™s exact test where appropriate.

RESULTS: Of 277 patients included, 233 (84.1%) and 44 (15.9%) received AP 0-30 and 31-60 min prior to incision, respectively. Patients in the 0-30 group were more likely to undergo hysterectomy (42.1% vs. 22.7%, P=0.048) and receive cefazolin (91.4% vs. 77.3%, P=0.036). Patients in the 31-60 group were more likely to have colorectal surgery (45.5% vs. 36.5%) or craniotomy (21.5% vs. 31.8%). SSI occurred in 14 (6.0%) vs. 2 (4.5%) patients in the 0-30 and 31-60 groups, respectively (P=0.703). In-hospital mortality (1.7% vs. 2.3%, P=0.582) and 30-day readmission rates (11.8% vs. 13.6%, P=0.731) were similar. There were no differences in incidence of SSI in patients who received AP 0-15, 16-30, 31-45, or 46-60 min prior to incision (P=0.487).

CONCLUSIONS: Results of this study show no difference in incidence of SSIs between patients receiving antimicrobial prophylaxis 0-30 min and 31-60 min prior to incision. Because our sample size was smaller, SSI incidence was lower, and differences between timing groups were smaller than expected, the study was underpowered to have detected a statistically significant finding in the primary outcome. Further investigation of smaller time intervals may be beneficial to determine the optimal timing of AP.

11:20am – 11:35am I **Impact of Pharmacist Involvement in Emergency Department Culture Review** Magnolia C

Presenters: Andrea Richardson
Evaluators: Joanna DeAngelis
Evaluators 3: Courtney Hoffman
Evaluators 2: Jiyeon Joy Park

TITLE: Impact of pharmacist involvement in post-discharge emergency department culture review
AUTHORS: Andrea Richardson, PharmD, Kikelola Gbadamosi, MBA, MS, PharmD, BCPS, Sheheryar Muhammad, PharmD, BCPS, BCCCP, BCCP, CACP, Chelsea McSwain, PharmD, BCPS, BCCCP, Haijing Tran, PharmD, BCPS, BCCCP
OBJECTIVE: To evaluate the impact of pharmacist involvement in the post-visit emergency department (ED) culture review process on ED revisits and hospitalizations.
METHODS: This single-center, pre- and post-implementation study examines the impact of pharmacist involvement in the post-ED visit culture review process on ED revisits and hospitalizations. Positive microbiological results include documented growth from urine, skin and soft tissue, throat, blood, or stool cultures. Patients included in the study are of 18 years of age or older and have a positive culture result post ED-discharge. Patients are excluded from the study if they are admitted to the hospital or transferred to another facility. The primary outcomes include ED revisits within 7 days and hospital readmissions within 30 days for the same condition. The secondary outcomes are percentage of pharmacist interventions accepted and types of pharmacist interventions implemented.
RESULTS: The results showing ED revisits within 7 days and hospital readmissions within 30 days for the same condition with and without pharmacist involvement in the culture review process will be analyzed and presented.
CONCLUSIONS: It is anticipated that this project will demonstrate the impact of pharmacist involvement with antimicrobial stewardship interventions on patient outcomes.

11:20am – 11:35am O **Impact of Pharmacist Second Teaches on Chemotherapy-Induced Gastrointestinal Toxicities in a Community Cancer Institution** Empire A

Presenters: Emily Persson
Evaluators: Monica Stjacques
Evaluators 3: Jeff Endicott
Evaluators 2: Amber Carter

TITLE: Impact of Pharmacist Second Teaches on Chemotherapy-Induced Gastrointestinal Toxicities in a Community Cancer Institution Institute
AUTHORS: Emily Persson
OBJECTIVE: Pharmacists at Lafayette Family Cancer Institute (LFCI) focus on gastrointestinal (GI) toxicity management for chemotherapy-induced toxicities. This study aimed to determine the impact of pharmacist counseling on chemotherapy-induced GI toxicities.
METHODS: Adult outpatients receiving chemotherapy at LFCI between May and August 2022 were counseled by pharmacists to address GI issues. The study included adult patients receiving chemotherapy or immunotherapy at LFCI who had previously received their first teach, or counseling, by nursing at an earlier visit. Patients were excluded if receiving chemotherapy in the inpatient setting, transitioned to hospice, or passed away prior to subsequent chemotherapy administrations. The exposure was defined as a second teach, or receipt of pharmacist education/counseling at a chemotherapy or immunotherapy administration. The toxicity grading was collected using Common Terminology Criteria for Adverse Events (CTCAE) at the second teach visit and at the subsequent visit. The primary outcome is a change in composite CTCAE grade of gastrointestinal toxicities between visits. Measured secondary outcomes include change in CTCAE grade of each gastrointestinal toxicity and type of pharmacist intervention.
RESULTS: There were 212 total documented pharmacist second teaches. 35 second teaches were excluded resulting in 177 education sessions included for analysis. Most patients were stable with their CTCAE composite score (60%). There was no increase in CTCAE scores for constipation nor vomiting sub scores. For all toxicities, most patients were stable for all CTCAE scores including constipation (86%), diarrhea (89%), nausea (77%) and vomiting (97%). There were moderate decreases in scores with constipation (14%) and nausea (15%) scores. A total of 339 interventions were made by pharmacists. Pharmacist's provided patient education for 258 of the interventions and made 37 medication interventions.
CONCLUSIONS: The pharmacist second teach program which allowed pharmacists direct patient interactions for education and management of symptom burden helped to maintain the majority of patients at their baseline symptom severity. Pharmacists will remain an asset to the management of chemotherapy-induced gastrointestinal toxicities with the goal to improve patient care quality and decrease symptom burden for patients.

11:30am – 12:30pm S **Arrival/Registration Group 2** Great Lobby
Hotel check in is at 4pm, please arrive in presentation attire.

11:30am – 1:00pm S **Book Signing by Cory Jenks** Great Lobby
Presenters: Cory Jenks
Book Signing
As part of Eastern States' commitment to give back to the Hershey community in return for hosting us each year, we are recommending a $5 donation to the Children's Miracle Network for each book signing. One hundred percent of all money collected will be donated to the
Children's Miracle Network at Penn State Hershey.

11:40am – 11:55am A **Impact of GLP-1 Receptor Agonist Use in Patients with Fatty Liver Disease and Diabetes** Empire B
Presenters: Sidra Khan
Evaluators: Maureen Brady
Evaluators 3: Caitlin Prather
Evaluators 2: Cameron Golden
TITLE: Impact of GLP-1 Receptor Agonist Use in Patients with Fatty Liver Disease and Diabetes
AUTHORS: Sidra Khan, PharmD; Marci Wood, PharmD, BCACP; Amanda G. Kennedy, PharmD, BCPS; Kayla Davis, PharmD; Juvena Hitt, MPH; Sheela Reddy, MD; Matthew Gilbert, DO, MPH
OBJECTIVE: GLP-1 receptor agonists (RA) are used to treat type 2 diabetes (T2DM), and may have efficacy in fatty liver disease. The purpose of this study is to determine the prevalence and clinical impact of GLP-1 RA use in patients with T2DM and liver disease.
METHODS: This is an IRB-approved, retrospective cohort study of University of Vermont Medical Center adult patients with T2DM and fatty liver disease. Included patients had a diagnosis of nonalcoholic fatty liver disease (NAFLD), nonalcoholic fatty liver (NAFL), or nonalcoholic steatohepatitis (NASH) and were identified between 1/1/21-12/31/21. Patients with hepatitis B, hepatitis C, or a concurrent prescription for pioglitazone were excluded. Cases included patients treated with a GLP-1 RA. The primary outcome was change in Fibrosis-4 (Fib-4) score, with NAFLD Fibrosis Score (NFS) as a secondary outcome. Follow-up scores were calculated from labs within 3 to 15 months after baseline, using the values closest to 3 months from baseline. Patient characteristics and GLP-1 RA prevalence were evaluated using descriptive statistics. Wilcoxon rank sum tests were used to evaluate changes in Fib-4 and NFS, with P

11:40am – 11:55am C **Impact of pharmacist interventions on glycemic control in critically ill patients** Magnolia B
Presenters: Alexis Miller
Evaluators: Aditi Hoffman
Evaluators 3: Darren Wilson
Evaluators 2: Rebecca Berhanu
TITLE: Impact of pharmacist interventions on glycemic control in critically ill patients at a community hospital
AUTHORS: Alexis Miller, PharmD; Thao Pham, PharmD; Melissa Tu, PharmD, BCPS
OBJECTIVE: The aim was to utilize pharmacist education and ICU rounding tools to achieve 100% pharmacist monitoring of glucose and insulin regimens by March 15, 2023. The secondary aim was to achieve conventional glucose targets for 90% of ICU patients.
METHODS: This quality improvement project utilizes the Institute of Healthcare Improvementâ€™s Model for Improvement and was exempt from IRB approval. Conventional glucose control (blood glucose

11:40am – 11:55am C **Impact of Weight-Based versus Non-Weight-Based Dosing of Norepinephrine, Epinephrine, and Phenylephrine in Patients With Septic Shock** Empire C

Presenters: Maryia Astapenka
Evaluators: Lucy Gin
Evaluators 3: Andrew Vassallo
Evaluators 2: Stephen Alkire

TITLE: Impact of Weight-Based versus Non-Weight-Based Dosing of Norepinephrine, Epinephrine, and Phenylephrine in Patients With Septic Shock

AUTHORS: M. Astapenka, A. Barnum, C. Shaw; St. Mary Medical Center (SMMC), Langhorne, Pennsylvania

OBJECTIVE: In septic shock, vasopressors can be dosed using weight-based (WBD) or non-weight-based dosing (NWBD) strategies. This study evaluated the clinical effects and safety outcomes of WBD versus NWBD strategies of vasopressors in septic shock.

METHODS: This was a single-center, pre-post retrospective cohort study of patients 18 years of age and older who were admitted with a primary diagnosis of septic shock from August 30, 2020, to August 30, 2022 and received norepinephrine, epinephrine, and/or phenylephrine for 12 hours or greater. The primary outcome was the difference in in-hospital mortality between the WBD and NWBD groups. Secondary outcomes included time to goal mean arterial pressure of greater than 65 mmHg, total duration of vasopressor treatment, intensive care unit length of stay, hospital length of stay, and cumulative vasopressor dose. Patients who developed a vasopressor-associated arrhythmia requiring treatment with amiodarone were included in the safety evaluation. Pre-planned subgroup analysis compared patients with body mass index (BMI) less than 30 kg/m2, BMI 30-40 kg/m2, and BMI greater than 40 kg/m2, as well as patients who receive midodrine.

RESULTS: The difference in clinical effects between NWBD and WBD groups will be presented.

CONCLUSIONS: It is anticipated that this study will demonstrate a difference between the WBD and NWBD groups for efficacy and safety.

11:40am – 11:55am Y **Safety of ketamine compared with etomidate for rapid sequence intubation in the emergency department** Magnolia A

Presenters: Nicholas Monkemeyer
Evaluators: Christopher Shaw
Evaluators 3: Victoria Hearn
Evaluators 2: Hadeia Farooque

TITLE: Safety of ketamine compared to etomidate for rapid sequence intubation in the emergency department
AUTHORS: Nicholas J. Monkemeyer, PharmD1; Kaylee K. Marino, PharmD, BCCCP, BCPS1; Helen Y. Wang, PharmD, BCCCP1; Lydia R. Ware, PharmD, BCCCP, BCPS1; Lena K. Tran, PharmD, BCCCP2; 1Brigham and Womenâ€™s Hospital, Boston, Massachusetts, 2AdventHealth Central Florida, Kissimmee, Florida
OBJECTIVE: The objective of this study was to compare the hemodynamic effects of ketamine versus etomidate in adult patients undergoing rapid sequence intubation (RSI) in the emergency department (ED).
METHODS: This single-center, retrospective cohort study was approved by the Mass General Brigham Institutional Review Board (2022P002201) and included adult patients who received etomidate or ketamine for induction during RSI in the ED between January 1, 2016 and December 31, 2022. The primary outcome was change in hemodynamics following induction agent administration, defined as a composite of post-induction systolic blood pressure (SBP) less than 90 mmHg, heart rate (HR) less than 50 beats per minute, or greater than 30% reduction in either SBP or HR. Secondary outcomes included administration of a fluid bolus or vasopressor within 30 minutes of induction and cardiac arrest or death within 1- and 24-hours of induction. A multivariate logistic regression with a priori risk factors including sepsis, age, body mass index, induction without paralytic use, shock index, pre-intubation vasopressor use, SBP, and mean arterial pressure was conducted to assess for predictors of hemodynamic change.
RESULTS: A total of 672 patients were included (53 ketamine and 619 etomidate). Median weight-based doses of etomidate and ketamine administered were 0.25 mg/kg and 1.48 mg/kg, respectively. Patients who received ketamine were more likely to have received vasopressors prior to intubation (20.8% vs. 9.8%, p=0.01) and to have a respiratory admission diagnosis (37.7% vs. 18.7%, p=0.001). Changes in hemodynamics occurred in 17% of patients in the ketamine group compared to 11% in the etomidate group (p=0.19). There were no significant differences in any secondary outcomes. Sepsis (OR, 2.09; 95% CI, 1.24-3.5; p=0.005) and age (OR, 1.03; 95% CI, 1.01-1.05; p=0.001) were significant predictors of hemodynamic change.
CONCLUSIONS: This study did not identify an association between the incidence of post-intubation hemodynamic change during induction with etomidate or ketamine in adult patients undergoing RSI in the ED. Future studies comparing ketamine and etomidate are warranted to characterize additional risk factors for hemodynamic collapse for patients undergoing RSI in the ED.

11:40am – 11:55am G **Evaluation of a Benzodiazepine-Sparing Protocol for Alcohol Withdrawal Syndrome on Time to Symptom Control** Wild Rose A

Presenters: Deanna Fox
Evaluators: Laura Hobbs
Evaluators 3: Scott Baker
Evaluators 2: Jovan Erfan

TITLE: Evaluation of a benzodiazepine-sparing protocol for alcohol withdrawal syndrome

AUTHORS: D. Fox, PharmD, K. Adamczyk, PharmD, BCCCP, A. Pennoyer, PharmD, BCCCP, J. Cohn, MD; Atlantic Health System, Morristown Medical Center, Morristown, New Jersey

OBJECTIVE: Benzodiazepines (BZD) are standard therapy for alcohol withdrawal syndrome (AWS); however, they have been associated with negative outcomes. Therefore, this study evaluates the use of a benzodiazepine-sparing protocol (BSP) for the management of AWS.

METHODS: This retrospective cohort study compared a BSP to BZD alone in patients at risk of AWS between February 2022 and February 2023. The BSP contained symptom-driven BZD plus a combination of either clonidine or guanfacine plus gabapentin and/or valproic acid. Patients were 18 years old and older with a Clinical Institute Withdrawal Assessment Alcohol Scale Revised (CIWA-Ar) score 8 or greater within 48 hours of admission. Exclusion criteria included receipt of standing BZD at time of BSP initiation, receipt of phenobarbital dose > 130 mg, admission to the intensive care unit for AWS, seizures upon presentation, and use of > 1800 mg of gabapentin prior to admission. The primary outcome was the time to a CIWA-Ar score < 8 for at least 24 hours. Secondary outcomes included cumulative daily dose of BZD, hospital length of stay, inpatient mortality, 30-day readmission, and AWS complications. Data were analyzed using a two-sample t-test, two-proportion z-test, Mann-Whitney U test, or Fisher's exact test.

RESULTS: Ninety-one patients were included; 45 were treated with BSP and 46 with BZD alone. Admission related to AWS (66.7% vs 10.9%, p< 0.001), hospitalization in the past 12 months for AWS (28.9% vs 6.5%, p=0.006), and initial CIWA-Ar score of 8 or greater (60% vs 28.2%, p=0.001) were more common in the BSP group. Time to CIWA score < 8 for at least 24 hours was shorter with the BSP, although not statistically significant (1.99 days [IQR 1.1-2.8] vs 2.14 days [IQR 1.3-3.3]; p=0.303). Duration of BZD use over 7 days was shorter with the BSP (mean 2.7 days vs 4.0 days, log-rank p=0.002). Hospital length of stay was shorter with the BSP (5.0 days vs 6.5 days, p=0.025). Inpatient mortality, 30-day readmission, and AWS complications were similar among study groups.

CONCLUSIONS: The results of this study demonstrate the benefits of a BSP for the management of AWS compared to standard therapy with BZD alone. Although the difference in time to a CIWA score < 8 for at least 24 hours did not reach statistical significance, patients in the BSP group experienced a shortened hospital length of stay and total duration of BZD use without an increased risk of AWS complications.

11:40am – 11:55am | **Effectiveness of Oral Vancomycin as Prophylaxis Against Clostridioides Difficile Infection in Hematopoietic Stem Cell Transplant Patients** Magnolia C

Presenters: Kelly Reitmeyer
Evaluators: Joanna DeAngelis
Evaluators 3: Courtney Hoffman
Evaluators 2: Jiyeon Joy Park

TITLE: Evaluating the effectiveness of oral vancomycin as prophylaxis against Clostridioides difficile infection in hematopoietic stem cell transplant patients

AUTHORS: Kelly Reitmeyer, PharmD; Esther Huang, PharmD, BCPS, BCOP; Jiyeon Park, PharmD, BCOP; David Awad, PharmD, BCOP; Arsheena Yassin, PharmD, BCIDP, AAHIVP; John Mills, MD; Ahmed Abdul Azim, MD; Pinki Bhatt, MD; Navaneeth Narayanan, PharmD, MPH, BCIDP

OBJECTIVE: The purpose of this study was to assess if vancomycin as Clostridioides difficile infection (CDI) prophylaxis in hematopoietic stem cell transplant (HSCT) patients would decrease the incidence of in-hospital CDI compared to no standard prophylaxis.

METHODS: This was a single-center, retrospective, cohort study conducted at Robert Wood Johnson University Hospital in New Brunswick, New Jersey. Medical records of patients who were admitted to undergo an allogeneic or autologous stem cell transplant were reviewed. Patients were included if they were 18 years or older at the time of admission for the HSCT. Patients who were admitted or alive less than 72 hours or who were being treated for an active CDI prior to HSCT were excluded. The primary endpoint was the incidence of in-hospital CDI. Secondary endpoints included incidence of vancomycin-resistant Enterococcus (VRE) bloodstream infection, VRE isolate from any clinical culture, Gram-negative bloodstream infection, hospital survival, and hospital length of stay. Exploratory endpoints regarding one-year survival, relapse, and incidence of graft-versus-host disease (GVHD) were also collected. Confounding by relevant covariates will be assessed and controlled for in multivariate analysis.

RESULTS: The incidence of in-hospital CDI in the no prophylaxis and prophylaxis groups will be compared and presented. Results of secondary and exploratory endpoints will also be collected and presented.

CONCLUSIONS: It is hypothesized that this retrospective cohort study will demonstrate that the use of oral vancomycin as universal CDI prophylaxis will result in a decreased incidence of in-hospital CDI in HSCT patients as compared to the era of no standard prophylaxis.

11:40am – 11:55am | **Impact of the implementation of a pharmacist-driven methicillin resistant staphylococcus aureus nasal polymerase chain reaction protocol on de-escalation of anti-methicillin resistant staphylococcus aureus antibiotics for pneumonia** Empire D

Presenters: Walker Rose
Evaluators: Nicole Bonacasa
Evaluators 3: Sandeep Devabhakthuni
Evaluators 2: Meredith Todd

TITLE: Impact of the implementation of a pharmacist-driven methicillin resistant staphylococcus aureus nasal polymerase chain reaction protocol on de-escalation of anti-methicillin resistant staphylococcus aureus antibiotics for pneumonia

AUTHORS: Walker Rose, Pharm.D., Tommy McCarthy, Pharm.D., Allison Lawrence, Pharm.D., Gene Sexton, Pharm.D., BCPS

OBJECTIVE: Comparing empiric days of therapy, this study evaluates the impact of a protocol allowing pharmacists to order methicillin resistant S. aureus (MRSA) nasal polymerase chain reaction (PCR) swabs if vancomycin or linezolid was ordered for pneumonia.

METHODS: A retrospective single-center pre-post cohort study to identify patients who received vancomycin or linezolid for the empiric treatment of pneumonia one year pre- and one year post-protocol implementation will be conducted. Collected data will be integrated in a secure program and include medication, start date, end date, and protocol implementation status. The empiric days of therapy between the two groups will be evaluated to assess the impact of the pharmacist-driven nasal PCR swab protocol. The secondary objectives will include the time to discontinuation of anti-MRSA antibiotics after a negative MRSA PCR swab resulted, and the ratio of the number of MRSA PCR swabs placed to the number of patients treated with vancomycin or linezolid for pneumonia pre-post protocol implementation. All admitted adult patients receiving vancomycin or linezolid for pneumonia will be included unless the nasal PCR swab resulted positive or if antibiotics continued 96 hours post swab result.

RESULTS: The change in empiric days of therapy, time to antibiotic de-escalation, and the percentage of MRSA nasal PCR swab recipients relative to all patients treated with vancomycin or linezolid for pneumonia will be recorded, and results will be presented.

CONCLUSIONS: It is anticipated that this study will demonstrate a decrease in anti-MRSA empiric days of therapy for pneumonia post-implementation of the pharmacist-driven nasal PCR swab protocol.

11:40am – 11:55am F **Impact of pharmacist-led workflow revisions on perioperative antibiotic dose delays and omissions in surgical patients** Magnolia D

Presenters: Alecia Guishard
Evaluators: Alyssa Robertson
Evaluators 3: Daniella Defonte
Evaluators 2: Kristin Marge

TITLE: Impact of pharmacist-led workflow revisions on perioperative antibiotic dose delays and omissions in surgical patients

AUTHORS: Alecia Guishard, PharmD; Juanita Baer, PharmD, BCPS; Kelly Cain, PharmD, BCPS

OBJECTIVE: This study sought to quantify and characterize missed/delayed antibiotic doses surrounding perioperative transfer events within an acute care hospital, then evaluate the impact of a pharmacy-led workflow intervention on the incidence of these errors.

METHODS: A retrospective analysis of EPIC Electronic Health Record (EHR) Medication Administration Record (MAR) data for patients on at least one antibiotic due within 48 hours before and after a perioperative MAR hold was performed. Patients admitted to the general and orthopedic surgery units who were on a treatment-dose antibiotic regimen prior to surgery were included. Patients on antibiotics exclusively for surgical prophylaxis were excluded. Procedure times, MAR hold/un-hold times, and drug due times during and surrounding the MAR hold were recorded. After initial data collection, a pilot workflow was implemented; this primarily included identifying potential opportunities for missed/delayed treatment-dose antibiotics based on scheduled surgeries for the units, retiming MAR-held doses as appropriate, and communicating with nurses regarding any changes. Data regarding missed/delayed dose events and any attempted/completed corrections were collected prospectively.

RESULTS: The number and percentage of missed and delayed doses pre- and post-intervention will be recorded, and results will be presented.

CONCLUSIONS: The outcomes identified and data analyzed through this project will support the need for further development of information technology, pharmacist, and nursing EPIC and non-EPIC workflow interventions (worklist/Hub task and alert generation, Best Practice Advisory development, perioperative transitions of care policy revisions, etc.) to reduce dose omissions and delays surrounding perioperative transitions of care.

11:40am – 11:55am P **Assessing Knowledge and Comfort Level of Health Care Professionals on Managing Pain at End of Life** Empire A

Presenters: Rasha Abouelsaadate
Evaluators: Monica Stjacques
Evaluators 3: Jeff Endicott
Evaluators 2: Amber Carter

TITLE: Assessing knowledge and comfort level of health care professionals on managing pain at end of life
AUTHORS: Abouelsaadate R, Foy M, Kunkel J, Juarez L; Jefferson Abington Hospital (JAH), Abington, Pennsylvania
OBJECTIVE: To quantify the prevalence of inappropriate opioid orders and assess the knowledge and comfort level of physicians, pharmacists and nurses with ordering and administering appropriate opioid infusions to palliative and hospice care patients.
METHODS: This study was conducted in two parts. Part I was a 1-year retrospective review to analyze potentially inappropriate opioid orders prescribed from the comfort care order set at JAH to inpatient palliative care/hospice patients who expired while receiving opioid medications. Data (patient demographics, opioid use patterns, medications ordered and appropriateness) was assessed using qualitative analysis and a Chi Squared test. Part II of this study involved assessing internal/family medicine residents, nurses and pharmacistâ€™s knowledge and comfort level with end-of-life interventions through the utilization of an emailed pre-and post-survey with a scheduled education following the pre-survey.
RESULTS: In this 1-year retrospective review of inpatients who expired while receiving comfort care and opioid medications, 55% of opioid orders were considered inappropriate (p=0.21). Of 111 morphine orders reviewed, 57 were inappropriate (51%). For hydromorphone orders, 21 of 29 (72%) were inappropriate and 1 of 3 fentanyl orders (33%) were inappropriate. Of the potentially inappropriate orders, 49% lacked a bolus dose increase or appropriate infusion initiation (p=0.13). Results of the survey demonstrated increase in comfort and knowledge between pre-and post-survey responses for all health care providers. Case-based questions had improved accuracy by 14% for medical residents/pharmacy and by 15% for nursing staff in the post survey results.
CONCLUSIONS: At JAH, over half of opioid orders placed for comfort care management were inappropriate. An increase in comfort and knowledge of opioid orders was accomplished via education and recall. Efforts will be made to enhance the institution's order set with additional clinical decision support. This will help medical residents with prescribing appropriate opioid therapy, pharmacistâ€™s efforts to clarify inappropriate opioids and correct administration of these medications by nursing.

11:40am – 12:00pm

The impact of the vancomycin area under the concentration-time curve-guided dosing versus trough-guided dosing on the incidence of acute kidney injury at a community hospital. Wild Rose B

Presenters: Sami Sidahmed
Evaluators: Myroslava Sharabun
Evaluators 3: Meaghan Watson
Evaluators 2: Kelvin Reynolds

TITLE: Area Under the curveâ€“Guided Versus Trough-Guided Monitoring of Vancomycin and Its Impact on Nephrotoxicity at a community hospital

AUTHORS: Sidahmed S, Johnson L, Johnson M

OBJECTIVE: The purpose of this research is to evaluate the safety of the former practice of vancomycin trough-guided dosing and monitoring compared to newly implemented vancomycin AUC-guided dosing and monitoring protocol.

METHODS: This single-center retrospective study was approved by Shenandoah University Institutional Review Board. The primary outcome investigated the risk of AKI as defined per the Kidney Disease Improving Global Outcomes (KDIGO) guidelines, comparing the vancomycin AUC-guided dosing and trough-guided dosing groups using chart review between November 2022 and January 2023. Secondary outcomes analysis addressed total daily dose of vancomycin (TDD), if the patient received a higher vancomycin loading dose, and days of vancomycin therapy. Patients â‰¥ 18 years who had a pharmacy consult to dose vancomycin, received vancomycin for at least three consecutive calendar days, and had at least one vancomycin level within four calendar days were eligible for inclusion. Exclusion criteria included patients who were discharged to hospice or comfort care. A chi-square analysis was used to examine the nominal data, and the student T-test was used to analyze continuous data.

RESULTS: The study population (N=48) was comprised of an equal number of vancomycin AUC-guided subjects and trough-guided subjects. There was a difference in the incidence of AKI AUC-guided patients and trough-guided patients; 16.6% (4/24) and 50% (12/24), (p=0.0305), respectively. Of these in 12.5% (1/8) AUC-guided and 25% (4/16) trough-guided patients were treated for bloodstream infection or pneumonia. The incidence of AKI in patients with bone and joint infection in the AUC-guided subjects versus trough-guided was 12.5% (1/26) and 87.1% (7/8), respectively. Compared with other hospital departments, ICU patients had the lowest incidence of AKI; the incidence of AKI was 8.3% in AUC-guided subjects versus 12.5% in trough-guided subjects.

CONCLUSIONS: The findings of this study were consistent with the 2020 consensus guideline on vancomycin monitoring due to decreased incidence of AKI for AUC-guided dosing and monitoring compared to trough-guided dosing and monitoring. The incidence of AKI in ICU patients was lower than in other non-ICU settings because ICU patients received shorter durations of treatment and lower doses of vancomycin. The loading dose in patients dosed via AUC-guided and trough-guided dosing was similar.

12:00pm – 12:15pm

Empty Wild Rose B

Evaluators: Myroslava Sharabun
Evaluators 3: Meaghan Watson
Evaluators 2: Kelvin Reynolds

12:00pm – 12:15pm C **Clinical outcomes associated with utilization of phenobarbital for alcohol withdrawal** Empire C

Presenters: Lara Nasser
Evaluators: Lucy Gin
Evaluators 3: Andrew Vassallo
Evaluators 2: Stephen Alkire

TITLE: Clinical outcomes associated with utilization of phenobarbital for alcohol withdrawal
AUTHORS: L. Nasser, F. Nehring, N. Paul
OBJECTIVE: This study compares the effect of a phenobarbital-based protocol to a previous hospital standard CIWA-Ar scale utilizing lorazepam on ICU admissions in patients with a medium-high risk of alcohol withdrawal.
METHODS: A retrospective chart review of patients admitted with a primary diagnosis of alcohol dependence with withdrawal was evaluated. Patients aged 18-89 years old were included if they received the lorazepam CIWA-Ar protocol or the phenobarbital protocol during a one-year study period. Patients were randomized and selected using EMR and Pyxis dispensing reports. The primary efficacy outcome examined was ICU admission. Secondary efficacy outcomes examined are the length of stay (total and ICU) and the rate of intubation. Safety outcomes were oversedation, flumazenil administration, allergic reactions, delirium tremens, seizure activities, and any adverse safety events reported.
RESULTS: The baseline characteristics and the number of ICU admissions for both arms will be recorded. The lengths of stay and doses of phenobarbital and lorazepam administered will be included for both arms. Trends in delirium tremens and seizure activity will be presented as well.
CONCLUSIONS: It is anticipated that this project will demonstrate a reduction in ICU admissions and overall length of stay with the use of a phenobarbital protocol based on preliminary data.

12:00pm – 12:15pm C **Effect of overlapping insulin glargine administration in decreasing incidence of hyperglycemia after discontinuation of intravenous insulin infusion** Magnolia B

Presenters: Jillian Searle
Evaluators: Aditi Hoffman
Evaluators 3: Darren Wilson
Evaluators 2: Rebecca Berhanu

TITLE: Evaluating the efficacy of seizure prophylaxis in adult patients with aneurysmal subarachnoid hemorrhage within an intensive care unit at a community hospital
AUTHORS: Daniel Abate, PharmD; Umair Ansari , PharmD, BCPS, BCCCP, MBA
OBJECTIVE: The main goal of this study is to evaluate the utilization and efficacy of seizure prophylaxis at Suburban Hospital â€“ Johns Hopkins Medicine
METHODS: This is a retrospective electronic chart review of patients admitted into our intensive care unit at Suburban Hospital â€“ Johns Hopkins Medicine that received seizure prophylaxis for aneurysmal subarachnoid hemorrhage. Patients 18 years and older receiving seizure prophylaxis medications including phenytoin, fosphenytoin, and levetiracetam from February 2020 to February 2022 will be included in this study. Patients with a past medical history of seizures, on anti-seizure medications prior to admission, and nonaneurysmal SAH will be excluded from this study. The primary outcome of this study is to assess the duration and dosing of seizure prophylaxis agents. The secondary outcome will look at the incidence of seizure in adult patients with aSAH. Baseline characteristics including, age, gender, past medical history, renal/hepatic dysfunction, concomitant drugs of abuse including alcohol, cocaine, and opiates will be collected from the electronic health record.
RESULTS: Data collection from February 2020 to February 2022 has been initiated upon IRB approval in October.
CONCLUSIONS: Results from this study will assess whether seizure prophylaxis was effective and appropriate in adult patients admitted into an intensive care unit with aneurysmal subarachnoid hemorrhage. Findings will be shared with institution committees to ensure effective seizure prophylaxis is provided when appropriate

12:00pm – 12:15pm Y **Evaluating safety and efficacy of antihypertensives prior to alteplase administration in acute ischemic stroke** Magnolia A

Presenters: Muhaimin Id'Deen
Evaluators: Christopher Shaw
Evaluators 3: Victoria Hearn
Evaluators 2: Hadeia Farooque

TITLE: Evaluating safety and efficacy of antihypertensives prior to alteplase administration in acute ischemic stroke

AUTHORS: M.Idâ€™Deen, A.Pagliaro, B.Zambon, Virtua Memorial Hospital, Mount Holly, New Jersey

OBJECTIVE: The objective of this research is to analyze and compare the safety and efficacy of antihypertensive agents administered in adult acute ischemic stroke (AIS) patients with a BP >185/110 mmHg prior to alteplase therapy.

METHODS: This multicenter, retrospective chart review across 7 emergency departments within Virtua Healthâ€™s comprehensive community health care system included adult stroke patients presenting with blood pressures greater than 185/110 mmHg requiring antihypertensive intervention prior to alteplase administration. Patients were excluded if they received alteplase for any reason other than AIS. The primary endpoint is time to blood pressure control in minutes as determined by time from first elevated blood pressure reading to time of alteplase administration. Secondary endpoints include median door-to-needle time, mean initial antihypertensive dose administered, mean total antihypertensive dose administered, use of additional antihypertensive agents, and Modified Rankin Score upon discharge, as well as additional safety outcomes. Continuous and ordinal data was analyzed using the Kruskal-Wallis test. Additionally, nominal data was analyzed using the Chi-square test.

RESULTS: A total of 27 patients were included in the study. 17 patients received labetalol, six patients received nicardipine, and four patients received hydralazine prior to alteplase therapy. There were several statistically significant differences in baseline characteristics that are attributable to small group size and non-parametric data distribution. There was no difference in time to blood pressure control between the three groups (p=0.061). Median door to needle time and time from antihypertensive to alteplase bolus was shorter in the hydralazine group, likely due to group size (p=0.003 and p

12:00pm – 12:15pm G **Clinical pharmacist impact on the level of sedation for mechanically ventilated patients in the intensive care unit** Wild Rose A

Presenters: Courtney Duclos
Evaluators: Laura Hobbs
Evaluators 3: Scott Baker
Evaluators 2: Jovan Erfan

TITLE: Clinical pharmacist impact on the level of sedation for mechanically ventilated patients in the intensive care unit

AUTHORS: Courtney Duclos, PharmD and Christopher Devine, PharmD, BCPS, BCCCP

OBJECTIVE: To determine if education provided by a clinical pharmacist to the multidisciplinary team will improve adherence to spontaneous awakening and breathing trial (SAT/SBT) protocols and improve overall level sedation for mechanically ventilated patients

METHODS: This retrospective study was approved by the hospital IRB committee. A comprehensive chart review was completed for all patients requiring mechanical ventilation. Baseline data was collected from June 2022 through August 2022 and compared to data from December 2022 through February 2023 after education was provided to the multidisciplinary team. All information was de-identified and confidentially secured. Patients included were adults >18 years old, admitted to the Intensive Care Unit (ICU), and mechanically ventilated for >24 hours. Non-invasively ventilated patients were excluded from the study. A clinical pharmacist provided education to the multidisciplinary team focusing on documentation and performance of sedative medication titration, RASS levels, and SAT/SBTs. The primary endpoints assessed were appropriate level of sedation and compliance with SAT/SBT protocols, while secondary endpoints analyzed time to extubation, ventilator complications, and in hospital mortality.

RESULTS: Data including average RASS levels and daily compliance to SAT/SBT protocols will be compared to baseline data and the results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate that education provided by a clinical pharmacist to the multidisciplinary team will improve depth of sedation (RASS) and increase adherence to hospital-driven SAT/SBT protocols.

12:00pm – 12:15pm | **Impact of Early Routine MRSA Nasal PCR Collection on De-escalation of Empiric Anti-MRSA Antibiotic Therapy in Patients with Suspected Pneumonia** Magnolia C

Presenters: Kelly Yusko
Evaluators: Joanna DeAngelis
Evaluators 3: Courtney Hoffman
Evaluators 2: Jiyeon Joy Park

TITLE: Impact of Early Routine MRSA Nasal Polymerase Chain Reaction Collection on De-escalation of Empiric Anti-MRSA Antibiotic Therapy in Patients with Suspected Pneumonia

AUTHORS: K. Yusko, N. Leonida, S. Moreau, M. DeVivo; Jersey City Medical Center (JCMC), Jersey City, New Jersey

OBJECTIVE: The objective of this study is to evaluate the impact of a standardized protocol and interdisciplinary collaboration on early MRSA nasal PCR collection and targeted antibiotic selection in patients with suspected pneumonia.

METHODS: This is a retrospective, single-center quality improvement study consisting of a three-month pre-implementation retrospective chart review and three-month post-implementation evaluation period. A standardized protocol for ordering tests and recommending targeted antibiotic selection based on PCR results was disseminated to prescribers. Adult patients in the emergency department diagnosed with pneumonia needing anti-MRSA therapy are included. Patients receiving anti-MRSA antibiotics for a concomitant infection were excluded. The primary endpoint is duration of anti-MRSA therapy, defined as days of therapy per 1000 patient days. Secondary endpoints include time to de-escalation of anti-MRSA antibiotic, hospital length of stay, time from PCR order to PCR result, time from PCR result to de-escalation of anti-MRSA antibiotic, number of positive PCR results, and number of accepted recommendations by pharmacists. Chi squared test and T-test will be used to analyze endpoints.

RESULTS: Data collection and analysis are in progress, and final results will be presented. We expect to see an increase in the number of MRSA PCR tests ordered and a reduction of duration of anti-MRSA therapy post-implementation.

CONCLUSIONS: It is anticipated that the implementation of a standardized protocol for routine utilization of MRSA nasal PCR tests and interdisciplinary collaboration can reduce duration of anti-MRSA therapy.

12:00pm – 12:15pm | **TAMING THE CYTOKINE STORM:BARICITINIB VERUS TOCILIZUMA** | Empire D

Presenters: Skyler Radziszewski
Evaluators: Nicole Bonacasa
Evaluators 3: Sandeep Devabhakthuni
Evaluators 2: Meredith Todd

TITLE: Taming the cytokine storm: baricitinib versus tocilizumab for COVID-19 hyperinflammation

AUTHORS: Skyler Radziszewski, PharmD; Siddharth Swamy, PharmD, BCPS, BCIDP; Ruchi Jain, PharmD, BCCCP; Keri Bicking, PharmD, FCCM; Themba Nyirenda, PhD

OBJECTIVE: Severe or critical COVID-19 often necessitates additional immunomodulation with either baricitinib or tocilizumab. The objective of this study was to compare the outcomes of patients with COVID-19 who were treated with baricitinib or tocilizumab.

METHODS: This was a single-center, retrospective chart review. Patients were included if they were adults, hospitalized with COVID-19 between January 2021 and October 2022, and received either baricitinib or tocilizumab. Patients were excluded if they did not receive corticosteroids or if they received both baricitinib and tocilizumab. Data collection included patient demographics, COVID-19 vaccination status, and the predominant variant circulating at the time of admission. The primary outcome was the percentage of patients with clinical improvement at day 14 after immunomodulator initiation. Clinical improvement was defined as a two point improvement on a six-point ordinal scale or discharge from the hospital. Secondary outcomes included progression to ICU care or mechanical ventilation, in-hospital mortality, clinical improvement at days 7 and 28 after immunomodulator initiation, and incidence of venous thromboembolism (VTE) during hospitalization.

RESULTS: In interim analysis, data for 228 patients was analyzed, of whom 86 received baricitinib and 142 received tocilizumab. A similar portion of patients in each group were unvaccinated (70.9% vs. 74.7%; p=0.54). Clinical improvement at day 14 after immunomodulator initiation occurred in a similar portion of baricitinib and tocilizumab recipients (38.4% versus 34.5%; p=0.56). Progression to ICU care or mechanical ventilation occurred significantly less frequently in baricitinib recipients compared to tocilizumab recipients (37.8% versus 56.9%; p=0.0067). No significant differences were observed for in-hospital mortality, clinical improvement at days 7 and 28 after immunomodulator initiation, and incidence of VTE during hospitalization.

CONCLUSIONS: Data collection is ongoing with an anticipated sample size exceeding 400 patients. At this point, baricitinib appears to produce similar rates of clinical improvement at various time points and in-hospital mortality as tocilizumab. Additional data analysis will further evaluate whether or not these findings are durable.

12:00pm – 12:15pm F **Analyzing the clinical decision support alert system at the medication order entry and verification level using lean six sigma principles at an academic medical center** Magnolia D

Presenters: Victoria Natividad
Evaluators: Alyssa Robertson
Evaluators 3: Daniella Defonte
Evaluators 2: Kristin Marge

TITLE: Analyzing current clinical decision support alerts using lean six sigma principles at an academic medical center

AUTHORS: Victoria Natividad, Varintorn Aramvareekul, Shahira Ghobrial

OBJECTIVE: Clinical decision support (CDS) alerts are pivotal in error and adverse event avoidance. This study aims to describe medication alert override rates during order entry and verification to analyze potential causes of low alert acceptance by providers.

METHODS: This is a single center, retrospective, descriptive study using lean six sigma tools. We performed a database review of the CDS system and patient safety event (PSE) reporting system. All inpatient medication order entry, medication alerts, and medication safety events from July 1, 2021, to June 30, 2022 were included and analyzed. Alerts were classified as drug-drug, drug-duplicate, drug-allergy, or allergy-drug interaction alerts. Override rates of medication-based alerts by medical providers and pharmacists were evaluated. Medication PSEs were selected after randomization by random number assignment. The first 256 out of 942 were reviewed to determine whether events involved a relevant medication alert by identifying occurrence in the CDS alert system. Medication errors severity was categorized using the National Coordinating Council for Medication Error Reporting and Prevention medication error index.

RESULTS: 1,588,454 medication orders were placed and 1,940,277 alerts were presented to medical providers and pharmacists over a 12-month period. Pharmacists received five times more medication alerts than providers. Providers overrode 81.3% of medication alerts with drug-drug interaction alerts most observed. Pharmacists overrode 93.9% of medication alerts and drug-duplicate alerts were most observed. We determined that 56 PSEs (21.8%) can be attributed to order entry and verification errors and 17 were likely to have an alert fire. Due to limitations of the program, we were unable to decipher how the receiver responded to the alert. The 17 events were predominantly of category B (did not reach patient) and C (reached patient, no harm) severity.

CONCLUSIONS: This study provides insight into the excessive interruptive medication alerts and their low acceptance rates during the delivery of care. The contrast in alert firing and override patterns between positions reveals a disparity in alert assignment. The PSEs confirm gaps in alert coverage and uncovers opportunities for greater customization. Additional tools such as machine learning may enhance database-driven alerts and reduce insignificant alerts to allocate attention to higher level alerts.

12:00pm – 12:15pm P **Association Between Continuation vs. Initiation of Concurrent Opioid and Benzodiazepine Prescribing on Discharge and Recurrent 30-Day Emergency Department Visits or Hospitalizations** Empire A

Presenters: Derek Edwards
Evaluators: Monica Stjacques
Evaluators 3: Jeff Endicott
Evaluators 2: Amber Carter

TITLE: Association between continuation versus initiation of concurrent opioid and benzodiazepine prescribing on discharge and recurrent 30-day emergency department visits or hospitalizations

AUTHORS: D. Edwards, M. Tong, K. Deere; University of Maryland Baltimore Washington Medical Center (BWMC), Glen Burnie, Maryland

OBJECTIVE: Adhering to Centers for Medicare and Medicaid Services (CMS) Measure 506 requires ongoing stewardship by hospitals. Review of characteristics and outcomes associated with discharge on opioids/benzodiazepines may inform efforts to reduce harm.

METHODS: Encounters at BWMC for patients meeting CMS Measure 506 (version 4) inclusion criteria from January through September of 2022 were analyzed in this retrospective study. For those discharged on concurrent opioids and benzodiazepines, the primary outcome was the rate of recurrent 30-day emergency department (ED) visits or hospitalizations for those who continued home regimens vs. initiated a new opioid and/or benzodiazepine during the encounter. The secondary outcome was the rate of recurrent 30-day ED visits or hospitalizations potentially resulting from opioid/benzodiazepine adverse drug effects. Additional demographic data, including patient- and prescribing-level characteristics were collected to perform multivariate analysis on those variables significantly differing across discharge subgroups in addition to assess for adherence to best practices in harm reduction.

RESULTS: No significant difference was observed in rates of recurrent 30-day ED visits or hospitalizations across discharge subgroups. Likewise, no significant difference was observed in rates of recurrent 30-day ED visits or hospitalizations attributed to opioid/benzodiazepine adverse drug effects. The majority of those discharged on multiple opioids and benzodiazepines were a continuation of home therapy. Significant differences in demographic data were observed across discharge subgroups, including rates prescribing of naloxone, maintenance anxiolytics, and other central nervous system depressants.

CONCLUSIONS: With no differences in outcomes based on continuation vs. initiation of opioids/benzodiazepines on hospital discharge, the optimal approach to CMS Measure 506 compliance remains unclear. Given the high prevalence of continuation of home regimens, hospitals should implement safe practices to facilitate deprescribing when appropriate. Efforts in harm reduction, including naloxone prescribing and a multimodal approach to symptom management, should occur in tandem with CMS Measure 506 compliance.

12:00pm – 12:15pm	P	**Buprenorphine Prescribing Trends after Educational and Pharmacy Interventions** *Presenters: Wesley Snow* *Evaluators: Maureen Brady* *Evaluators 3: Caitlin Prather* *Evaluators 2: Cameron Golden* TITLE: Buprenorphine prescribing trends after educational and pharmacy interventions AUTHORS: W. Snow, N. Cornish, C. Spevak, J. Masterson OBJECTIVE: The DoD/VA Clinical Practice Guidelines recommend buprenorphine over full mu-agonists for chronic pain treatment. This study identifies trends of buprenorphine for treatment of chronic pain before and after implementing two pharmacy interventions. METHODS: A observational, post-prescriptive, chart review of electronic health record data for patients prescribed buprenorphine by a WRNMMC provider was conducted from 01 January 2022 through 01 February 2023. Patients were identified using an automated report in CarePoint of all patients that received oral and topical formulations of buprenorphine over a requested date range. Data were collected pre and post implementation of two pharmacy interventions to determine if the interventions made a difference in prescribing of buprenorphine for chronic pain. The interventions implemented were the removal of the Drug Authorization Key (DAK) from the Composite Health Care System and delivery of an educational presentation. The educational presentation was recorded and uploaded to the National Capital Region Pain Initiative website as a tool for providers and pharmacists. Descriptive analysis measured the trends of patients that received buprenorphine for the management of chronic pain. RESULTS: There was a 31% decrease of buprenorphine prescribed by WRNMMC providers from the pre-intervention to post-intervention time frame. The average age of patients treated was 53 years old. In comparing active duty, dependent, and patient of retiree status, retirees were the largest patient group to receive treatment (73.7% pre-intervention vs. 46.2% post-intervention). Buprenorphine/naloxone was the most prescribed drug (78.9% pre-intervention vs. 76.9% post-intervention). Nine patients discontinued treatment (7 pre-intervention vs. 2 post-intervention). The most common reason for discontinuation was due to adverse reactions. There was one new prescription after DAK removal and two prescriptions after the educational presentation. CONCLUSIONS: This study revealed trends in the prescribing of buprenorphine for chronic pain at a Military Treatment Facility. The most common reason for discontinuation were discovered to be due to adverse effects. This may be useful for providers and patients when discussing if transition from full agonist opioids to buprenorphine is appropriate. This is an ongoing project and identifying barriers that may limit the prescribing of buprenorphine will help target what future interventions need to be done.	Empire B
12:30pm – 1:30pm	S	**Lunch**	Red/White Room
12:30pm – 1:30pm	S	**Recruitment Forum** More Information	Great Lobby
PINNED 1:30pm – 1:45pm	S	**Welcome Session** *Presenters: Jonathan Puhl*	Blue Room
PINNED 1:45pm – 2:00pm	S	**Louis P. Jeffrey Award Presentation**	Blue Room
PINNED 2:00pm – 3:00pm	S	**Keynote Address** *Presenters: Cory Jenks*	Blue Room
3:30pm – 4:00pm		**Poster Set-Up (Poster Presenters ONLY)** Presenters, moderators, and evaluators only	Red Room
4:00pm – 5:00pm		**Poster Review Rounds (Closed Session - Poster Presenters & Evaluators ONLY)** Presenters, judges, RPDs, and preceptors only	Red Room

4:00pm – 5:00pm A **Conversion of Eligible Vitamin K Antagonist Patients to Direct Oral Anticoagulants** Red Room

Presenters: Brian Tran
Evaluators: Jill Knight
Evaluators 2: Claude Manjo

TITLE: Evaluating Direct Oral Anticoagulant (DOAC) Candidacy and Conversion of Eligible Vitamin K Antagonist (VKA) Patients to Direct Oral Anticoagulants

AUTHORS: Brian Tran, PharmD, Caitlin Dowd-Green, PharmD, MBA, Patricia Ross, PharmD, MEdHP, Peggy Kraus, PharmD, Michael Streiff, MD, Charles Twilley, PharmD, Jennifer Yui, MD, MS

OBJECTIVE: The objective of this study was to identify active, eligible patients at two hematology anticoagulation clinics within Johns Hopkins Medicine and conduct a therapeutic interchange from VKA to DOAC utilizing a conversion algorithm.

METHODS: This multicenter study was conducted in two hospital-based clinics within Johns Hopkins Medicine. This study comprised of two phases: retrospective chart review to identify patients for DOAC candidacy and prospective conversion of eligible patients. In the retrospective phase, the researchers utilized a conversion algorithm to evaluate active patients on VKA therapy for â‰¥90 days. After initial screening, the researchers discussed patient eligibility with clinic medical directors and anticoagulation clinic providers. Once deemed eligible for DOAC, providers discussed conversion with each patient. If patients agreed to conversion, the researchers contacted the respective primary care provider/referring provider to inform of change in therapy and request DOAC prescription. If eligible patients were not converted, reasons for decline were documented.

RESULTS: The results are pending. The primary outcome is the proportion of eligible patients successfully converted from VKA to DOAC. The secondary outcomesâ€¯include the number of eligible patients who declined conversion, reason for decline, and number of patients converted to each specific DOAC.

CONCLUSIONS: The conclusions are pending. The researchers anticipate a 20-30% VKA to DOAC conversion for eligible patients.

4:00pm – 5:00pm A **Evaluation of Deprescribing Opportunities of Long-Term Acetylcholinesterase Inhibitor and Memantine Therapy for Dementia in Community-Dwelling Geriatric Patients** Red Room

Presenters: Alexander J Haines
Evaluators: Jill Knight
Evaluators 2: Claude Manjo

TITLE: Evaluation of deprescribing eligibility of long-term cholinesterase inhibitor and memantine therapy for dementia in community-dwelling geriatric patients

AUTHORS: Alexander J. Haines, PharmD; Hien Nguyen, PharmD; Mara Moore, PharmD; Danielle Rubinstein, DO; S. Estella Horwath, MD; Matthew Beelen, MD

OBJECTIVE: Benefits of long-term cholinesterase inhibitors (ChEI) or memantine therapy are uncertain and can worsen polypharmacy. This study aims to implement a process to identify and provide recommendations for patients that may benefit from deprescribing.

METHODS: Key inclusion criteria were: community-dwelling adults at least 65 years of age receiving ChEI and/or memantine treatment for 1 year or more, 8 or more concomitant scheduled medications, and treatment managed by a primary care provider (PCP) within the Penn Medicine Lancaster General Health network. Electronic health records (EHR) were retrospectively reviewed by the lead pharmacist to assess therapy, as well as potential recommendations for deprescribing or continuation of therapy according to Deprescribing.org recommendations. Recommendations were documented in the patientâ€™s EHR, then routed to the Geriatric Fellow for review prior to distributing to the PCP, then routed to the PCP for review and comment. Primary outcome: percentage of patients eligible for deprescribing. Key secondary outcomes: PCP acceptance rate of deprescribing recommendations; percentage of patients assessed for dementia severity and/or performance of activities of daily living (ADLs) within the prior year.

RESULTS: The study included 124 patients (mean age 80 +/-7 years), in which the mean duration of dementia therapy was 5 +/-3 years; 69% donepezil monotherapy. For the primary outcome, 69% of patients were deemed eligible for ChEI and/or memantine deprescribing based on study criteria. The most common reason to consider deprescribing was due to potential side effects (95%), in which 49% of patients reported gastrointestinal upset. Of the 85 deprescribing recommendations, PCP acceptance was 38%. The most common reason to not deprescribe was â€œNot Max-Tolerated Therapyâ€□ (25%), aside from â€œNo PCP Responseâ€□ (23%). Of the 124 patients included, 36 (29%) and 34 (27%) were noted to have dementia severity and ADLs assessed within the prior year, respectively.

CONCLUSIONS: Interpretation of study results and conclusions will be presented.

4:00pm – 5:00pm A **Feasibility of operationalizing an outpatient pharmacy-based injection clinic** Red Room

Presenters: Kelly Ko
Evaluators: Michele Gonzalez
Evaluators 2: Amanda Price

TITLE: Feasibility of operationalizing a health system outpatient pharmacy-based injection clinic
AUTHORS: Ko K, Landolfa S, Dogra P, and Shelton S
OBJECTIVE: To determine the feasibility of a pharmacist-managed long-acting injectable (LAI) medication administration service at an outpatient pharmacy, assess patient access, satisfaction, and adherence.
METHODS: This is a single-center prospective pilot study conducted at ChristianaCare Outpatient Pharmacy, embedded in a large academic health system, from January 2023 to June 2023. Patients are identified by behavioral health providers via referral to the ChristianaCare Specialty Pharmacy. Eligible patients are aged 18 years or older and receiving care at ChristianaCare Behavioral Health Clinics. Patients are excluded if they have any contraindications to LAI therapies. The outcomes include proportion of patients who completed their first injection visit for LAIs out of all patients referred to ChristianaCare outpatient pharmacy-based injection clinic. Secondary outcomes include proportion of patients who scheduled and completed follow up injections and patient satisfaction. The patient satisfaction survey was adapted from a previous survey administered in Mooney EV, et al to a similar population. Survey results will be reported using descriptive statistics.
RESULTS: As of April 1, 2023, four patients were referred to the ChristianaCare outpatient pharmacy-based injection clinic. Twenty-five percent of patients referred scheduled their first injection visit for LAIs. A total of 75% of patients strongly agreed that they felt comfortable with receiving their LAI at the ChristianaCare outpatient pharmacy-based injection clinic. However, 50% of the patients strongly agreed that it was difficult to schedule an appointment at a time that was convenient to the patient. The two commonly referred medications in the clinic were paliperidone palmitate and risperidone. There are several factors that support the feasibility of operationalizing a health system outpatient pharmacy-based injection clinic: (1) schedulin
CONCLUSIONS: A pharmacist-managed medication administration service for LAIs was developed in an outpatient pharmacy-based injection clinic embedded in a large health system, and patients were highly satisfied with the service. Further research needs to be completed to evaluate health outcomes and financial implications of this service for the patient and health care system.

4:00pm – 5:00pm A **Implementation of a Menopause Medication Management Clinic at a Veterans Affairs Medical Center** Red Room

Presenters: Victoria Fusco
Evaluators: Jill Knight
Evaluators 2: Claude Manjo

TITLE: Implementation of a menopause medication management clinic at a veterans affairs medical center
AUTHORS:): Victoria Fusco, PharmD; Katherine Sanchez Vega, PharmD, BCACP, Anita Henderson, PharmD, BCACP; Karen Korch Black, PharmD, BCACP, BCGP
OBJECTIVE: To describe the development and implementation of a pharmacy menopause medication management clinic. Clinic aimed to increase access to menopause care within the VA through disease state education and medication management.
METHODS: Peri-menopausal and post-menopausal women veterans are eligible for the clinic. Patients will be recruited through referral by another provider, population health, or advertisements. Clinic visits will be conducted via telephone or VA Video Connect (VVC) by a PGY2 Ambulatory Care Pharmacy Resident under the guidance and scope of practice of the Womanâ€™s Health Clinical Pharmacy Specialist (WH CPS). Clinic will run once weekly and visits are 30-60 minutes per patient. Each visit will consist of a review of menopause symptoms, evaluation for eligibility of pharmacologic and/or non-pharmacologic management, disease state education, evaluation of co-morbid disease states, and referrals for additional services (i.e. nutrition, pelvic floor therapy, mental health). The WH CPS will continue to see these patients as a part of usual care. The project has been reviewed by an institutional review board and deemed Not Human Subjects Research requiring no further IRB oversight.
RESULTS: The Menopause Medication Management Clinic has been successfully implemented. Results to be presented will include number of visits conducted, patient demographics, medication interventions, and referrals placed. Service strengths, challenges, and next steps will also be discussed.
CONCLUSIONS: It is anticipated that this project will demonstrate that WH CPSs are well-equipped to fill current gaps in womenâ€™s health and can provide comprehensive menopause related care to Veterans. This project may also serve as a foundation for future expansion of VA Pharmacy Clinic services.

4:00pm – 5:00pm A **Optimizing Asthma Pharmacotherapy in an Interdisciplinary HIV Primary Care Clinic** Red Room

Presenters: Aia Gamal Eldin
Evaluators: Jill Knight
Evaluators 2: Claude Manjo

TITLE: Optimizing asthma pharmacotherapy in an interdisciplinary HIV primary care clinic
AUTHORS: A. Gamaleldin, M. Longo; The Brooklyn Hospital Center (TBHC), Brooklyn, New York
OBJECTIVE: Given the increased risk of morbidity associated with uncontrolled asthma in HIV-positive patients, the aim is to optimize asthma therapy in HIV-positive patients being treated at The Brooklyn Hospital Centerâ€™s Program for AIDS Treatment and Health
METHODS: This project is a prospective chart review of all adult patients with established care at The Brooklyn Hospital Centerâ€™s Program for AIDS Treatment and Health (PATH) center and an official asthma diagnosis. Patients eligible for inclusion in the study are scheduled for a virtual PATH pharmacotherapy visit where current asthma therapy is modified to follow the Global Initiatives for Asthma (GINA) 2022 guidelineâ€™s preferred track 1. A second virtual follow up visit will be scheduled 12 weeks later. The Primary endpoint is change in asthma control questionnaire-5 score from baseline to 3 months. Secondary endpoints include change in asthma symptoms (frequency/week), change in nighttime awakenings (frequency/month), change in reliever utilization (frequency/week), and change in asthma exacerbations (events/month) from baseline to 3 months
RESULTS: Results will be recorded and presented
CONCLUSIONS: Appropriate management of asthma is critical in order to minimize asthma-related symptoms while simultaneously minimizing the risk of asthma-related exacerbations. It is anticipated that data obtained from this project will demonstrate the importance of the GINA guidelineâ€™s preferred track 1

4:00pm – 5:00pm A **Pharmacist Driven Optimization of Antihyperglycemics Targeting Cardiovascular Risk Reduction in Type 2 Diabetes Mellitus** Red Room

Presenters: Katharine Russo
Evaluators: Michele Gonzalez
Evaluators 2: Amanda Price

TITLE: Pharmacist driven optimization of antihyperglycemics targeting cardiovascular risk reduction in type 2 diabetes mellitus
AUTHORS: K. Russo, J. Merrey, P. Ross, A. Klutts, M. Ditlevson, S. Feeser
OBJECTIVE: To determine if pharmacist outreach improves guideline use of sodium-glucose cotransporter-2 inhibitor or glucagon-like peptide-1 receptor agonist for patients with T2DM and clinical atherosclerotic cardiovascular disease (ASCVD) or high risk ASCVD.
METHODS: A prospective, single site quality improvement project was conducted among patients with T2DM and a history of clinical ASCVD or >2 risk factors for ASCVD to assess for eligibility of sodium-glucose cotransporter-2 inhibitor (SGLT2i) or glucagon-like peptide-1 receptor agonist (GLP-1 RA). Patients were encouraged to initiate a SGLT2i if there was a history of heart failure or chronic kidney disease; otherwise a GLP-1 RA was recommended, pending patient and insurance preferences, affordability, and contraindications to therapy. After completing data review and test claims, clinical pharmacists conducted telemedicine or in-person visits to initiate therapy, followed by a 3-week follow up visit post initiation before prescription rates of SGLT2i and GLP-1 RAs were reassessed utilizing dispense reports; patients with confirmed initiation of SGLT-2i or GLP-1 therapy were considered optimized on therapy, although additional efforts were made to dose escalate pending glycemic control.
RESULTS: Results are pending. Researchers plan to review the percent of new medication starts, characterize refusal of or barrier(s) to therapy initiation and continuation, and evaluate patients that were previously on guideline directed glucose-lowering medications with cardiovascular benefits.
CONCLUSIONS: Pending results.

4:00pm – 5:00pm A **Prevalence of self-reported lipodystrophy and identification of contributing risk factors in persons living with HIV in an outpatient clinic** Red Room

Presenters: Edidiong Umoren
Evaluators: Jill Knight
Evaluators 2: Claude Manjo

TITLE: Prevalence ofÂ self-reported lipohypertrophy inÂ persons living withÂ human immunodeficiency virus in anÂ outpatient clinic

AUTHORS: Edidiong Umoren, PharmD, MPH; Caitlin Prather, PharmD, BCACP, AAHIVP, TTS; Erin Adams, PharmD, BCACP; Cyrille Cornelio, PharmD, BCCPÂ

OBJECTIVE: To determine the prevalence of self-reported lipodystrophy and identify contributing risk factors in persons living withÂ humanÂ immunodeficiency (HIV)Â virus.

METHODS: This prospective, single center, observational study was conducted to determine the prevalence of self-reported lipodystrophy and identify contributing risk factors in persons living with HIV. Patients included in the study were HIV-infected adult patients aged 18 years and older on stable antiretroviral therapy and excluded were women who were pregnant or became pregnant during the time of study, individuals with severe disease associated with or separate from HIV infection, and previous weight reduction surgery. For statistical methods, descriptive statistics were used to characterize the sociodemographic characteristics of the study participants and logistic regression was conducted to compare the impact of demographic, clinical and treatment variables on individuals with self-identified lipodystrophy. Odds ratios and 95 percent confidence intervals are presented with p-value less than 0.05, two-tailed, considered statistically significant.

RESULTS: Data collection is currently ongoing.Â The results of this studyÂ will be presented.

CONCLUSIONS: It is anticipated that this project will support future studies aimed at developing risk assessment tools or validated screening tests to identify specific patient demographics and other factors that influence the development of lipodystrophy in persons living with HIV.Â

4:00pm – 5:00pm A **The Effectiveness of GLP-1 RAs in People Living with HIV** Red Room

Presenters: Folake Olaleye
Evaluators: Michele Gonzalez
Evaluators 2: Amanda Price

TITLE: Effectiveness of glucagon-like peptide-1 receptor agonists in people living with human immunodeficiency virus

AUTHORS: Maria Longo, Briann Fischetti, Folake Olaleye

OBJECTIVE: The purpose of this study is to evaluate the impact of glucagon-like peptide-1 receptor agonists (GLP-1 RAs) on glycemic control and weight loss in people living with HIV (PLWH) who also have a diagnosis of type 2 diabetes mellitus (T2DM).

METHODS: A single center, retrospective chart review from June 1st, 2018 to June 1st, 2022 assessing patients â‰¥ 18 years-old with a diagnosis of HIV and T2DM who are on a GLP-1 RA for â‰¥ 6 months. The primary outcomes for this study include changes in hemoglobin A1c and body weight from initiation of therapy (baseline) to week 24. The secondary outcomes include percentage of patients who achieved 5 or more percent of body weight reduction at 52 weeks, and change in body weight, hemoglobin A1c and systolic/diastolic blood pressure at week 52.

RESULTS: Results will be determined and presented.

CONCLUSIONS: As several studies such as the SUSTAIN, AWARD, and STEP trials have shown the glycemic and weight loss benefits of GLP-1 RAs in type II diabetics, obese/overweight patients, and populations with established cardiovascular disease, it is anticipated that this project will also help to support the use of GLP-1 RAs for glycemic control and weight loss in PLWH.

4:00pm – 5:00pm C **Comparison of thromboembolic events associated with andexanet alfa and 4-factor prothrombin complex concentrate (4F-PCC) for the reversal of factor Xa inhibitor associated hemorrhages**

Red Room

Presenters: Ashling Cook

Evaluators: Allison Lawrence

Evaluators 2: Doug St John

TITLE: Comparison of thromboembolic events associated with andexanet alfa and 4-factor prothrombin complex concentrate (4F-PCC) for the reversal of factor Xa inhibitor associated hemorrhages

AUTHORS: A Cook, PharmD; N Kalaria, PharmD, BCCCP; T Kang, PharmD, BCPS, BCCCP; L Schneider, PharmD, BCPS, BCCCP; C Clayton, PharmD, BCPS

OBJECTIVE: The purpose of this analysis is to determine the incidence of thromboembolic events in patients who received andexanet alfa (AA) or 4-factor prothrombin complex concentrate (4F-PCC) for factor Xa inhibitor associated hemorrhages.

METHODS: We performed a single health-system retrospective chart review of adult patients who received AA between February 1, 2020-December 31, 2022 or 4F-PCC between March 1, 2016-January 31, 2020 for a rivaroxaban or apixaban associated hemorrhage. Key exclusion criteria included administration of multiple doses of either reversal agent or transition to comfort measures within 24 hours of reversal. The primary outcome is the difference in the incidence of thromboembolic events between AA and 4F-PCC following anticoagulation reversal through discharge, death, or 30-days post-reversal, whichever is sooner. Key secondary outcomes include the type of thromboembolic event, time from order placement to reversal, ICU mortality, in-hospital mortality, and discharge disposition.

RESULTS: Thirty-eight patients in the AA group and 115 patients in the 4F-PCC group were included. The main indications for reversal were intracranial hemorrhage in both groups (AA 92.1%; 4F-PCC 62.6%) followed by GI bleed (AA 5.3%; 4F-PCC 25.2%). The most common anticoagulant reversed was rivaroxaban in the 4F-PCC group (50.4%) and apixaban in the AA group (71.1%). The low-dose regimen was used most often in the AA group (86.8%) and 50 units/kg was the most frequent dosing regimen in the 4F-PCC group (42.6%). The incidence of thromboembolic events was 21.1% in the AA group and 9.6% in the 4F-PCC group, with ischemic stroke being the most prevalent type of thromboembolic event (AA: 6/11, 4F-PCC: 6/8). The remaining results will be presented.

CONCLUSIONS: Currently we lack comparative safety information between AA and 4F-PCC for factor Xa inhibitor reversal. The results of this analysis will provide additional information regarding thromboembolic events when using AA and 4F-PCC for apixaban and rivaroxaban associated hemorrhages.

4:00pm – 5:00pm C **Efficacy of ivabradine in reducing heart rate and improving oxygenation in patients receiving venovenous extracorporeal membrane oxygenation** Red Room

Presenters: Haley Fribance

Evaluators: Allison Lawrence

Evaluators 2: Doug St John

TITLE: Efficacy of ivabradine in reducing heart rate and improving oxygenation in patients receiving venovenous extracorporeal membrane oxygenation

AUTHORS: Fribance H, Lindsley J, Davis S, Chasler J, Kim BS, Bush E, Crow J

OBJECTIVE: Determine safety, efficacy, and optimal dosing of ivabradine for heart rate control to optimize oxygenation in patients on venovenous (VV) extracorporeal membrane oxygenation (ECMO) to guide practice and protocol development for standardized care.

METHODS: This is a single-center, retrospective cohort study conducted at a tertiary academic hospital from January 1, 2020 to July 1, 2022. Patients will be included if they were at least 18 years old and initiated on VV ECMO. Patients who received concomitant vasopressors or inotropes during baseline evaluation or while receiving ivabradine were excluded along with patients in atrial fibrillation in the 24 hours prior to baseline evaluation. The utilization of ivabradine as a rate control strategy in VV ECMO will be characterized. In patients who received ivabradine, efficacy in heart rate reduction and improvement of oxygenation compared to baseline at each dose titration will be assessed. Baseline and treatment periods will be defined as 4 hours prior to and 12 hours after ivabradine administration, respectively. The incidence of adverse events, including bradycardia and atrial fibrillation, and pertinent drug interactions will be reported.

RESULTS: Results are currently in progress. Fifty-two patients were evaluated and 19 were included in the study. Overall use and dose titrations of ivabradine will be characterized as well as concurrent use of other agents that may affect heart rate. Efficacy of heart rate reduction will be assessed by comparing median baseline heart rate to median heart rate after ivabradine. Improvement of oxygenation will be assessed by comparing median baseline partial pressure of oxygen (PaO2) with median PaO2 after ivabradine. The incidence of adverse effects, such as bradycardia and atrial fibrillation, and the frequency of concurrent use of CYP3A4 inhibitors and inducers will be described over the total treatment period and within each dose titration.

CONCLUSIONS: The results of this study will determine whether ivabradine safely and effectively lowers heart rate to improve oxygenation in patients on VV ECMO. These results will guide the development of a standardized rate control protocol for this patient population.

4:00pm – 5:00pm C **Evaluation of clinical response in critically ill patients treated with ceftriaxone-metronidazole versus guideline recommended antimicrobial regimens for intra-abdominal infections** Red Room

Presenters: Elizabeth Calderone

Evaluators: Michael Brocco

Evaluators 2: Frank Cintineo

TITLE: Evaluation of clinical response in critically ill patients treated with ceftriaxone-metronidazole versus guideline recommended antimicrobial regimens for intra-abdominal infections

AUTHORS: E. Calderone, PharmD, N. Zadikian, PharmD, BCCCP, A. Erb, MD, P. Callas, PhD; The University of Vermont Medical Center, Burlington, VT

OBJECTIVE: The purpose of this research is to investigate the difference in effectiveness of ceftriaxone plus metronidazole (CTX + METRO) in a high-risk patient population as compared to a guideline recommended option such as piperacillin-tazobactam (P/T).

METHODS: This retrospective cohort study included patients 18 years or older, requiring ICU admission and vasopressor support, who received CTX+METRO or P/T as initial treatment of a severe intra-abdominal infection. Patients were included if they were readmitted with a severe infection within 90 days of initial discharge. Patients were excluded if they received prior antibiotics in the past 90 days. The primary outcome measure is clinical response of critically ill patients to intra-abdominal infection treatment regimens. Clinical response was classified as cure or failure and was determined by culture results, need for additional antibiotics, need for changes to initial regimen, additional required surgical interventions, and additional required procedures. The secondary outcome measures are the development of resistance, ICU length of stay, hospital length of stay, time with an open abdomen, time on a ventilator, time on vasopressors, and mortality.

RESULTS: Upon completion of preliminary data collection, a total of 50 patients have been analyzed which are split evenly among the CTX+METRO and P/T groups. In the CTX+METRO group, 47% of patients were determined to have a clinical response indicative of treatment failure and 13% in the P/T group. 13% of patients in the CTX+METRO group experienced mortality due to intra-abdominal infection whereas mortality was seen in 0% of the P/T group. Resistance was found in 20% of CTX+METRO patients with 1 patient developing resistance to ceftriaxone and 27% in P/T group. Additional data will be collected to allow for a more extensive analysis.

CONCLUSIONS: As a result of this research, the difference in effectiveness between CTX+METRO and P/T in high-risk patients will be determined. Such determination will help to discern if use of guideline recommended treatment regimens in the intensive care units at UVMMC require reinforcement and provider education. The preliminary data suggests that the use of P/T may be more effective, however additional data will be collected to fully determine its efficacy.

4:00pm – 5:00pm C **Evaluation of Four-Factor Prothrombin Complex Concentrate (4F-PCC) for Off-label Use in Patients Requiring Urgent Procedures** Red Room

Presenters: Minny (Min Sun) Jeong
Evaluators: Michael Brocco
Evaluators 2: Frank Cintineo

TITLE: Evaluation of four-factor prothrombin complex concentrate (4F-PCC) for off-label use in patients requiring urgent proceduresÂ

AUTHORS: Min Sun (Minny Jeong), PharmD; Emily Aboujaoude, PharmD, Deepali Dixit, PharmD, BCPS, BCCCP, FCCM

OBJECTIVE: The purpose of this research study is to evaluate hemostasis outcomes and dosing strategies for the off-label use of 4F-PCC in patients requiring urgent procedures.

METHODS: This single-center, Institutional Review Board-approved, retrospective study included patients aged 18 years or older who received 4F-PCC prior to urgent surgery between January 01, 2018 and May 31, 2022. These included patients on factor Xa inhibitor or those who had non-anticoagulant-related coagulopathy. Patients with life-threatening bleeding, documented congenital factor deficiency, pregnancy, or those requiring reversal due to warfarin or dabigatran therapy were excluded. The electronic medical records were queried for type of procedure, indication and dose of 4F-PCC administered, pertinent laboratory values, and information on oral anticoagulation received. The primary endpoint of this study was hemostasis, defined as not requiring additional transfusion of blood products within 48-hours post-procedure. Secondary endpoints included post-International Normalized Ratio < 1.5 after administration, additional hemostatic therapy administered, and incidence of thromboembolic events.

RESULTS: The number and percentage of patients who maintained effective hemostasis after 4F-PCC administration will be recorded and the results will be presented. It is hypothesized that the majority of patients who received 4F-PCC prior to urgent procedures are those who previously received a factor Xa inhibitor. Since there was no specific indication to select in the medical record for perioperative use in patients who had non-anticoagulant-related coagulopathy, this number may be under-reported or mis-represented.

CONCLUSIONS: It is anticipated that this study will provide insight on hemostasis outcomes and potential dosing strategies for the perioperative prevention and management of bleeding in both factor Xa inhibitor-related and non-anticoagulant-related coagulopathies. Future longitudinal studies assessing a larger patient population may provide additional insight on the potential impact of 4F-PCC administration on effective hemostasis and thromboembolic events.

4:00pm – 5:00pm C **Evaluation of Overcorrection of Hyponatremia in the Intensive Care Unit** Red Room

Presenters: Rachel Cruickshank
Evaluators: Michael Brocco
Evaluators 2: Frank Cintineo

TITLE: Evaluation of overcorrection of hyponatremia in the intensive care unit

AUTHORS: Rachel Cruickshank, PharmD, Botao Peng, PharmD Candidate, Stacie Deslich, MS, MCHA Jennifer Chaffin, PharmD, BCPS, BCCCP

OBJECTIVE: The goal of this study is to determine the rates of overcorrection and the therapies that most contribute to that overcorrection to allow us to make improvements in our current practice at CAMC.

METHODS: A total of 168 adult patients who were diagnosed with hyponatremia in the intensive care unit (ICU) between January 1, 2020 â€“ December 31, 2021 were included. Adult patients were included with a diagnosis of hyponatremia and admitted to an ICU. Patients with DKA, pregnant, or on chronic hemodialysis were excluded. For data collection, the following information was documented: length of stay, ICU length of stay, hospital readmission, volume status, urine output, serum sodium at different time intervals, comorbidities and medications contributing to hyponatremia, duration of hyponatremia, serum creatine, consults, pharmacologic treatments and reversal for overcorrection, total milliequivalents of sodium given, and greatest change in serum sodium in 24 and 48 hrs.

RESULTS: 173 patients were included in the analysis after exclusion criteria was applied. Hyponatremia in 5/173 (2.9%) patients were overcorrected. These 5 patients met overcorrection at both 24 and 48 hours. There were no complications found as a result of overcorrection. When overcorrected, the most common pharmacologic therapy to reverse this was 0.45% NaCl and D5W infusions. Therapies contributing most to overcorrection included: furosemide, 0.9% NaCl, and 3% NaCl. Average ICU length of stay was 9.2 days in those overcorrected and 10.95 days in those not overcorrected.

CONCLUSIONS: Based on these results, correction of hyponatremia at CAMC does not have a high incidence of overcorrection at 2.9%. When overcorrection happened in the study, complications were not present.

4:00pm – 5:00pm C **Evaluation of Stress Dose Steroid Tapers in Septic Shock** Red Room

Presenters: Hannah Gilchrist
Evaluators: Allison Lawrence
Evaluators 2: Doug St John

TITLE: Evaluation of Stress Dose Steroid Tapers in Septic Shock

AUTHORS: Hannah E. Gilchrist, PharmD; Matthew A. Roginski, MD, MPH; Alyson M. Esteves, PharmD, BCPS, BCCCP

OBJECTIVE: The objective of this study was to assess steroid taper or discontinuation strategies in patients with refractory septic shock.

METHODS: Patients were included if they were â‰¥18 years of age, admitted to the ED or ICU, had a confirmed diagnosis of septic shock, and received stress dose steroids (hydrocortisone 50 mg IV every 6 hours or hydrocortisone 100 mg IV every 8 hours) for at least 24 hours. Data was collected from January 1, 2021, through December 31, 2021. The primary outcome was to identify the percentage of patients who received a steroid taper. Secondary outcomes included duration of maximum stress dose steroid dosing, method of steroid taper (decrease in dose, frequency, or both), duration of taper, and need for increase in vasopressor requirement within the first 48 hours of steroid taper initiation or discontinuation.

RESULTS: Data analysis is still ongoing. One hundred and fifty six patients met inclusion criteria, 16 (10.3%) received hydrocortisone 100 mg IV every 8 hours and 140 (89.7%) received hydrocortisone 50 mg IV every 6 hours. Thirty one (20%) patients were on home steroid therapy prior to admission. Mean ICU length of stay was 13 days, average APACHE IV-a was 91, and 105 (67.3%) of patients were admitted to the medical ICU. Eighty six (55%) patients received a steroid taper. Seventeen (19.8%) patients who received a steroid taper required a vasopressor increase within 48 hours in comparison to 5 (7.1%) patients who had steroids discontinued. The mean steroid taper duration was 68.6 hours.

CONCLUSIONS: The majority of patients who received stress dose steroids for refractory septic shock received a subsequent steroid taper. When full data analysis is completed, this project will likely display an opportunity for standardization of steroid tapers in septic shock.

4:00pm – 5:00pm C **Evaluation of vasopressor utilization following Cheetahâ„¢ assessment within the surgical intensive care unit** Red Room

Presenters: Christopher May
Evaluators: Allison Lawrence
Evaluators 2: Doug St John

TITLE: Impact of in-house versus send-out magnesium levels on adherence to a targeted temperature management protocol

AUTHORS: C. May, D. Schulingkamp; Jefferson Abington Hospital, Abington, Pennsylvania

OBJECTIVE: Magnesium serum concentrations of 3 to 4 mg/dL are utilized in targeted temperature management (TTM) to prevent shivering. Due to a change in lab process, there is a potential for a delay in reporting which can impact adherence to the TTM protocol.

METHODS: This study is a single center, retrospective chart review during a year period of patients admitted to the surgical and cardiac intensive care units (ICU). Subjects are identified via the electronic health record (Epic Â®) and generated with Qlik Â® software. Patients are divided into two groups: in-house versus send-out magnesium levels. Primary outcome is adherence to the TTM protocol and secondary outcomes include time to therapeutic serum magnesium level, requirement of neuromuscular blocker, incidence of shivering, ICU and hospital length of stay. Safety outcomes include time to result of magnesium levels and in-house mortality. Basic demographic information, categorical, and continuous variables will be described with descriptive statistics where applicable via SPSS. A p-value less than 0.05 is considered significant.

RESULTS: Preliminary observation implies a delay in reporting of magnesium levels reduces adherence to the TTM protocol. Assessment of adherence to TTM protocol will be recorded and results will be presented. Secondary clinical endpoints will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will provide awareness to the TTM protocol, address gaps in shivering management and minimize risk of patient harm.

4:00pm – 5:00pm C **Retrospective review of etomidate and propofol as induction agents for rapid sequence intubation and post-intubation hemodynamic outcomes** Red Room

Presenters: Kierstin Reid

Evaluators: Michael Brocco

Evaluators 2: Frank Cintineo

TITLE: Retrospective review of etomidate and propofol as induction agents for rapid sequence intubation and post-intubation hemodynamic outcomes

AUTHORS: N. Kierstin Reid, PharmD; Ashley Quintili, PharmD, BCCCP, BCPS; Sarah Livings, PharmD, BCCCP, BCPS; Penn State Health Milton S. Hershey Medical Center, Hershey, Pennsylvania

OBJECTIVE: Etomidate and propofol, both induction agents for rapid sequence intubation, may cause hemodynamic instability. This study aims to determine which induction agent has a more profound effect on hemodynamics in the first 24 hours post intubation.

METHODS: This single-center, retrospective chart review evaluated adult medicine patients with an airway note completed by an anesthesiologist at Hershey Medical Center from 2020 to 2022. Patients were excluded if less than 18 years old; intubation occurred anywhere other than a medicine floor bed; induction agents other than etomidate and propofol were used; intubation was not required; data was incomplete; or corticosteroids were administered prior to intubation. Patients were evaluated until a total of 200 patients were included. Groups were assigned and compared based on induction agent used (propofol or etomidate). The primary endpoint was need for vasopressors 24 hours post-intubation. Secondary endpoints included need for vasopressors within 24 hours of intubation, hospital mortality, ICU length of stay (LOS), hospital LOS, use of stress dose steroids and time to extubation. Chi-squared analysis and Mann-Whitney U Test was used for nominal and continuous variables, respectively.

RESULTS: Of 848 patients evaluated, 200 patients were included in the study (n=101 received propofol vs. n=99 received etomidate). The majority of the patients were older males who were hemodynamically stable at baseline (mean arterial pressure propofol 83.4 mmHg vs. etomidate 88.4 mmHg). Respiratory distress was the most common indication for intubation. The mean dose for patients who received propofol was 1.36 mg/kg and 0.17 mg/kg for etomidate. The difference in the need for vasopressors 24 hours post-intubation was not statistically significant between groups (41.6% propofol vs. 46.5% etomidate, p=0.49). There was also no statistically significant differences between the groups for any of the secondary endpoints.

CONCLUSIONS: For adult medicine patients at our institution, we were unable to detect a difference in the hemodynamic effect of propofol and etomidate within the first 24 hours post intubation. However, larger studies comparing these two agents in more critically ill patients are warranted.

4:00pm – 5:00pm C **Valproic Acid in Critically Ill Patients with Refractory Delirium and Agitation** Red Room

Presenters: Olivia Nuti

Evaluators: Allison Lawrence

Evaluators 2: Doug St John

TITLE: Evaluation of valproic acid for hyperactive delirium or agitation in critically ill adult patients at a large academic medical center

AUTHORS: Olivia Nuti, PharmD; Tania Ahuja, PharmD, FACC, BCCP, BCPS, CACP; Cristian Merchan, PharmD, BCCCP; Serena Arnouk, PharmD, BCCCP; John Papadopoulos, BS Pharm, PharmD, FCCM, BCCCP; Alyson Katz, PharmD, BCCCP

OBJECTIVE: The objective of this study is to evaluate the success and safety of valproic acid (VPA) for hyperactive delirium or agitation in a heterogeneous cohort of critically ill patients.

METHODS: This is a retrospective cohort study of all adult patients â‰¥ 18 years old who were admitted from October 1, 2017 to October 1, 2022 to an intensive care unit (ICU) at NYU Langone Health and received VPA for delirium or agitation. Patients in the ICU that received at least one concomitant psychoactive medication for delirium or agitation for at least 12 hours were eligible for inclusion. Patients were excluded if they received VPA prior to hospital admission or for less than 24 hours, or if VPA was used for an alternative indication. Electronic health records were reviewed for baseline characteristics, VPA characteristics, laboratory data and concomitant medications. The primary outcome was the incidence of success of VPA administration, defined as no escalation or a decrease in the requirements of concomitant psychoactive medications up through day 7 of VPA. Secondary outcomes included any adverse event attributed to VPA. SPSS Statistics software was used for data analysis.

RESULTS: Results are pending. After data analysis, we will report the success of VPA for hyperactive delirium or agitation in critically ill adult patients; describe VPA prescribing patterns, including dosing strategies, receipt of loading dose, route of administration and dosage form, and duration of therapy; and the impact of VPA on concomitant psychoactive medications. In addition, we will report the incidence of any adverse event and assess for predictors of success and safety.

CONCLUSIONS: It is anticipated that this research will demonstrate variable prescribing practices and effectiveness of VPA for agitation and delirium in critically ill patients, and offer insight into characteristics of critically ill patients who may benefit from this therapy that should be further explored.

4:00pm – 5:00pm D **Comparison of Lokelma versus Kayexalate for the Treatment of Hyperkalemia at a Community Hospital** Red Room

Presenters: Stephanie Kolaski
Evaluators: Todd Nesbit
Evaluators 2: Carla Williams

TITLE: Comparison of sodium zirconium cyclosilicate versus sodium polystyrene sulfonate for the treatment of hyperkalemia at a community hospital

AUTHORS: S. Kolaski, Pharm.D., K. Vuong, Pharm.D., MTM-C, BCACP, E. Nhan, B.S., Pharm.D., CACP, J. Reilly, B.S., Pharm.D., BCGP, A. Kardos, B.S. Pharm, MBA; AtlantiCare Regional Medical Center, Pomona, New Jersey

OBJECTIVE: The objective of our study is to compare the reduction in serum potassium (K) levels in patients who received a one-time dose of either sodium zirconium cyclosilicate (SZC) or sodium polystyrene sulfonate (SPS) for the treatment of hyperkalemia.

METHODS: Subjects were identified for this retrospective study from a report generated by Cerner Discern Analytics at AtlantiCare Regional Medical Center (ARMC). Those included received a one-time oral dose of SZC 10 grams or SPS 15 grams for the treatment of hyperkalemia between October 1, 2022 and December 31, 2022. Patients were excluded if they were less than 18 years of age, had acute or chronic renal failure, received more than one dose within 24 hours of either SZC or SPS, had a current gastrointestinal bleed, received regular insulin or sodium bicarbonate, or were newly started on medications that have the potential to increase or decrease potassium, such as potassium sparing diuretics and angiotensin-converting enzyme inhibitors. Data collection included patient demographics, past medical history, and current medications. Studentâ€™s t-test was utilized for group comparisons, and this study was approved by the institutional review board at ARMC.

RESULTS: Eighty patients met inclusion criteria for this study, with 40 patients in the SZC group and 40 patients in the SPS group. Patient characteristics were similar in both groups, including number of males, average age, and baseline serum K levels. The mean changes from baseline to follow-up serum K within the first 24 hours in the SZC and SPS groups were -0.5 milliequivalents per liter (mEq/L) and -0.7 mEq/L, respectively. There was no statistically significant difference in mean changes from baseline to follow-up serum K levels between both groups (p=0.054). The percentage of patients that obtained a serum K within normal limits (K less than or equal to 5.0 mEq/L) with SZC was 67.5% (n=27) compared to 82.5% (n=33) in the SPS group.

CONCLUSIONS: Our findings demonstrate there was no significant difference in the reduction of serum potassium when comparing a one-time dose of SZC versus SPS in this study population. Future studies may be warranted to compare the effectiveness of these agents in patients with certain comorbidities and initial serum potassium levels greater than or equal to 5.5 mEq/L.

4:00pm – 5:00pm D **Impact of Medication Therapy Management on Medication Adherence Rates.** Red Room

Presenters: Rajveer Kaur
Evaluators: Todd Nesbit
Evaluators 2: Carla Williams

TITLE: Impact of comprehensive medication review sessions on medication adherence rates

AUTHORS: Kaur, Rajveer; Monk, Gannett

OBJECTIVE: The purpose of the study is to determine the impact that comprehensive medication reviews have on medication adherence rates, based on the patientâ€™s timely fill history.

METHODS: This retrospective study began with the collection and review of the medication fills and pickup histories of Fruth Pharmacy patients who had a both a comprehensive medication review completed on OutcomesMTM.com and those who were on diabetes, hypertension, and/or hyperlipidemia medications. Data was collected and integrated into a spreadsheet to compare the proportion of days covered before the comprehensive medication review was completed and after the comprehensive medication review was completed.

RESULTS: The comparison of proportion of days covered both before and after a comprehensive medication review was completed will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this retrospective research project will demonstrate the positive role comprehensive medication reviews have on increasing medication adherence, thus encouraging other pharmacists to incorporate these sessions into their everyday practice.

4:00pm – 5:00pm E **Creation of a PGY2 Pharmacy Residency in Health System Pharmacy Administration and Leadership (HSPAL)** Red Room

Presenters: Jenna Houk
Evaluators: Todd Nesbit
Evaluators 2: Carla Williams

TITLE: Creation of a PGY2 Pharmacy Residency in Health System Pharmacy Administration and Leadership (HSPAL)
AUTHORS: Jenna Houk BS PharmD, Rita Bodine PharmD DPLA, Barbara Romeo BS PharmD
OBJECTIVE: VA Hudson Valley Healthcare System currently has a PGY1 and a PGY2 Ambulatory Care Residency program. We saw an opportunity to expand our residency program offerings and add a PGY2 Health System Pharmacy Administration and Leadership.
METHODS: Pharmacy residencies are an increasingly important part of the post-graduate training of clinical pharmacists. PGY2 residencies allow residents to dial into their areas of interest, now including HSPAL. Succession planning for pharmacy management is vital. PGY2 residencies in HSPAL allow VA facilities to train and mold their future pharmacy leaders. A pre-candidate application was completed and we were granted pre-candidate status. Then, the structure of the residency was designed by creating both required and elective rotations. A mock schedule was created to ensure that the rotations were adequate in length and that the entire residency year was filled. We then worked with our existing Residency program directors to update the facilities residency manual to reflect the updated ASHP standards and include the HSPAL residency materials. Once materials were completed, the program registered for the Match and participated in the recruitment process for the 2023-24 residency year.
RESULTS: No applications were received during Phase I or Phase II of the Match. The program will be participating in Post-match Scramble with hopes of recruiting a resident for the 2023-24 residency year. If a resident successfully matches with our program, we will be pursuing ASHP candidate status during the 2023-24 residency year.
CONCLUSIONS: A PGY2 in HSPAL will allow us to mold future leaders that may be internally recruited and increase applications of PGY1 candidates who are interested in paths to our PGY2 program offerings. Our PGY2 in HSPAL resident will also allow us to continue keeping process improvement at the forefront of our facilities goals. We hope to continue to expand our residency program offerings in the future and contribute to development of future clinicians and pharmacy leaders within our organization.

4:00pm – 5:00pm Y **Adverse Events Amongst Older Adults Receiving Sedation for Agitation in the Emergency Department** Red Room

Presenters: David Kingsley
Evaluators: Chris Childress
Evaluators 2: Bobbi Hilker

TITLE: Adverse Events amongst Older Adults Receiving Sedation for Agitation in the Emergency Department
AUTHORS: David Kingsley, PharmD; Jesse Lewandowski, PharmD; Gregory Kelly, PharmD, MS, BCCCP,
OBJECTIVE: Characterize sedative practices and incidence of adverse events for elderly patients presenting to the emergency department with acute agitation.
METHODS: To characterize sedation practices and incidence of adverse events in elderly patients, a retrospective cohort study will be conducted. Records of patients ordered for physical restraints will be reviewed and patients age >65, with receipt of sedation will be included. Patients not receiving sedation will be excluded. The primary outcome of incidence of adverse events will be analyzed as a composite outcome including occurrence of bradycardia, hypotension, or respiratory depression. Secondary outcomes will include cumulative doses of sedatives within 24 hours of restraints, receipt of doses above suggested dosing range for elderly patients, emergency department length of stay, duration of physical restraint use, patient disposition, and return visit to emergency department within 7 and 30 days of index visit.
RESULTS: The incidence of adverse events in elderly patients receiving sedation will be analyzed and results will be presented. Descriptive statistics will be used to describe results and multivariate logistic regression will be used to identify factors associated with adverse events.
CONCLUSIONS: It is anticipated that elderly patients treated in the emergency department for acute agitation experience sedation related adverse events and receive variable doses of sedation. This project will acknowledge the need for appropriate drug and dose selection for agitated older adults.

4:00pm – 5:00pm Y **Comparison of fixed-dosing versus weight-based dosing of four-factor prothrombin complex concentrate on hemostasis for reversal of oral anticoagulant-associated bleeding** Red Room

Presenters: Vincenza Maiello
Evaluators: Xinqi Liu
Evaluators 2: Gregory Kelly

TITLE: Comparison of fixed-dosing versus weight-based dosing of four-factor prothrombin complex concentrate on hemostasis for reversal of oral anticoagulant-associated bleeding

AUTHORS: Vincenza Maiello, PharmD; Christine Ciaramella, PharmD, BCCCP; Gregory Chang, MD, MBA; David Clarke, MD

OBJECTIVE: The purpose of this study was to compare the efficacy and safety of fixed-dosing to traditional dosing of four-factor prothrombin complex concentrate (4F-PCC) for reversal of oral anticoagulant-associated bleeding.

METHODS: This study was an IRB-approved, single-center, retrospective chart review from January 1, 2014 to June 30, 2023. Patients included were age 18 years or older, on chronic anticoagulation with warfarin or direct oral anticoagulant (DOAC) who required emergent hemostasis or reversal, confirmed administration of 4F-PCC for emergent hemostasis or reversal of anticoagulation, and if they received appropriate dosing based on package insert or institutional guideline. The primary outcome was the percentage of patients who achieved target INR based on the institutional guideline in patients who received warfarin and achieved hemostatic effectiveness for patients receiving DOACs based on validated criteria. Secondary outcomes were length of stay, repeat 4F-PCC use, need for fresh frozen plasma or packed red blood cells, and cost-savings comparison using fixed-dosing 4F-PCC to traditional dosing.

RESULTS: Results are currently in progress. Data collected was patient demographics (e.g., age, weight, sex), anticoagulant, indication for anticoagulant, indication for anticoagulant reversal, concurrent vitamin K administration, dose of 4F-PCC, baseline INR, and INR after 4F-PCC use.

CONCLUSIONS: This study may demonstrate comparable efficacy and safety between fixed-dosing and traditional dosing of 4F-PCC for reversal of oral anticoagulant-associated bleeding. The results may provide more data to validate the institutional guideline and cost savings.

4:00pm – 5:00pm Y **Effects of emergency department administration of diltiazem on patients treated for atrial fibrillation with rapid ventricular response with concurrent heart failure with reduced ejection fraction** Red Room

Presenters: Emily Farina
Evaluators: Xinqi Liu
Evaluators 2: Gregory Kelly

TITLE: Effects of emergency department administration of diltiazem on patients treated for atrial fibrillation with rapid ventricular response with concurrent heart failure with reduced ejection fraction

AUTHORS: Emily Farina, PharmD; Kelly Sessa, PharmD; Frank Diaz, PharmD, BCPS

OBJECTIVE: This study aims to evaluate decompensation rates of patients with heart failure with reduced ejection fraction (HFrEF) and administered a diltiazem infusion in the emergency department (ED) for atrial fibrillation with rapid ventricular response.

METHODS: This retrospective study evaluated adults with HFrEF who received diltiazem for atrial fibrillation (AF) with rapid ventricular response in six Atlantic Health System EDs. The following were inclusion criteria: ejection fraction of 40% or less, presenting with AF and a heart rate of at least 120 beats per minute, initiation of diltiazem infusion in the ED, and admitted to the hospital for 12 hours or more. Exclusion criteria included missing dosing, presentation of acute decompensated heart failure, allergy to diltiazem, pregnancy, electrical cardioversion in ED, receipt of contraindicated antiarrhythmic therapy, or taking oral non-dihydropyridine calcium channel blockers at home or inpatient prior to the infusion. The primary outcome was heart failure decompensation rates during hospital admission. The secondary outcomes included change in vitals and oxygen delivery type, in-hospital mortality, hospital and ED length of stay, upgrade in care, and presence of acute kidney injury.

RESULTS: One-hundred and two patients were included in the final analysis. The primary outcome occurred in 68.6% of patients. For secondary outcomes, there was a significant decrease in systolic blood pressure (p

4:00pm – 5:00pm Y **Evaluation of Front-Loaded Intravenous Phenobarbital** Red Room

Presenters: Abigail Wolff
Evaluators: Xinqi Liu
Evaluators 2: Gregory Kelly

TITLE: Evaluation of front-loaded intravenous phenobarbital for moderate to severe acute alcohol withdrawal in the emergency department

AUTHORS: Abigail Wolff, PharmD; Gabrielle Procopio, PharmD, BCPS; Ruchi Jain, PharmD, BCCCP; Alyssa Berns, DO; Daria Falkowitz, DO

OBJECTIVE: The objective of this study is to describe the safety and efficacy of front-loaded intravenous (IV) phenobarbital for the management of moderate and severe acute alcohol withdrawal in the emergency department (ED).

METHODS: Due to IV benzodiazepine shortages, a new alcohol withdrawal treatment guideline was implemented at our institution that incorporated front-loaded phenobarbital. Orders for front-loaded phenobarbital were identified by a daily report and subsequently reviewed for quality assurance of patient outcomes. The cohort of patients who received front-loaded phenobarbital will be compared to a historical control group of adults who received IV therapy for alcohol withdrawal in the ED before the new guideline was implemented. Data collection will include patient demographics, past medical history, Brief Alcohol Withdrawal Scale (BAWS) scores, dosing information for phenobarbital and benzodiazepines administered under ED physician care, disposition to a critical care unit, length of stay, and adverse events. The primary outcome will be the mean total dose of benzodiazepines, in lorazepam equivalents, administered to patients who received treatment for moderate or severe alcohol withdrawal.

RESULTS: The mean total dose of benzodiazepines, in lorazepam equivalents, administered to patients who received treatment for moderate or severe alcohol withdrawal will be presented as the primary outcome. Secondary outcomes including rates of admission, length of stay, concomitant benzodiazepine use, compliance with BAWS documentation, the incidence of adverse events, rate of mechanical ventilation, in-hospital mortality, and a comparison between moderate and severe alcohol withdrawal will be presented as well.

CONCLUSIONS: Results of this study will help determine the safety and efficacy of our institution's revised alcohol withdrawal treatment guideline which includes recommendations for front-loaded phenobarbital. This study will further guide the utilization and dosing of phenobarbital for moderate and severe alcohol withdrawal in the ED. While data analysis has not yet been performed, we hypothesize that front-loaded phenobarbital will decrease IV benzodiazepine consumption without increasing adverse events.

4:00pm – 5:00pm Y **Impact of tenecteplase on door-to-needle times in acute ischemic stroke** Red Room

Presenters: Heba Hezzini
Evaluators: Xinqi Liu
Evaluators 2: Gregory Kelly

TITLE: Impact of tenecteplase on door-to-needle times in acute ischemic stroke

AUTHORS: H. Hezzini, C. Ciaramella, G. Chang, D. Clarke; The Brooklyn Hospital Center, Brooklyn, New York

OBJECTIVE: The purpose of this study was to compare the impact of alteplase and tenecteplase on door-to-needle (DTN) time for treatment of acute ischemic stroke (AIS).

METHODS: This study was an IRB-approved, single-center, retrospective chart review of pre-implementation alteplase between January 1, 2020 to November 31, 2021 and post-implementation tenecteplase between December 1, 2021 to June 30, 2023. Patients included were age 18 years or older and received alteplase or tenecteplase for a suspected AIS within 4.5 hours of symptom onset. The primary outcome was the DTN time of administration by comparing the time from patient arrival to administration of alteplase or tenecteplase. Secondary outcomes were door-to-CT time, delays in administration, adverse events such as intracranial hemorrhage evaluated by imaging studies, length of stay, cost-savings, and mortality. Data was analyzed using descriptive statistics, independent student t-test, and chi-square test where appropriate. Statistical significance was defined as p-value less than 0.05.

RESULTS: Results are currently in progress. Data collected was patient demographics (e.g., age, sex, weight, comorbidities), blood pressure prior to fibrinolytic administration, symptom onset within 3 or 4.5 hours, National Institute of Health Stroke Scale score, presence of large vessel occlusion on diagnostic imaging, and dose of fibrinolytic agent administered.

CONCLUSIONS: This study may show a difference in DTN times between alteplase and tenecteplase in the management of AIS. The results may provide more data to support the use of tenecteplase over alteplase in faster time to administration and cost savings.

4:00pm – 5:00pm G **Analyzing for potential cost savings associated with use of fixed dose four factor prothrombin complex concentrate at a community hospital** Red Room

Presenters: Marie DeBerry-Butler
Evaluators: Kathleen Hess
Evaluators 2: Bido Ealeen

TITLE: Potential cost savings associated with use of fixed dose four-factor prothrombin complex concentrate at a community hospital

AUTHORS: Marie DeBerry-Butler, Pharm.D., Ethan Nhan, Pharm.D., Joseph Reilly, Pharm.D., Alex Kardos, BS Pharm, MBA

OBJECTIVE: The objective of the study is to determine the potential financial impact associated with use of fixed dose four-factor prothrombin complex concentrate (4F-PCC) compared to weight-based dosing in patients with a life-threatening hemorrhagic event.

METHODS: A retrospective chart review was conducted using Cerner Discern Analytics to identify patients that received a weight-based dose of 4F-PCC from January 1, 2022 to December 31, 2022. Data collection included dose of 4F-PCC, anticoagulant reversed, initial INR, and type of bleed. Patients were excluded if the dose of 4F-PCC given did not align with policies provided by AtlantiCare Regional Medical Center (ARMC). The American College of Cardiology guidelines for 4F-PCC use and guidance from published literature were used to identify an appropriate fixed dose of 4F-PCC based on anticoagulant reversed. To determine cost of 4F-PCC, a year-end expenditure report was derived from Cardinal Health. Patients receiving weight-based dosing of 4F-PCC were evaluated for potential cost saving by calculating the cost as compared to a fixed dose per patient. De-identification of data was conducted to preserve patient confidentiality. The study has been approved by the institutional review board at ARMC.

RESULTS: Year-end utilization of 4F-PCC will be assessed and recorded. Actual cost of 4F-PCC compared to calculated cost of appropriate fixed dose will be presented to determine potential cost savings.

CONCLUSIONS: The study is anticipated to display cost savings associated with using a fixed-dose of 4F-PCC compared to weight-based dosing in patients suffering from a life-threatening hemorrhagic event.

4:00pm – 5:00pm 1 **Assessment of discontinuation rates of empagliflozin due to adverse drug reactions in adults 75 years or older** Red Room

Presenters: Christian Macaspac
Evaluators: Kathleen Hess
Evaluators 2: Bido Ealeen

TITLE: Assessment of discontinuation rates of empagliflozin due to adverse drug reactions in adults 75 years or older

AUTHORS: Christian Macaspac, PharmD, Frank Cintineo, PharmD, BCPS, Karen Korch-Black, PharmD, BCGP, BCACP, Kristin Watson, PharmD, BCCP

OBJECTIVE: Sodium glucose co-transporter-2 inhibitors (SGLT2is) use has been expanded beyond diabetes to chronic kidney disease and heart failure. Risk factors for adverse drug reactions (ADRs) of SGLT2is has not been extensively studied in those â‰¥75 years old.

METHODS: This retrospective cohort study will examine the VA Maryland Health Care System patient population ages 75-99 years old that have received treatment with empagliflozin, the SGLT2i on formulary, during the study period of January 1, 2020 â€“ March 31, 2022. Discontinuation rates due to ADRs will be described using descriptive statistics. Pharmacy informatics will identify sample population based on the inclusion criteria. Inclusion criteria are: 75-99 years old, received at least one empagliflozin prescription for a minimum of 30-day supply, active empagliflozin prescription during study period. Exclusion criteria are: non-VA and inpatient empagliflozin prescriptions. Numbers of ADRs and ADRs associated with discontinuation will be documented. ADRs that will be assessed in this study include UTIs, GUIs, and DKA/eDKA. Patients that have an ADR will be analyzed for the presence of pre-determined risk factors to identify possible predictors.

RESULTS: The number and percentage of empagliflozin prescriptions discontinued following an ADR and the specific intolerance will be reported. Descriptive data regarding characteristics of those who stopped therapy due to an ADR will be detailed.

CONCLUSIONS: It is anticipated that this study will provide insight into variables that may increase the risk of ADRs in older patients taking empagliflozin, providing the opportunity for clinicians and patients to be best informed about the risks of therapy.

4:00pm – 5:00pm | **Assessing a standardized nurse-driven culture surveillance and follow-up process in the emergency department** Red Room

Presenters: Brooke Broczkowski
Evaluators: Chris Childress
Evaluators 2: Bobbi Hilker

TITLE: Assessing a standardized nurse-driven culture surveillance and follow-up process in the emergency department

AUTHORS: B. Broczkowski, PharmD; L. D'Agostino, PharmD, BCPS, BCIDP; J. Schimmel, MD; Rosemary Zlody, RN; Baystate Medical Center (BMC), Springfield, MA

OBJECTIVE: The purpose of this project is to compare the existing nurse-driven emergency department (ED) culture follow-up process at BMC to an updated process that incorporates the principles of antimicrobial stewardship.

METHODS: The project is a retrospective study of patients discharged from the ED who had a culture reviewed during the initial nurse-driven ED follow-up process compared to a revised process utilizing an updated clinical guideline. Data before implementation was collected from December 4, 2017, through December 31, 2017, and included all positive urine, blood, and wound cultures. The primary outcome was appropriateness of antibiotic therapy based on evidence-based guidelines, literature, culture results and susceptibility reports. A secondary outcome of interest was the number of ED re-admissions as a result of a suboptimal antimicrobial therapy. The criteria for suboptimal therapy included: pathogen resistant to prescribed therapy, inappropriate dose, inappropriate duration and no therapy prescribed when indicated. Post-implementation data will also include the number of ED re-admissions for a likely blood culture contaminant.

RESULTS: There were 81 patients assessed for appropriateness of therapy with the current process. Of these patients, 61 (75%) were prescribed appropriate therapy. For the remaining 20 patients, therapy was considered suboptimal: 5 patients had a pathogen resistant to prescribed therapy (25%), 1 patient had a dose too low (5%), 9 patients had an incorrect duration (45%), and 5 patients had no therapy being prescribed despite an indication (25%). Of the 12 patients who returned to the ED, 3 were prescribed suboptimal therapy. Post-implementation data collection is currently underway.

CONCLUSIONS: It is anticipated that this project will demonstrate that an updated culture surveillance clinical practice guideline that incorporates the principles of antimicrobial stewardship will empower follow-up nurses to prescribe optimal antimicrobial therapy for patients discharged from the ED.

4:00pm – 5:00pm | **Azithromycin 5-Day Study vs 3-Day Course for Community Acquired Pneumonia: A Noninferiority Trial** Red Room

Presenters: Austin Willett
Evaluators: Shawn Mazur
Evaluators 2: Alexander Cain

TITLE: Azithromycin 5-day versus 3-day course for community-acquired pneumonia: A non-inferiority trial

AUTHORS: Austin Willett, PharmD; Anthony Carfagna, PharmD Candidate 2023; Stacie Deslich, MA, MSHCA; Michael Czupryn, PharmD, BCPS

OBJECTIVE: Azithromycin is one portion of the standard empiric therapy for bacterial community-acquired pneumonia (CAP). This study aimed to determine if a three-day course of azithromycin is non-inferior to a five-day course for CAP treatment.

METHODS: Patients admitted to Charleston Area Medical Center between March 31, 2021 to March 31, 2022 diagnosed with CAP were identified via ICD-10 codes. Patients â‰¥18 years of age were analyzed for treatment with azithromycin 500 mg for five days versus three days. The primary composite outcome included the following: number of patients febrile after last day of treatment with azithromycin, number of patients requiring escalation of care to an intensive care unit after last day of treatment with azithromycin, and number of patients re-admitted within 30 days with CAP as the primary diagnosis. The non-inferiority margin was set at a 12.5% difference as described in the FDAâ€™s guidance â€“ Community-Acquired Bacterial Pneumonia: Developing Drugs for Treatment.

RESULTS: Medical records of 164 patients were analyzed. Baseline demographics were similar between groups. Azithromycin 500 mg was received for five days in 87 patients and three days in 77 patients. The primary composite outcome demonstrated no statistical difference between groups (10/87 vs 12/77, p=0.4431). No statistical difference was also observed between groups in hospital length of stay (8.4 days vs 7.3 days, p=0.1077).

CONCLUSIONS: Our study demonstrated no statistical difference in the primary composite outcome between five days versus three days of azithromycin 500 mg for the treatment of CAP. There was also no statistical difference between groups in hospital length of stay. Current guidelines make no formal recommendation on treatment duration with azithromycin in CAP. Our study suggests larger randomized controlled trials be conducted to confirm or refute our findings.

4:00pm – 5:00pm | **Clinical outcomes and adverse effects of various perinatal HIV prophylactic approaches: A real-world experience** Red Room

Presenters: Matty Zimmerman
Evaluators: Shawn Mazur
Evaluators 2: Alexander Cain

TITLE: Clinical outcomes and adverse effects of various perinatal HIV prophylactic approaches: A real-world experience

AUTHORS: M. Zimmerman, A. Hsu, D. Persaud, B. Chalk, C. Liang, A. Agwu; The Johns Hopkins Hospital, Baltimore, Maryland

OBJECTIVE: We aim to determine clinical outcomes and toxicities associated with different perinatal HIV prophylactic regimens prescribed in high, moderate and low risk infants born to mothers living with HIV (MLWH).

METHODS: We conducted a retrospective, observational cohort study of infants born to MLWH admitted to The Johns Hopkins Hospital and Bayview Medical Center between July 2016 and July 2022. The primary outcome of interest is the characterization of antiretroviral prophylactic regimens prescribed in low, moderate, and high risk category infants. The secondary outcomes of interest included incidence of HIV acquisition, adverse events, reported adherence and social outcomes. Patient demographics and clinical characteristics will be summarized using descriptive statistics. Fishers exact test will be used for categorical data, and the Wilcoxon rank-sum test will be used for continuous data. Logistic regression will be used to estimate the odds of the primary and secondary outcomes in each of the risk categories. Statistical significance will be defined as a p value

4:00pm – 5:00pm | **Effectiveness of Piperacillin/Tazobactam (Zosyn) Loading Dose for Extendedâ€‹ Infusion Dosing Among Patients with Gram-Negative Bacteremia (EZ-LD)** Red Room

Presenters: Savan Patel
Evaluators: Chris Childress
Evaluators 2: Bobbi Hilker

TITLE: Effectiveness of piperacillin/tazobactam loading dose for extended infusion dosing among patients with gram-negative bacteremia (EZ-LD)

AUTHORS: S. Patel, S. Mohayya, A. Yassin, J. Dao, E. Aboujaoude, P. Bhatt, A. Abdul Azim, K. Kaye, N. Narayanan

OBJECTIVE: To examine the effect of a loading dose for extended infusion piperacillin/tazobactam (PTZ) on clinical and pharmacokinetic outcomes and to evaluate the PTZ safety profile.

METHODS: This is an IRB-approved, single-center, retrospective study evaluating adult patients with Gram-negative bacteremia who received extended infusion PTZ therapy for at least 48 hours between 2015 to 2022. In December 2019, the study institution developed a policy that automatically ordered a loading dose for PTZ. Patients prior to this point who did not receive a loading dose were compared to patients who did. The electronic medical records of included patients were queried for patient demographic and clinical data. The primary endpoint was 30-day mortality. Key secondary endpoints included clinical cure, time to clinical cure, 14-day mortality, all-cause mortality, time to mortality, and the PTZ safety profile. Clinical cure was assessed by the incidence of a positive clinical outcome, defined as antibiotic discontinuation, or narrowing of antibiotics. Descriptive or inferential statistics were used for all data analyses. Regression modeling will be done to control for confounding.

RESULTS: The 30-day mortality rate in the â€œloading doseâ€□ and â€œno loading doseâ€□ groups will be compared and presented. Results of secondary and exploratory endpoints will also be collected and presented.

CONCLUSIONS: It is anticipated that the results of this study will provide evidence to support adoption of a loading dose for extended infusion PTZ to improve clinical outcomes in patients with Gram-negative bacteremia.

4:00pm – 5:00pm | **Evaluating the Clinical Use of MRSA Nasal Swabs in Patients with Pneumonia Receiving Empiric Vancomycin Therapy** Red Room

Presenters: Melissa Gregorio
Evaluators: Chris Childress
Evaluators 2: Bobbi Hilker

TITLE: Evaluating the clinical use of methicillin-resistant Staphylococcus aureus nasal swabs in patients with pneumonia receiving empiric vancomycin therapy

AUTHORS: M. Gregorio, Pharm.D., S. Szymborski, Pharm.D., MHS, BCPS, G. Downham, MPH, CIC, FAPIC, J. Reilly, Pharm.D., M. Trivedi, MD; AtlantiCare Regional Medical Center, Pomona, New Jersey

OBJECTIVE: The objective of this study is to evaluate the influence of a negative methicillin-resistant Staphylococcus aureus (MRSA) nasal swab on vancomycin prescribing in pneumonia patients at our institution.

METHODS: Cerner Discern Analytics software was used to generate a report identifying patients for inclusion in this study: those admitted to AtlantiCare Regional Medical Center (ARMC) between July 1, 2022 and January 11, 2023 that were culture negative using a MRSA nasal swab and received intravenous vancomycin for treatment of pneumonia. Patients were excluded from our analysis if their indication for antibiotics was not pneumonia, if they were being treated for pneumonia and another co-infection, and/or if they were being treated with an alternative antibiotic for MRSA coverage besides vancomycin. Patients admitted to an intensive care or pediatric unit were also excluded. Microbiology data, allergies, and rationale for vancomycin therapy were assessed for each patient. This study was approved by ARMCâ€™s Institutional Review Board.

RESULTS: A total of 68 patients were included in our analysis, with 46 cultured in patient care units and 22 in the emergency department (ED). Overall, 48 of 68 patients (70.6%) continued on vancomycin therapy >24 hours after a negative MRSA nasal swab result. Thirty-one of the 46 from patient care units (67.4%) continued on vancomycin >24 hours after a negative MRSA nasal swab result compared to 17 of 22 patients (77.3%) cultured in the ED. Of the 48 patients continued on vancomycin therapy >24 hours after a negative MRSA nasal swab result, 17 were diagnosed with community acquired pneumonia (35.4%). Another 14 patients were diagnosed with healthcare-associated pneumonia (29.2%) and 13 patients were diagnosed with aspiration pneumonia (27.1%).

CONCLUSIONS: Our evaluation revealed the underutilization of negative MRSA nasal swabs for de-escalation of empiric vancomycin therapy in the setting of pneumonia. In the future, negative MRSA nasal swab results should help curb unnecessary vancomycin use in pneumonia patients. Provider education will be paramount in successfully driving this antimicrobial stewardship initiative.

4:00pm – 5:00pm | **Evaluation of a pharmacist driven antibiotic timeout process** | Red Room

Presenters: Samantha Sallerson
Evaluators: Shawn Mazur
Evaluators 2: Alexander Cain

TITLE: Evaluation of a pharmacist driven antibiotic timeout process

AUTHORS: S. Sallerson, M. Lorenzo, L. Dâ€™Agostino, S. Roggie, E. Housman; Baystate Medical Center, Springfield, Massachusetts

OBJECTIVE: The objective of this project is to assess the impact of a pharmacist driven antibiotic timeout process at Baystate Medical Center.

METHODS: Currently, clinical pharmacists get alerted of patients on broad spectrum antibiotics for more than 48 hours. Pharmacists are then expected to contact the primary team to conduct an antibiotic timeout to re-evaluate the choice, duration, dose, route, and frequency of antibiotics ordered. As a part of a quality assurance process, a 2-week assessment was conducted by the antimicrobial stewardship team to evaluate the utility of the current antibiotic timeout process. During the assessment, clinical pharmacists were instructed to report the number of alerts received per day along with the number of alerts that were considered addressed. Additional data points included provider interaction, change in antibiotic therapy, and change in duration. The pharmacists responsible for recording data were instructed on how to use the data collection sheet via email.

RESULTS: Over the course of 2 weeks, there were a total of 195 alerts, all of which (100%) were reported to have been addressed by the clinical pharmacist. Seventy-six (39%) had at least 1 attempt to discuss with the provider and 100 (51%) had an ID consult, resulting in 19 (10%) that were not followed by ID or discussed with the provider. Of those that did reach out to a provider, majority (89%) received a response. Of the 195 alerts, 127 (65%) reported no change in antibiotic therapy, 22 (11%) were de-escalated, 4 (2%) were escalated, and 13 (7%) had discontinued antibiotics. Eight (4%) reported a change in duration, 4 (2%) had decreased and 4 (2%) had increased therapy duration.

CONCLUSIONS: Our current antibiotic timeout process showed that while pharmacists reported addressing their alert, not all were discussed with a provider, suggesting potential misconception on how to appropriately address an antibiotic timeout. However, performing antibiotic timeouts did show benefit as 35% of alerts resulted in a change in antibiotic therapy. Therefore, the antimicrobial stewardship program is creating a standard operating procedure in hopes of improving this process.

4:00pm – 5:00pm | **Evaluation of empiric antifungal therapy for complicated intra-abdominal infections in the adult surgical intensive care unit** | Red Room

Presenters: Klarida Zeqollari
Evaluators: Shawn Mazur
Evaluators 2: Alexander Cain

TITLE: Evaluation of Empiric Antifungal Therapy for Complicated Intra-abdominal Infections in the Adult Surgical Trauma Unit

AUTHORS: Christopher May, PharmD; Klarida Zeqollari, PharmD, BCPS; Sareen Bedrossian, PharmD, BCPS-AQ ID; Danielle Schulingkamp RPh, BCPS, BCCCP; Sarah Hughes, PharmD; Jesse Cheng, PharmD

OBJECTIVE: The objective was to determine and compare the incidence of invasive candidiasis amongst adult patients who received versus who did not receive empiric antifungal therapy for the management of complicated intra-abdominal infections (IAI).

METHODS: This project was conducted as a single-center, retrospective chart review of patients with complicated IAI admitted to the surgical trauma unit (STU). The primary endpoint was the incidence of confirmed invasive candidiasis in patients receiving empiric antifungal treatment versus no empiric antifungal treatment. Secondary endpoints included intensive care unit and hospital length-of-stay, microbiologic data, in-hospital mortality, and clinical success rate. A subgroup analysis was conducted to identify patient specific risk factors warranting empiric antifungal treatment for invasive candidiasis.

RESULTS: In total, 30 patients with complicated IAI were included in the study. Of the total 30 patients, 13 (43.3%) patients isolated Candida spp. The incidence of invasive candidiasis, based on isolation of Candida spp. from a culture in empiric antifungal group and non-empiric antifungal group was 40% vs. 47%, respectively (p = 1.00). The most common Candida spp. isolated in both groups was Candida albicans. Hospital length of stay, STU length of stay and in-hospital mortality were not significantly different between the two groups. Clinical success rate was similar amongst the groups. Upper gastrointestinal (GI) perforation was more common in patients who received an empiric antifungal (66% vs. 27%, p

4:00pm – 5:00pm | **Impact of changing from clindamycin to linezolid for anti-toxin effect in necrotizing soft tissue infections** Red Room

Presenters: Karlee Deibler
Evaluators: Shawn Mazur
Evaluators 2: Alexander Cain

TITLE: Impact of changing from clindamycin to linezolid for anti-toxin effect in necrotizing soft tissue infections
AUTHORS: Karlee Deibler, PharmD; Cory Hale PharmD, BCPS, BCIDP; Ashley Quintili PharmD, BCPS, BCCCP
OBJECTIVE: Our institution changed the preferred anti-toxin antibiotic from clindamycin to linezolid for treatment of necrotizing soft tissue infections. The rationale of this study was to evaluate the efficacy and safety of this protocol change.
METHODS: This was a retrospective chart review study conducted on adult patients who were treated for necrotizing soft tissue infection (NSTI) or Fournierâ€™s gangrene, received operative management, and received anti-toxin antimicrobial therapy (linezolid or clindamycin) from July 1, 2020-July 31, 2022 at our institution. Patients were excluded if they did not receive operative management, were transferred from another institution after â‰¥3 days, had a documented MRSA infection, or were made comfort care within 24 hours of starting antimicrobial therapy. Baseline demographics, antimicrobial duration and costs, culture data, and number of surgical debridements were collected. The primary outcome was days of anti-MRSA therapy. Secondary outcomes included days of anti-MRSA therapy after last debridement, days of anti-toxin therapy, in-hospital mortality, hospital and ICU length of stay (LOS), new onset acute kidney injury (AKI), new C. difficile infection (CDI), and new onset thrombocytopenia.
RESULTS: Of the 70 patients evaluated, 58 were included in the final analysis (Linezolid: n=25, clindamycin: n=33). The median days of anti-MRSA therapy was 5 (IQR 4-6.5) in the linezolid group compared to 4 (IQR 3-5.5) in the clindamycin group, p=0.134. Median days of anti-MRSA therapy after last debridement was 1 (IQR 1-4) in the linezolid group compared to 2 (IQR 0-3.5) in the clindamycin group, p=0.694. In-hospital mortality occurred in 3 (12%) patients who received linezolid compared to 3 (9.1%) who received clindamycin. Hospital LOS, ICU LOS, new onset AKI, thrombocytopenia, CDI, and antimicrobial costs were not significantly different between the two groups.
CONCLUSIONS: At our institution, the protocol change to linezolid as the preferred anti-toxin antibiotic from clindamycin may be as safe and effective for treatment of necrotizing soft tissue infections, with no significant increase in antimicrobial acquisition cost. Additionally, reducing the overall number of antimicrobials for nursing to administer may lead to increased efficiency in delivery of medications. Prospective studies are needed to further validate these results in terms of efficacy.

4:00pm – 5:00pm | I | **Implementation of Vancomycin AUC/MIC monitoring for a 128-bed teaching hospital** | Red Room

Presenters: Basem Elashal
Evaluators: Chris Childress
Evaluators 2: Bobbi Hilker

TITLE: Implementation of Vancomycin AUC/MIC monitoring for a 128-bed teaching hospital
AUTHORS: Basem Elashal, PharmD; Rani P. Madduri, PharmD, BCPS, AAHIVP; Ashmi A. Philips, PharmD, AAHIVP; Mini Varghese, PharmD, BCPS; Semie Durrani, PharmD, BCACP; Navin Philips, PharmD, BS, DPLA; Ezza A. Khan, MD
OBJECTIVE: To assess the utility of an AUC/MIC calculator within a relatively small, community-teaching hospital for inpatient admissions that require consistently administered vancomycin for the empiric or definitive treatment of an infection.
METHODS: Patients admitted to the inpatient floors at the teaching hospital requiring empiric or definite treatment with vancomycin will be prospectively reviewed. Enrollment for this study will be conducted from January 11th, 2023 to April 31st, 2023, during which patients given at least 1 vancomycin dose during the hospital visit, and had recorded levels/troughs taken would be included. Identification would occur through the hospitalâ€™s electronic health record. Once the patients are identified, a pharmacist will conduct an evaluation as to the accuracy of an AUC/MIC calculator in predicting the appropriate dosing and taken drug levels, both serving as the primary outcomes. Additional information to serve as the secondary outcomes include the: percent of those with sub-therapeutic or supratherapeutic dosing that could have been prevented, and the percent of patients that would have dose alterations if the calculator was followed.
RESULTS: The percent of accurately predicted dosing and predicted drug levels, the percent of patients with sub-therapeutic or supratherapeutic levels following the calculator and without following the calculator, and the percent of proposed dose or frequency alterations by the calculator will be recorded and presented.
CONCLUSIONS: The anticipated results of this research will demonstrate the inpatient utility of an AUC/MIC calculator and the advantages it has to ensure efficacy and safety with vancomycin treatment.

4:00pm – 5:00pm | L | **Development and Evaluation of Pharmacy Staff Education** | Red Room

Presenters: Sarah Tobin
Evaluators: Todd Nesbit
Evaluators 2: Carla Williams

TITLE: Development and evaluation of inpatient pharmacist staff education in a community hospital pharmacy
AUTHORS: S. Tobin, P. Coco; Penn Medicine Princeton Medical Center, Plainsboro, New Jersey
OBJECTIVE: The objective of this study is to determine the most effective method for educating inpatient pharmacists on clinical topics.
METHODS: This is a prospective, quasi-experimental study including pharmacists employed at Princeton Medical Center from 11/1/22 â€“ 4/30/23. Pharmacists participated in four educational topics delivered via different virtual methods as part of the hospitalâ€™s annual competencies. The educational topic and the method it was delivered via is as follows: aminoglycoside dosing via self-guided short refresher, direct oral anticoagulants in renal dysfunction via video lecture, pediatric/neonatal dosing via PowerPoint with voiceover, and vancomycin pharmacy dosing via self-guided PowerPoint. Pharmacists completed knowledge-based pre- and post-tests as well as pharmacist self-confidence (PSC) pre- and post-assessments to evaluate their comfortability performing tasks related to the education. The primary endpoint is the change in PSC score; secondary endpoints are the change in knowledge-based score and overall satisfaction. Endpoints will be analyzed using a paired t-test and descriptive statistics.
RESULTS: The change in pharmacist self-confidence assessment scores as well as knowledge-based question scores will be recorded, and results will be presented.
CONCLUSIONS: It is anticipated that this study will demonstrate an increase in pharmacist self-confidence and knowledge after completing assigned education compared with before education. It is uncertain which educational method will result in the greatest magnitude of change in self-confidence or knowledge scores.

4:00pm – 5:00pm P **Assessing change in PEG Score for Veterans Enrolled in a Pharmacist Managed Chronic Pain Clinic** Red Room

Presenters: Shani Vildbaum
Evaluators: Kathleen Hess
Evaluators 2: Bido Ealeen

TITLE: Assessing change in PEG Score for Veterans Enrolled in a Pharmacist Managed Chronic Pain Clinic
AUTHORS: Shani Vildbaum, PharmD; Paul Harden, PharmD, CPE
OBJECTIVE: To assess change in PEG score after initiation of care with a pain management pharmacist. The PEG scale measures pain intensity and functional interference (enjoyment of life and general activity).
METHODS: A retrospective chart review of veterans who were seen in the pharmacist managed pain clinic from 01/01/2018 to 08/01/2022. The primary data analyzed from veterans charts was change in PEG score at 3, 6, 9, and 12 months after initiation of care with a pain management pharmacist. The secondary data analyzed from veterans charts was change in MME and change in adjuvant pain medications at 3, 6, 9, and 12 months. As recommended by Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials, a change in PEG score of approximately 2 points represents a meaningful decrease in chronic pain. Patients were stratified into improvers and non-improvers. Improvers represent at least a 2 point decrease in PEG score and non-improvers represent a less than 2 point decrease or increase in PEG sore. The following demographic information was collected for this project: age, sex, ethnicity/race, and pain diagnosis. Statistical significance was assessed using a p value.

4:00pm – 5:00pm P **Characterization of Patient-Directed Discharge in Patients with Substance Use Disorder(s)** Red Room

Presenters: Elijah Myers
Evaluators: Kathleen Hess
Evaluators 2: Bido Ealeen

TITLE: Characterization of patient-directed discharge in patients with substance use disorder(s)
AUTHORS: Elijah Myers, PharmD, MBA; Lindsay Bowman, PharmD, BCPS, Suzanne Nesbit, PharmD, BCPS, FCCP, FASHP; Amanda Bertram, MS; Dannielle Brown, PharmD, BCPS; Megan Buresh, MD, DFASAM; Alia Bodnar, MD; Mustapha Saheed, MD; David Wolinsky, MD; Rosalyn Stewart, MD, MBA, MS
OBJECTIVE: This study aims to characterize patients with patient-directed discharge (PDD) and substance use disorders (SUD) and to summarize involvement of an Addiction Consult Service (ACS) in encounters resulting in PDD in an urban academic medical center.
METHODS: This single-center, retrospective, pre- and post-implementation study included patient encounters for hospitalized adults with at least one documented SUD and a PDD. The pre- and post-implementation periods were defined as July 2018-June 2019 and July 2020-June 2022, respectively. The primary outcome was a comparison of PDD rates between cohorts. Secondary outcomes were hospital length of stay (LOS) and 30-day readmission rates. In the post-implementation cohort, ordering of and completion of an ACS consult and time to order and time to completion of the consult were assessed. For the subgroup with OUD, severity of withdrawal symptoms, utilization of methadone and/or buprenorphine in the first 24 hours of admission, and rate of buprenorphine discharge prescribing were described. Differences in categorical variables between cohorts were analyzed using Chi-square or Fisherâ€™s exact test and continuous variables were analyzed using Student T-test or Wilcoxon Rank Sum, as appropriate.
RESULTS: A total of 346 encounters (pre n=101 and post n=245) comprised of 252 unique patients were included. Patients were median 41 years old (IQR 33-54), 65.9% male, and 49.1% white. OUD (57.5%) was the most common SUD diagnosis among encounters and 40.8% were associated with more than one SUD. Median number of 30-day readmissions was 1 (IQR 0-2) and median number of ED visits within 30 days of PDD was 0 (IQR 0-2). Median hospital LOS was 52.6 hours (IQR 22-91) in the pre-implementation cohort compared to 59.1 hours (IQR 32-107) in the post-implementation cohort (p=0.1216). Among the post-implementation cohort, 68 patients (27.8%) had a completed ACS consult ordered prior to PDD while 131 (53.5%) were not ordered an ACS consult.
CONCLUSIONS: This study describes characteristics of PDD among patients with SUD before and after implementation of the ACS. Post-implementation encounters show low involvement of the ACS, potentially due to delayed ACS consultation and gaps in availability of the ACS. Results reveal the need for rapid identification of patients with SUD, earlier involvement of the ACS, and the need for expansion of the ACS to offer specialized care immediately upon presentation for patients with SUD vulnerable to PDD.

4:00pm – 5:00pm Q **Assessment of Adherence to Methadone Ordering and Dispensing Policies within the Emergency Department** Red Room

Presenters: Jen Hammond
Evaluators: Todd Nesbit
Evaluators 2: Carla Williams

TITLE: Assessment of Adherence to Methadone Ordering and Dispensing Policies within the Emergency Department
AUTHORS: J. Hammond, D. Adams, B. Damas; Baystate Medical Center, Springfield, Massachusetts
OBJECTIVE: The purpose of this study is to evaluate the ordering and dispensing of first methadone doses in the emergency department at Baystate Medical Center to assess if doses are being ordered and dispensed in compliance with our methadone policy.
METHODS: An institutional policy exists to guide appropriate dose verification and ordering of methadone for continuation of opioid use disorder therapy while patients are admitted or being treated within the institution, including the emergency department. If a patientâ€™s daily dose or date of last administration within prior 72 hours cannot be confirmed with their methadone clinic, a 30 mg dose can be administered until confirmation to prevent opioid withdrawal. A report was generated for active methadone orders in the emergency department from October 1,2022 to December 31, 2022, from this report patients >18 years old were eligible for inclusion. The primary endpoint of this study is defined as compliance to the institutional methadone policy. This is a composite endpoint consisting of three different subpoints: medication reconciliation, pharmacist intervention strategies, and administration. If there is deviation on one of the subpoints, this will be defined as noncompliant.
RESULTS: The data points that will be recorded and presented include documentation and date of last methadone dose, dose ordered, pharmacist intervention strategies and timeliness of interventions, order placement and administration times, need for antidote administration following the initial dose, and assessment of compliance to the institutional methadone policy.
CONCLUSIONS: Proper adherence to the institutional methadone policy can ensure safe ordering and dispensing and mitigate potential risks associated with therapy. It is anticipated that this project will demonstrate a role for pharmacist assessment and intervention to ensure the methadone policy is being adhered to. This may exhibit a need for reeducation and quality improvement initiatives within the emergency department surrounding the ordering and dispensing of methadone.

4:00pm – 5:00pm T **Value of an Intermediate Care Unit Pharmacist at an Academic Medical Center** Red Room

Presenters: Emily Duff
Evaluators: Kathleen Hess
Evaluators 2: Bido Ealeen

TITLE: Value of an intermediate care unit pharmacist at an academic medical center
AUTHORS: Emily Duff, Hannah Spinner, Scott May; Baystate Medical Center, Springfield, MA
OBJECTIVE: The purpose of this quality improvement initiative is to assess the value of a dedicated intermediate care unit (IMCU) pharmacist on patient care and outcomes at Baystate Medical Center (BMC).
METHODS: This single-center, pre-post design project included adults admitted to the pilot IMCU identified from the electronic health record (EHR) during pre-specified time periods. Exclusion criteria included non-inpatient admission status (observation or day-stay) or acute care admission status patients. A pilot initiative was run for one month with a dedicated IMCU pharmacist on the pilot unit. Patient-specific data was collected from the EHR before and after implementing an IMCU pharmacist pilot, in addition to information on ICU admissions, patient length of stay (LOS), reported safety events, and pharmacist interventions. The primary outcomes of interest are the number of ICU admissions or re-admissions from the pilot IMCU and patient LOS on the pilot unit. Secondary outcomes are the number, type, and severity of safety events reported from the pilot unit and the number of pharmacist interventions ranked low, moderate, or high impact.
RESULTS: The IMCU pharmacist pilot was run during the month of December 2022. The data collected from the month of December will be compared to the month of November 2022, when there was not a dedicated IMCU pharmacist. The results of the primary and secondary outcomes will be recorded and presented.
CONCLUSIONS: It is anticipated that this project will support a role for an IMCU specific pharmacist at BMC based on improved patient outcomes from active pharmacist intervention.

4:00pm – 5:00pm	6	**Immunologic outcomes following mycophenolate dose reduction in lung transplant recipients** *Presenters: Adrian Wong* *Evaluators: Xinqi Liu* *Evaluators 2: Gregory Kelly* TITLE: Immunologic outcomes following mycophenolate dose reduction in lung transplant recipients AUTHORS: A. Wong, S. Jonchhe, M. Lesko, D. Rudym, J.G. Natalini, S. Qayum, L. Angel, T.C. Lewis OBJECTIVE: Describe the occurrence of mycophenolate (MMF) dose reductions/discontinuations in lung transplant recipients and report correlation with subsequent acute cellular and antibody mediated rejection requiring treatment. METHODS: Retrospective, observational review of all adult (â‰¥18 years of age) patients who underwent lung transplantation at NYU Langone Health from February 1, 2018 to December 30, 2021. Patients were excluded from this review if they received a multi-organ transplant, utilized azathioprine as their antiproliferative agent, underwent perioperative desensitization, or died during their index transplant admission. Electronic medical records of eligible lung transplant recipients were reviewed and data collected were as follows: baseline characteristics included gender, date of birth, weight, ethnicity, etiology of lung disease, transplant type (bilateral vs unilateral), CMV serology status, lung allocation score, pre-transplant support, and cold ischemic times; immunological characteristics included baseline cPRAs, T and B cell flow crossmatch, and HLA mismatches RESULTS: Immunologic outcomes including incidence of acute cellular rejection, rejection treatment required, antibody mediated rejection, and 12-month survival will be recorded and results will be presented. CONCLUSIONS: With the completion of data analysis, results of this study will allow for correlation to be established between certain immunologic baseline characteristics, MMF dose reduction with corresponding reason, and the development of acute cellular and antibody mediated rejection requiring treatment.	Red Room
4:00pm – 5:30pm	S	**Recruitment Forum** More Information	Great Lobby
5:00pm – 6:00pm	S	**Poster Viewing Session (Open to everyone)**	Red Room
6:00pm – 8:00pm	S	**Reception** Food, drink, and merriment. You received a complimentary beverage ticket in your name badge. This ticket is good for one complimentary beer, wine, soda, or water bottle.	Red/White Room

2023 Eastern States Conference

Program Book

MAY 9 • TUESDAY

7:00am – 7:50am	S	**Breakfast**	Red/White Room
PINNED 8:00am – 8:30am	S	**Professional Development Session** *Presenters: Kristin Held Wheatley* Louis P. Jeffrey Award Recipient, 2022	Aztec/Nigerian
8:30am – 9:30am	S	**Preceptor Pearls**	Aztec/Nigerian
8:30am – 10:30am	S	**Town Hall** *Presenters: Mark Sinnet*	Magnolia ABCD
9:30am – 10:30am	S	**Preceptor Pearls (Encore)**	Aztec/Nigerian
11:00am – 12:00pm	S	**ASHP Speaker** *Presenters: Leigh Briscoe-Dwyer*	Aztec/Nigerian
12:00pm – 1:00pm	S	**Lunch**	Red/White Room
12:00pm – 1:00pm	S	**Recruitment Forum** More Information	Great Lobby
1:00pm – 1:15pm	S	**Welcome & Brief Opening Remarks - Group 2**	Crystal A

1:20pm – 1:35pm A **Impact of pharmacist-led interventions on deprescribing of low-dose aspirin for primary prevention** Magnolia D

Presenters: Sally Ko
Evaluators: Frank Szczerba
Evaluators 3: Rosa Bates
Evaluators 2: Kevin Mulieri

TITLE: Impact of pharmacist-led interventions on deprescribing of low-dose aspirin for primary prevention
AUTHORS: Sally Ko, PharmD; Semie Durrani, PharmD, BCACP; Ashmi A. Philips, PharmD, AAHIVP; Navin Philips, BS, PharmD, DPLA
OBJECTIVE: This study aims to evaluate changes to aspirin prescribing in the outpatient setting following pharmacist-provided interventions based on the updated United States Preventive Services Task Force recommendations.
METHODS: This is a prospective chart review at two primary care sites, including patients aged 40 years and older who were inappropriately prescribed aspirin for primary ASCVD prevention. Patients actively taking low-dose aspirin without a documented history of ASCVD as of February 16th, 2023 were identified. Patients using aspirin for unrelated indications, those followed by a cardiologist, and those no longer following at the study sites were excluded. Candidates for aspirin deprescribing were determined based on age, ASCVD risk score, and family history of premature ASCVD. Pharmacist-led educational in-services and patient-specific recommendations for deprescribing were given to providers at both sites. Electronic medical records were then monitored for responses to recommendations. The primary outcome was the percentage of recommendations accepted. Secondary outcomes included the percentage of recommendations rejected or with no action taken and reasons for not accepting recommendations.
RESULTS: The percentage of recommendations accepted, rejected, or with no action taken, and reasons for not accepting recommendations will be recorded and presented.
CONCLUSIONS: Pharmacists can play an important role in implementing the new recommendations regarding aspirin use for primary prevention.

1:20pm – 1:35pm A **Impacts of therapeutic monitoring in an anticoagulation clinic directed by a nurse practitioner compared to a pharmacist** Empire A

Presenters: Amanda Merturi
Evaluators: Vega Sanchez
Evaluators 3: Paul Abourjaily
Evaluators 2: Kevin Charron

TITLE: Impacts of therapeutic monitoring in an anticoagulation clinic directed by a nurse practitioner compared to a pharmacist
AUTHORS: Amanda Merturi, PharmD; Eileen Deptula RPh; Alison Geary, PharmD; Hani Hamid, PharmD; Gary Thompson, RPh
OBJECTIVE: The primary objective of this study is to assess the difference in clinical outcomes in patients seen in an ambulatory care anticoagulation clinic when run by a nurse practitioner versus a pharmacist.
METHODS: The population studied will include patients who were managed at the anticoagulation clinic through Waterbury Hospital during the time frames of March 2022 â€“ May 2022 and October 2022 â€“ December 2022. The following data will be collected: patient age, gender, ethnicity, federal tax identification number (FIN), international normalized ratio (INR), indication for warfarin therapy, acceptable INR range based on indication. The first time frame listed will be indicative of clinical outcomes while the anticoagulation clinic was run by a nurse practitioner, and the second time frame will indicate clinical outcomes of a pharmacist-run clinic. The clinical outcomes will be measured by comparing the percentage of time in therapeutic range in each group of patients.
RESULTS: Time in therapeutic range during each time frame will be recorded and results will be presented.
CONCLUSIONS: It is anticipated that the results of this study will show the value of a pharmacist-run anticoagulation clinic by mirroring our expertise in the field of anticoagulation and management of warfarin.

1:20pm – 1:35pm C **Observational Comparison of Phenobarbital, Lorazepam, and Synergistic Therapy for Acute Alcohol Withdrawal Management for Patients Admitted to the Intensive Care Unit.** Empire B

Presenters: Joshua Barlow
Evaluators: Helen Sutow
Evaluators 3: Jennifer Costello
Evaluators 2: Careen-Joan Franklin, Jaclyn Harth

TITLE: Observational comparison of phenobarbital, lorazepam, and synergistic therapy for acute alcohol withdrawal management for patients admitted to the intensive care unit.
AUTHORS: J. Barlow, C. Zheng, M. Dworet, H. Juma
OBJECTIVE: Evidence has demonstrated efficacy and tolerability of phenobarbital use for alcohol withdrawal. This study aims to identify differences in clinical outcomes with phenobarbital, lorazepam, or combined alcohol withdrawal regimens for ICU patients.
METHODS: A retrospective observational study was conducted at Norwalk Hospital for alcohol withdrawal patients admitted to the ICU between May 18th, 2022 and February 28th, 2023. Patients were identified and extracted by the Informatics Technology department based on ICD-10 diagnosis codes related to alcohol abuse including alcohol use disorder, withdrawal, hepatitis, cirrhosis, etc. The electronic medical records (EMR) of alcohol withdrawal patients admitted to the ICU and treated with phenobarbital, lorazepam, or combined therapy were assessed. Demographics, protected health information, and clinical data were collected and stored in REDCap, a secure database. Clinical outcomes recorded include ICU length of stay, treatment duration in hours, need for mechanical ventilation, SAS/RASS scores, social history, history of delirium tremens, and adverse effects. Statistical analysis will include chi square tests, ANOVA, univariate and multivariate regression analysis to compare treatment groups.
RESULTS: The number and percentage of patients treated with phenobarbital, lorazepam, or phenobarbital with adjunctive lorazepam will be recorded and results will be presented. Additionally, primary and secondary outcomes will be assessed and presented.
CONCLUSIONS: It is anticipated that this project will demonstrate a role for phenobarbital in alcohol withdrawal therapy for patients admitted to the ICU.

1:20pm – 1:35pm Y **Evaluation of Pharmacist Driven Anti-Xa Monitoring Protocol Implementation for Venous Thromboembolism Prophylaxis in Trauma Patients** Empire C

Presenters: Mackenzie Howe
Evaluators: Varshney Navya
Evaluators 3: emily herron
Evaluators 2: Sarah Siemion

TITLE: Evaluation of pharmacist driven anti-Xa monitoring protocol implementation for venous thromboembolism prophylaxis in trauma patients
AUTHORS: Mackenzie Howe, PharmD, Laura Truhlar, PharmD, BCCCP
OBJECTIVE: The primary objective of this study to review the occurrence of venous thromboembolism in trauma patients admitted to Elliot Hospital and started on enoxaparin before and following the implementation of a pharmacist driven anti-Xa protocol.
METHODS: A new venous thromboembolism (VTE) prophylaxis protocol was implemented at Elliot Hospital for trauma patients, including pharmacist driven anti-Xa monitoring. Patients included were 18 years or older, admitted to Elliot Hospital following a trauma, and received enoxaparin. Data for this retrospective cohort study was collected via chart review from January 2021 â€“ November 2022 for the pre-implementation period. Education was provided to pharmacists and providers regarding the new protocol for this population. Post-implementation data will be collected from December 2022 to April 2023.
RESULTS: The percentage and rate of VTE occurrence, percentage of prophylactic anti-Xa levels, time to VTE following admission and start of enoxaparin, and bleeding events will be presented.
CONCLUSIONS: It is anticipated that this project will demonstrate the effectiveness of a pharmacist driven anti-Xa protocol for trauma patients receiving enoxaparin for VTE prophylaxis.

1:20pm – 1:35pm G **A Retrospective Analysis of Factors Affecting Prasugrel Activity in Neurocritical Care Patients**
Empire D

Presenters: Jennifer Stein
Evaluators: Gail Sanchez
Evaluators 3: Shirley Bonanni
Evaluators 2: Brian Austin

TITLE: Retrospective analysis of factors affecting prasugrel activity in neurocritical care patients

AUTHORS: Jennifer Stein, PharmD; Simona Avramovska, PharmD, BCCCP; Michelle Matthies, PharmD, BCCCP

OBJECTIVE: The objective of this study is to characterize prasugrel requirements in patients requiring intra- or extracranial stenting as part of emergent versus elective procedures and to identify factors that may contribute to varying prasugrel requirements.

METHODS: This study is a retrospective chart review of all adult patients admitted to an academic medical center who received at least one dose of prasugrel from April 1, 2022 â€“ March 31, 2023. The patient population is comprised of patients admitted to the neurocritical care, neurosurgery, or neurology services who presented for intra- or extracranial stenting due to aneurysm, atherosclerosis, or dissection. Patients are separated into two cohorts based on whether their procedure was emergent versus planned. The primary endpoint is the median prasugrel dose required in critically ill patients compared to elective patients. The secondary endpoint is the median daily dose of prasugrel in the first 5 days of admission compared to daily prasugrel dose at discharge.

RESULTS: The results are pending completion of the study.

CONCLUSIONS: The conclusion of this study is dependent upon the results.

1:20pm – 1:35pm G **Evaluating the Effectiveness of a Nursing-Managed Potassium and Magnesium Repletion Protocol at a Community Hospitalâ€‹**
Wild Rose B

Presenters: Mary Gouldson
Evaluators: Lauren Pino
Evaluators 3: Avni Desai
Evaluators 2: Manny Isherwood

TITLE: Evaluating the Effectiveness of a Nursing-Managed Potassium and Magnesium Repletion Protocol at a Community Hospital

AUTHORS: Mary Gouldson, Kelly Butler, Alyssa Moore

OBJECTIVE: The purpose of this study is to assess the effectiveness of the as-needed nursing-managed potassium and magnesium repletion protocol (NMP PRN), with the goal of creating a comprehensive pharmacist-managed potassium and magnesium repletion protocol.

METHODS: This was a retrospective single-site observational study at a 231-bed community hospital. Data was collected on 100 adult patients admitted from July 1, 2022 to September 30, 2022. Dose and route of potassium (K) or magnesium (Mg) and corresponding lab values were recorded. Patients in the intensive or progressive care units, receiving scheduled K or Mg, total parenteral nutrition, or other K- or Mg-containing electrolytes were excluded. Patients were stratified into three groups: (1) NMP PRN ordered and administered, (2) NMP PRN ordered, not administered, one-time dose administered, (3) NMP PRN ordered, not administered, one-time dose not administered. The primary endpoint was the percentage of patients who achieved normalization of K or Mg levels within 24 hours of their initial abnormal lab value. Secondary endpoints included percentage of patients who received the correct electrolyte dose and the frequency of hyperkalemia.

RESULTS: Of the 100 patients on the NMP PRN protocol, 39% achieved normalization of K or Mg values within 24 hours of their initial abnormal lab value. While only 53 patients received K or Mg repletion per the NMP PRN protocol, 83% were given the correct dose. One patient was found to have hyperkalemia after potassium repletion. Additional subgroup analyses will be presented at Eastern States.

CONCLUSIONS: This retrospective analysis revealed that 47% of patients did not receive repletion per the NMP PRN protocol. Additionally, 61% of patients did not achieve normalization of K or Mg within 24 hours regardless of how the repletion was ordered. This indicates that the nursing-managed potassium and magnesium repletion protocol has potential for improvement. This data will be used to create a pharmacist-managed potassium and magnesium repletion protocol.

1:20pm – 1:35pm | **Cefiderocol vs Best Available Therapy for the Treatment of Carbapenem-resistant Acinetobactor baumannii Infections** | Magnolia B

Presenters: Gabrielle Daisey
Evaluators: Mona Nashed
Evaluators 3: Pooja Dogra
Evaluators 2: Nikunj Vyas

TITLE: Cefideriocol vs Best Available Therapy for the Treatment of Carbapenem- Resistant Acinetobacter baumannii

AUTHORS: Gabrielle Daisey, PharmD; Nikunj Vyas, PharmD, BCPS

OBJECTIVE: The purpose of this study was to evaluate the efficacy of cefiderocol vs best available therapy (BAT) for the treatment of carbapenem-resistant Acinetobatcter baumannii (CRAB) infections in adult patients.

METHODS: This was an IRB-approved retrospective chart review at a three-hospital community health system. Data was collected from retrospective chart reviews of patients with CRAB infections from June 1, 2020 to February 28, 2021. Patients were included if they were at least 18 years old and were being treated for a CRAB infection. Patients were excluded if they were considered to be colonized or if they were pregnant. Participants were assigned based on the antibiotics they were initiated to target CRAB: Group 1: Cefiderocol and Group 2: BAT. The primary endpoint of this study was to assess all-cause inpatient mortality at 7 days and at the end of hospitalization. A subgroup analysis of the primary endpoint included monotherapy cefiderocol vs combination cefiderocol therapy. The secondary endpoint included clinical cure at the end of therapy. A subgroup analysis included microbiological cure, duration of therapy, and length of stay.

RESULTS: The number of patients assigned to each group will be reported as a number. Baseline characteristics of these groups will be reported as a number and as a percentage. The number and percentage of patients who had all-cause inpatient mortality at 7 days and at the end of hospitalization will be reported. All results will be presented.

CONCLUSIONS: A conclusion will be drawn based on the results of the study.

1:20pm – 1:35pm | **Time to Vanc AUC:MIC Attainment** | Magnolia A

Presenters: Victoria Iervasi
Evaluators: Lauren Allen
Evaluators 3: Anita Henderson
Evaluators 2: Alice Hsu

TITLE: Evaluation of time to therapeutic vancomycin area under the curve

AUTHORS: V. Iervasi, K. McCann, S. Turk

OBJECTIVE: Target vancomycin area under the curve (AUC) levels of 400-600 mg/L.hr should be achieved ideally within 24-48 hours of starting therapy for maximum effect. Utilizing a Bayesian model for an AUC-based dosing regimen may help to achieve this goal AUC.

METHODS: This study is a retrospective chart review of patients admitted to MedStar Union Memorial Hospital and Good Samaritan Hospital from October-December 2022. This time frame was chosen due to the implementation of standardized pharmacy progress notes that include documentation of the current AUC each day. Patients were included if they were greater than 18 years old and were on intravenous (IV) vancomycin for at least 48 hours with documented AUC levels in pharmacy progress notes. Patients were excluded if they had end-stage renal disease, were on hemodialysis or peritoneal dialysis, had acute kidney injury prior to starting vancomycin, were receiving for surgical prophylaxis, had no documented AUC, and/or if treatment duration was less than 48 hours.

RESULTS: The number and percentage of patients who achieved a therapeutic AUC goal of 400-600 mg/L.hr will be recorded, and results will be presented.

CONCLUSIONS: It is anticipated that this project will identify institution- specific target AUC attainment rates compared to all InsightRx (Bayesian model software) users to allow for site-specific education and review of protocols to maximize target AUC attainment while minimizing the probability of toxicity and acute kidney injury.

1:20pm – 1:35pm

O **Provider Adherence to Monitoring Recommendations for Oral Anticancer Medications at Outpatient Oncology Clinics within a Large Academic Medical System** Magnolia C

Presenters: Anas Hanini
Evaluators: Andy Hui
Evaluators 3: Briana Balsamo
Evaluators 2: Frank Massaro

TITLE: Provider adherence to monitoring recommendations for oral anticancer medications at outpatient oncology clinics within a large academic medical systemâ€‹
AUTHORS: Anas Hanini, PharmD, MBA & Pauline L. Guthrie, BSc, RPh, PharmDâ€‹
OBJECTIVE: This study seeks to evaluate provider compliance to safety monitoring recommendations set forth by FDA labeling and national guidelines at outpatient oncology clinics within a large academic health system.
METHODS: This single-center, retrospective, medication use evaluation study evaluated outpatient oncology providers within MedStar and the five most commonly dispensed oral anticancer agents between January 2021 and June 2022. A sample of up to 30 patients per drug were randomly selected for chart review to see if providers followed safety monitoring guidelines within the recommended timeframe.
RESULTS: Anastrozole, letrozole, tamoxifen, capecitabine, and venetoclax were the five most dispensed oral anticancer agents during the evaluated time period (4,379 of 9,099). The initial report comprised 1,359 patients, of which 114 patients were included for final analysis. Seventy-eight (68.4%) of the treatments were fully compliant with the FDA drug labeling-specified monitoring parameters.
CONCLUSIONS: This study confirmed that provider compliance with monitoring parameters is an area that needs to be addressed in order to improve outpatient oral anticancer safety monitoring. Oncology pharmacists are well equipped with the clinical expertise to meet the demand and should be involved in providing oncology care to patients.

1:20pm – 1:35pm

5 **Comparative Efficacy of Methadone and Buprenorphine for the Inpatient Management of Opioid Withdrawal** Crystal A

Presenters: Corinne Whiteman
Evaluators: Mei Liu
Evaluators 3: John Roglieri
Evaluators 2: Gregory Bogart

TITLE: Comparison of the efficacy of methadone and buprenorphine for the inpatient management of opioid use disorder
AUTHORS: Corinne Whiteman, PharmD; Poonam Chhunchha, PharmD, BCPS
OBJECTIVE: To determine if methadone or buprenorphine proved to be more effective in the inpatient management of opioid use disorder (OUD) by assessing time to successful discharge.
METHODS: This retrospective, single center study assessed electronic medical records of adult patients who were admitted from October 1st of 2021 to July 31st of 2022 to Pennsylvania Hospital. Included patients were administered either methadone or buprenorphine within 48 hours of admission for the management of OUD. Patients were excluded if they actively were using either treatment strategy prior to admission. This was defined as the dose in the first 24 hours exceeding either 40 mg or 8 mg of methadone or buprenorphine, respectively. Patients were excluded if they were pregnant or breastfeeding, had transaminase levels greater than five times the upper limit of normal, or had use of methadone or buprenorphine for reasons other than OUD. The primary outcome was assessed using a log rank analysis and depicted as a Kaplan-Meier curve. Secondary outcomes were assessed using a Mann-Whitney U test or a Fisherâ€™s Exact test.
RESULTS: 104 patients met inclusion criteria, 77 in the methadone group and 27 in the buprenorphine group. Time to successful discharge did not significantly differ, x2(2) =0.068, p=0.794. The rate of successful discharge in the methadone group of 27.22%, compared to the rate in the buprenorphine group of 22.22%, did not significantly differ, p=0.799. Average length of stay in the methadone group, 8.83 days, compared to the buprenorphine group, 6.22 days, did not reach significance, p=0.88. Rate of medical discharge, discharge to a facility, or discharge against medical advice (AMA) did not reach significance, p=0.97. High rates of patients being discharged AMA was seen in both the methadone group, 37.66%, and the buprenorphine group, 29.63%.
CONCLUSIONS: It is anticipated that the results of this study will be communicated to hospital and health system level pain and addiction medicine committees to reiterate that successful discharge did not differ between the two groups. Education will be provided to the interdisciplinary healthcare teams on the importance of timely initiation of treatment for OUD. Additionally, further research may be warranted to determine a cause of the overall high rate of patients leaving against medical advice.

1:20pm – 1:35pm Q **Methadone Utilization in Hospitalized Patients with Opioid Use Disorder** Wild Rose A

Presenters: Josh Zhang
Evaluators: Andrea Tully
Evaluators 3: Michael Kachmarsky
Evaluators 2: Ashley Covert

TITLE: Methadone Utilization in Hospitalized Patients with Opioid Use Disorder

AUTHORS: Josh Zhang, PharmD; Lindsay Bowman, PharmD, BCPS; Alia Bodnar, MD; Rosalyn Stewart, MD; David Wolinsky, MD; Suzanne Nesbit, PharmD

OBJECTIVE: The aim of the study is to identify methadone requirements in hospitalized patients with opioid use disorder (OUD) in the age of illicit fentanyl. Patients with higher methadone requirements will also be characterized.

METHODS: This single center, retrospective, observational study included patients 18 years or older hospitalized between August 1, 2021 to August 1, 2022 with documentation of receiving methadone oral solution with frequencies of once daily or once doses and excluded patients receiving less than three days of methadone oral solution. Patient demographic data, urine toxicology screen, substance use diagnoses, details of hospital course, and methadone administration data were collected through bulk query. Substance use history was collected through manual chart review. Descriptive statistics were used to characterize the study population, methadone requirements, and methadone inpatient management. Inferential statistics were used to compare characteristics of patients receiving high dose methadone to patients receiving low and medium dose methadone. Factors associated with high dose methadone requirements were evaluated by univariable and multivariable regression analyses.

RESULTS: In this study, 468 patients were included in the analysis. Results will describe median methadone requirements, proportion of patients with low, moderate, and high dose methadone requirements, and independent variables that influence high methadone dose requirements.

CONCLUSIONS: We anticipate the results of this study will inform optimal use of methadone for OUD during acute hospital admissions.

1:40pm – 1:55pm

A **Long-Term Impact of Bevacizumab, Aflibercept, and Ranibizumab for Ophthalmology Patients**

Empire A

Presenters: Sydney Hajimirsadeghi
Evaluators: Vega Sanchez
Evaluators 3: Paul Abourjaily
Evaluators 2: Kevin Charron

TITLE: Real-world visual and anatomical outcomes of bevacizumab, aflibercept, and ranibizumab for ophthalmology patients with central retinal vein occlusion

AUTHORS: Sydney Hajimirsadeghi, PharmD; Lyndsy Beckman, PharmD, MS, CPPS; Kim Jiramongkolchai, MD, Retina Specialist; Kristen Fink, PharmD, BCPS, BCACP, CDCES; Aisha Masood, PharmD, BCACP

OBJECTIVE: The objective of this study is to compare the long-term (up to five years) safety and efficacy of bevacizumab, aflibercept, and ranibizumab to determine the visual and anatomical outcomes for patients with central retinal vein occlusion.

METHODS: This study is an observational, retrospective cohort study of Kaiser Permanente Mid-Atlantic States patients receiving bevacizumab, aflibercept, or ranibizumab for central retinal vein occlusion from January 2017 to December 2021. All data was collected from Kaiser Permanenteâ€™s electronical medical record, with collection occurring at baseline (prior to therapy initiation), 6 months, 1 year, 2 years, and 5 years of therapy. Primary endpoints include changes in visual acuity, changes in central foveal thickness, and presence or absence of subretinal fluid. Secondary endpoints include adverse drug events reported (i.e., inflammation, increase in intraocular pressure, endophthalmitis), severity of adverse drugs events, and treatment duration.

RESULTS: After five years of treatment, the visual acuity of patients administered bevacizumab improved on average from a log of minimum angle of resolution (logMAR) of 0.71 at baseline to 0.53 (p =0.16), whereas the visual acuity of patients administered aflibercept improved from a logMAR of 0.62 at baseline to 0.52 (p =0.03). Only one patient given ranibizumab met inclusion criteria, therefore only descriptive results were interpreted. The visual acuity of the patient administered ranibizumab changed from a logMAR of 0.54 to 0.4 within six months. 18.7% of patients in the bevacizumab group and 14.5% in the aflibercept group reported a treatment-related side effect (p =0.864), while the ranibizumab patient reported no side effects from treatment.

CONCLUSIONS: The results of this study indicate that the visual outcomes of bevacizumab and aflibercept in patients with central retinal vein occlusion are comparable at 5 years. However, due to small sample size, statistical significance could not be met, and no conclusions could be drawn about patients receiving ranibizumab. Further studies with a larger sample size are needed to determine more definitive conclusions about the comparable efficacy and safety of bevacizumab, aflibercept, and ranibizumab.

1:40pm – 1:55pm C **Choice of fluid resuscitation in septic shock: lactated Ringer's versus normal saline on the development of the need for renal replacement therapy** Empire B

Presenters: Gabrielle LaRocca
Evaluators: Helen Sutow
Evaluators 3: Jennifer Costello
Evaluators 2: Careen-Joan Franklin, Jaclyn Harth

TITLE: Choice of fluid resuscitation in septic shock: lactated Ringerâ€™s versus normal saline on the development of the need for renal replacement therapy

AUTHORS: G. LaRocca, PharmD; S. Ali, PharmD, BCPS, BCCCP; Jefferson Health, Stratford, New Jersey

OBJECTIVE: The purpose of this study is to compare the outcome of renal function in septic shock patients receiving fluid resuscitation with normal saline (NS) versus lactated Ringerâ€™s (LR) solution.

METHODS: A retrospective chart review was conducted on patients admitted to any intensive care unit (ICU) within the hospital system from November 2021 to April 2022. Eligibility included those above eighteen years old who had a diagnosis of septic shock and administration of at least one pressor along with either LR or NS solution. Eligible patients were divided into two treatment arms: those who received LR and those who received NS. Patients were excluded if they were pregnant or were admitted with chronic kidney disease with a creatinine clearance less than 60 mL/min, heart failure with New York Heart Association (NYHA) Functional Classification III or higher, cirrhosis with Child-Pugh class B or C, or an active cancer diagnosis. Baseline characteristics included gender, age, and initial serum lactate levels. The primary outcome was development of the need for renal replacement therapy (RRT) during hospitalization. Secondary outcomes included in-hospital mortality and subgroup analyses.

RESULTS: The number and percentage of patients in the ICU who received either LR or NS as fluid resuscitation for septic shock and developed a need for RRT will be recorded and results will be presented.

CONCLUSIONS: Preservation of renal function via appropriate fluid resuscitation is integral for optimal management of septic shock. It is anticipated that this project will demonstrate that the use of LR for fluid resuscitation in septic shock will result in fewer requirements for new-onset RRT than the use of NS.

1:40pm – 1:55pm Y **A comparison of therapeutic response of diltiazem using weight-based vs fixed dose in patients with atrial fibrillation with rapid ventricular response** Empire C

Presenters: Esraa Abdalla
Evaluators: Varshney Navya
Evaluators 3: emily herron
Evaluators 2: Sarah Siemion

TITLE: Retrospective comparison of therapeutic response of diltiazem using weight-based vs fixed dose in patients with atrial fibrillation with rapid ventricular response

AUTHORS: Esraa Abdalla, PharmD; Ahmed Selevany PharmD, BCPS; Richard Adamczyk, PharmD, B.S; Mona Nashed, PharmD.

OBJECTIVE: The primary aim of this study is to compare the therapeutic response between patients who presented with atrial fibrillation (AF) and rapid ventricular response (RVR) and received weight-based or fixed dose (non-weight based) diltiazem in the ED.

METHODS: This is a retrospective, single-center chart review study that included patients who presented with AF and RVR and received intravenous diltiazem in the ED between June 1, 2021 and July 31, 2022. Eligible patients were 18 years and older who received intravenous diltiazem in the ED. Patients were excluded if they received other rate control medications other than diltiazem, presented in acute decompensated heart failure, received electrical cardioversion, or did not receive an IV diltiazem bolus dose. The primary outcome is a composite therapeutic response (heart rate < 100 beats per minute (bpm) and reduction in heart rate of > 20%). Secondary outcome measures include adverse events (hypotension, bradycardia, cardiac arrest, and respiratory failure), time to hospital discharge, death during admission, and AF readmission.

RESULTS: 204 patients were reviewed with 142 meeting inclusion criteria. 56 patients received a weight-based (0.2 â€“ 0.3 mg/kg) dose while 86 patients received fixed dose. Baseline characteristics were comparable between treatment groups. The study population had a mean age of 72.6 years, 44% identified as women, and the mean body mass index was 29.2. For the primary outcomes, heart rate

1:40pm – 1:55pm G **Efficacy of Sugammadex Vs. Neostigmine on Post-Operative Nausea and Vomiting in Adult Female Patients After Robotic and/or Laparoscopic Gynecologic Procedures: A Single Center Retrospective Study** Wild Rose B

Presenters: Bianca Bucuresteanu
Evaluators: Lauren Pino
Evaluators 3: Avni Desai
Evaluators 2: Manny Isherwood

TITLE: Efficacy of sugammadex vs. neostigmine and glycopyrrolate on post-operative nausea and vomiting in adult female patients after robotic and/or laparoscopic gynecologic procedures: a single center retrospective study

AUTHORS: Bianca Bucuresteanu, PharmD, MHS; Thomas Chranowski, PharmD, BCPS; Philip Coco, PharmD, BCPS; Bridget Ruscito, MD

OBJECTIVE: Incidence of post-operative nausea and vomiting (PONV) is multifactorial. This study aims to compare the effect of sugammadex vs. neostigmine and glycopyrrolate on PONV in robotic and laparoscopic gynecologic surgeries.

METHODS: Medical records of female patients â‰¥18 & â‰¤ 65 years of age who have undergone a robotic and/or laparoscopic gynecological procedure between July 1, 2021 and July 1, 2022 were reviewed. The primary objective was to determine the incidence of PONV by number of nausea and/or vomiting episodes before discharge. Secondary objectives included the use of antiemetics, time from surgery completion until discharge, and if patients were seen in the emergency room after discharge within 3 days for episodes of nausea and/or vomiting. Data was analyzed using descriptive statistics as appropriate for categorical data and continuous data. A chi-square test was used to analyze categorical data.

RESULTS: Primary and secondary outcomes will be recorded, and results will be presented.

CONCLUSIONS: Based off of preliminary data, it is uncertain that the use of sugammadex will lead to less incidences of PONV when compared to neostigmine and glycopyrrolate.

1:40pm – 1:55pm G **Evaluation of inpatient benzodiazepines in patients at risk for alcohol withdrawal in a Small Community Hospital** Empire D

Presenters: Jennifer Merritt
Evaluators: Gail Sanchez
Evaluators 3: Shirley Bonanni
Evaluators 2: Brian Austin

TITLE: Evaluation of inpatient benzodiazepines in patients at risk for alcohol withdrawal in a Small Community Hospital

AUTHORS: Jennifer Merritt, PharmD

OBJECTIVE: Benzodiazepines are first-line therapy for alcohol withdrawal syndrome (AWS). This study will compare the effects of lorazepam versus chlordiazepoxide in patients with AWS at South County Hospital (SCH).

METHODS: An Institutional Review Board approved, retrospective cohort analysis will be conducted of inpatient alcohol withdrawal treatment and prophylaxis using lorazepam or chlordiazepoxide in patients admitted to SCH. All admitted patients with an international classification of diseases code for alcohol withdrawal will be reviewed retrospectively between January 1, 2022 and October 31, 2022. Pertinent data will be collected from the Electronic Medical Record. Primary endpoint is a composite of complications, including alcohol withdrawal seizures, escalation to intensive care unit, or development of delirium tremens on admission. Secondary endpoints include number of Clinical Institute Withdrawal Assessment Alcohol (CIWA) doses needed, number of rescue medications needed, primary diagnosis of alcohol withdrawal, and hospital length of stay.

RESULTS: Data will be collected, analyzed, and presented upon study completion. Chi-square test and paired t-test will be used to compare primary and secondary endpoints.

CONCLUSIONS: It is anticipated that this project will provide insight into providers utilization of benzodiazepines for alcohol withdrawal patients and evaluate rates of alcohol withdrawal related complications at SCH.

1:40pm – 1:55pm | **Duration of spontaneous bacterial peritonitis prophylaxis in acute variceal hemorrhage** Magnolia B

Presenters: Carissa Tedeschi
Evaluators: Mona Nashed
Evaluators 3: Pooja Dogra
Evaluators 2: Nikunj Vyas

TITLE: Duration of spontaneous bacterial peritonitis prophylaxis in acute variceal hemorrhage
AUTHORS: C. Tedeschi, A. Hoff, A. Shigle, N. Scherrer, S. Burwell; WVU Medicine â€“ WVU Hospitals (WVUH), Morgantown, West Virginia
OBJECTIVE: Antibacterial prophylaxis in acute variceal hemorrhage decreases morbidity and mortality. The American Association for the Study of Liver Diseases (AASLD) recommends prophylaxis for up to 7 days, however optimal duration is unknown.
METHODS: Medical records of adult patients who received an octreotide infusion and had a variceal hemorrhage diagnosed via esophagogastroduodenoscopy at WVU Hospitals from January 1st, 2020 until December 31, 2022 were reviewed. Data was collected and recorded in a database website to facilitate uniform review of each record. Data points include demographic information, antibiotic selection, and duration of therapy for spontaneous bacterial peritonitis (SBP) prophylaxis, and outcomes such as re-bleeding, infection, length of stay, and mortality at different time points were collected. Patients who received more than 5 days of prophylactic antibiotics were compared to those who received 5 or less days.
RESULTS: The difference, if any, between patients who received more than 5 days of antibiotic prophylaxis for SBP and those who received 5 days or less will be recorded, and results will be presented.
CONCLUSIONS: It is anticipated that this project will help determine if shorter durations of antibiotic prophylaxis for SBP can be used instead of longer durations to prevent infections, rebleeding, and mortality, as well as the impact on length of stay.

1:40pm – 1:55pm | **Impact of Staphylococcus aureus nasal screening on vancomycin use in the ICUs** Magnolia A

Presenters: Martina Boda
Evaluators: Lauren Allen
Evaluators 3: Anita Henderson
Evaluators 2: Alice Hsu

TITLE: Impact of Staphylococcus aureus nasal screening on vancomycin use in the intensive care unit
AUTHORS: Martina Boda, PharmD; Elizabeth O'Gara; PharmD, BCPS; Phil Grgurich, PharmD, MBA, BCCCP, FCCM; Julie Morgan Freiman, MD
OBJECTIVE: To compare the impact of PCR testing and culture-based methods of MRSA nares colonization screening on vancomycin utilization in patients who were treated for pneumonia or infections at other body sites in critically ill patients.
METHODS: This is a retrospective analysis of patients admitted to medical and surgical ICUs with nasal Staphylococcus aureus colonization screening between September 2021-August 2022. Electronic health records were reviewed for patients 18 years old and older who received one or more doses of vancomycin during their ICU stay and had a Staphylococcus aureus PCR or culture nares screen clinical culture collection categorized by site of infection Patients were excluded if they had a positive MRSA culture from a positive clinical culture or were treated with vancomycin prior to screening or within ÂÂ3 months of therapy initiation. Patients on anti-MRSA therapy within 2 weeks of admission, receiving vancomycin for prophylaxis or pre-procedure use, or transitioned to CMO status were also excluded. The primary endpoint was defined as vancomycin hours of therapy.
RESULTS: The vancomycin hours of therapy will be calculated and results will be presented. Time to definitive therapy, time to de-escalation, hospital length of stay, ICU length of stay, in-hospital mortality, number of vancomycin levels, incidence of nephrotoxicity, and concordance between MRSA nasal surveillance testing results and clinical culture results from all sites of infection will also be presented.
CONCLUSIONS: It is anticipated that this project will demonstrate decreased vancomycin utilization when PCR testing is used for nasal MRSA colonization screening rather than culture-based screening.

1:40pm – 1:55pm

O **Evaluation of Methotrexate Monitoring and Toxicity Management in an Academic Medical Center**

Magnolia C

Presenters: Rebecca Samuel
Evaluators: Andy Hui
Evaluators 3: Briana Balsamo
Evaluators 2: Frank Massaro

TITLE: Evaluation of high-dose methotrexate monitoring and toxicity management in an academic medical center
AUTHORS: R. Samuel, M. Barsoum, M. Reed; NewYork-Presbyterian Brooklyn Methodist Hospital
OBJECTIVE: High-dose methotrexate (HD-MTX), defined as doses greater than 500 mg/m2, requires daily levels to manage toxicity. The purpose of this study is to evaluate timing of methotrexate levels, its impact on toxicity and length of stay.
METHODS: Electronic medical records of patients â‰¥ 18 years of age admitted inpatient at NYP-BMH from 2017-2021 who received HD-MTX were reviewed. Patients who received MTX in the ambulatory care setting, doses of methotrexate less than 500 mg/m2 and/or received intramuscular, intrathecal, or oral methotrexate were excluded. Primary endpoints included time to methotrexate level and toxicity defined as renal dysfunction, hepatotoxicity, mucositis, and myelosuppression. Secondary endpoints include use of supportive care agents and the length of stay.
RESULTS: Data evaluating methotrexate toxicity defined as renal dysfunction, hepatotoxicity, mucositis, and myelosuppression as well as time to methotrexate level will be presented.
CONCLUSIONS: It is anticipated that this project will potentially demonstrate the implications of delayed HD-MTX monitoring such as increased toxicity and length of stay. The results from this study will be used as a basis to implement real time methotrexate lab monitoring.

1:40pm – 1:55pm

2 **Trauma enoxaparin venous thromboembolism prophylaxis in pediatrics; a dosing and monitoring characterization study**

Magnolia D

Presenters: Mikayla A. Wright
Evaluators: Frank Szczerba
Evaluators 3: Rosa Bates
Evaluators 2: Kevin Mulieri

TITLE: Trauma enoxaparin venous thromboembolism prophylaxis in pediatrics; a dosing and monitoring characterization study
AUTHORS: Mikayla Wright, PharmD., Emma Wysocki, PharmD, RDN, BCPPS., Angela Slampak-Cindric, PharmD, BCPS, BCCCP
OBJECTIVE: The primary objective of this study was to identify if current weight-based enoxaparin dosing (0.5mg/kg twice daily) used for VTE prophylaxis successfully achieved anti-Xa concentrations within a prophylactic range of 0.2-0.5 units/mL .
METHODS: This is a retrospective chart review of adolescents between the ages of 12-17 years old admitted to the adult trauma service or pediatric trauma service at Geisinger Medical Center, Geisinger Wyoming Valley, or Geisinger Community Medical Center who received enoxaparin for chemical VTE prophylaxis between 01/01/2020 and 07/31/2022. Patients were excluded if they received anticoagulants within 1 week prior to admission, received enoxaparin dosing was outside of 0.5 mg/kg every 12 hours, expired within 48 hours of admission, were known to be pregnant at the time of enoxaparin initiation, or if anti-Xa levels were drawn before the third dose.
RESULTS: No results at this time - will have final results at presentation
CONCLUSIONS: No conclusion at this time - will have conclusion at presentation

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1:40pm – 1:55pm

5 **Evaluation of Injectable Long-Acting Antipsychotics on Hospital Length of Stay and Readmission in Veteran Patients** Crystal A

Presenters: Khumora Nabiyeva
Evaluators: Mei Liu
Evaluators 3: John Roglieri
Evaluators 2: Gregory Bogart

TITLE: Evaluation of Injectable Long-Acting Antipsychotics on Hospital Length of Stay and Readmission in Veteran Patients

AUTHORS: K. Nabiyeva, T. Kish; Veterans Affairs Medical Center (VAMC), Bronx, New York

OBJECTIVE: Schizophrenia is a disease where adherence to pharmacological treatment is essential Long-ActingInjectable Antipsychotics (LAI) improve adherence leading to better outcomes. This project will evaluate LAI usage on hospital readmission.

METHODS: A retrospective chart review will be conducted utilizing the computerized patient record system (CPRS) to identify patients 18 years or older with a psychiatric diagnosis of schizophrenia, schizoaffective disorder, or bipolar disorder who received at least 2 doses of LAI from January 1 st , 2021 to December 31 st , 2021. The primary objective is to assess whether LAI use is associated with longer time to readmission. The secondary objective are to assess efficacy of LAI, identify common factors associated with readmission, and assess if LAI use is associated with shorter length of stay upon readmission.

RESULTS: The frequency of hospital readmission and length of stay in veterans with schizophrenia, schizoaffective disorder, or bipolar disorder will be compiled. The incidence will be further stratified by type of LAI antipsychotic. All results will be recorded and presented.

CONCLUSIONS: It is anticipated that this project will provide more insight on the relationship of LAI antipsychotics and relapse rates in patients with schizophrenia, schizoaffective disorder, or bipolar disorder.

1:40pm – 1:55pm

Q **Evaluation of Institution Specific Procedures for Confirmatory Testing of Fentanyl Positive Results as a Part of Urine Drug Screens** Wild Rose A

Presenters: Caroline Sweeney
Evaluators: Andrea Tully
Evaluators 3: Michael Kachmarsky
Evaluators 2: Ashley Covert

TITLE: Evaluation of institution specific procedures for confirmatory testing of fentanyl positive results as a part of urine drug screens

AUTHORS: Caroline Sweeney, PharmD, Alissa Scalise, PharmD, BCPS, BCPP, Cristofer Price, PharmD, BCPP

OBJECTIVE: The aim of this quality improvement project is to assess the frequency with which confirmatory tests are being ordered for urine drug screens that result with an unexpected positive for fentanyl derivates.

METHODS: The computerized patient record system of randomly selected Veterans with a documented positive result for fentanyl derivates on a urine drug screen at our institution from July 2021 to July 2022 was reviewed. Patients were excluded if they were prescribed a fentanyl-containing medication(s) at the time of the urine drug screen. A total of 150 unique urine drug screens were reviewed to determine if an order for confirmatory testing was placed following a preliminary positive result. Subsequently, the proportion of preliminary fentanyl positive results that were validated through confirmatory testing was determined. A review of additional components of the patient record was conducted to identify any medications with potential to cause false-positive results and to ascertain which providers were most likely to order a urine drug screen.

RESULTS: An order for confirmatory testing was placed for 29 of 150 of the urine drug screens that were preliminarily positive for fentanyl derivates. Among the confirmatory tests that were ordered and completed, 13 of 27 tests (~48%) validated the preliminary positive, while 14 of 27 tests (~51%) indicated the absence of fentanyl derivates. Among the preliminarily positive urine drug screens, 41 of 150 tests were conducted on urine samples of patients concurrently prescribed trazodone. Samples collected from patients on trazodone were not validated as positive in 6 of 8 cases (75%) by confirmatory testing. Providers working in an outpatient substance use disorder treatment program were the most likely to order a urine drug screen.

CONCLUSIONS: The results of preliminarily positive fentanyl urine drug screens were not confirmed in the majority of cases sampled. This finding indicates a need for increased awareness of urine drug screening processes and limitations at our institution. Results were potentially limited by 57 samples which were expected to be positive based on a documented patient report of ongoing illicit fentanyl use. A secondary analysis excluding these samples is pending and results will be used for quality improvement.

2:00pm – 2:15pm A **Impact on Tolerability of Pharmacist Driven Protocol for GLP-1 Receptor Agonist Interchange**

Empire A

Presenters: Jonathan Little
Evaluators: Vega Sanchez
Evaluators 3: Paul Abourjaily
Evaluators 2: Kevin Charron

TITLE: Pharmacist Driven Glucagon-like Peptide 1 Receptor Agonist Therapeutic Interchange

AUTHORS: Jonathan Little, Chris Hvisdas, Natalie Goode, Diane Kim, Michael Silvey

OBJECTIVE: GLP-1s often require interchanges for additional efficacy or shortages. PPMC designed a process to guide interchange between agents. The purpose was to characterize tolerability for patients who underwent pharmacist-initiated therapeutic interchange.

METHODS: A single center retrospective cohort study analyzed medical records of patients requiring GLP-1 receptor agonist interchange between January 1, 2022 and December 1, 2022. Data was collected, de-identified, and integrated into an excel spreadsheet for uniform review and analysis. Patients' inclusion required GLP-1 receptor agonist interchange per pharmacist recommendations following a standardized approach. Patients were excluded if they had two or more missed doses prior to interchange, or if the interchange was between starting doses of medications. Each patient undergoing therapeutic interchange was evaluated for tolerability and time to achieve target dose, and characterization of specific interchanges was collected. The primary endpoint was tolerability of the interchange, assessed by a pharmacist at follow-up within eight weeks.

RESULTS: 153 patients were included in the analysis, and 59 patients were excluded from analysis. The most common rationales for exclusion were interchange between starting doses and interchange never successfully initiated (n=19, 32.2%). Appropriate tolerability was reported by 146 patients (95.5%) at the time of follow-up. Seven patients reported poor tolerability from either GI effects in five patients (85.7%) or injection site reactions in two patients (28.6%). Four (57.1%) patients not tolerating interchange requested a medication revert, while the remaining three were unwilling to continue therapy. The median reduction in time to achieve target dose was 3 months for patients who underwent interchange.

CONCLUSIONS: Pharmacist-initiated therapeutic interchange between GLP-1 receptor agonists was well tolerated. This observational study demonstrates the potential to optimize escalation of GLP-1 receptor agonist treatment when transitioning between agents. Further study is necessary to determine comparative benefit between interchange of GLP-1 receptor agonists.

2:00pm – 2:15pm C **Evaluation and Management of Iron Deficiency in Patients Admitted for Heart Failure with Reduced Ejection Fraction at a Large Academic Medical Center** Empire B

Presenters: Kirollos Daoud

Evaluators: Helen Sutow

Evaluators 3: Jennifer Costello

Evaluators 2: Careen-Joan Franklin, Jaclyn Harth

TITLE: Evaluation and Management of Iron Deficiency in Patients Admitted for Heart Failure with Reduced Ejection Fraction at a Large Academic Medical Center

AUTHORS: Kirollos Daoud, PharmD, Laura Zizza, PharmD, BCCP, Christabel Cash-Abbey, PharmD, My L. Nguyen, PharmD, Kesha R. Wright, PharmD

OBJECTIVE: To assess whether ChristianaCare providers are following evidence-based guidelines for screening heart failure patients for iron deficiency and subsequently treating iron deficient patients with intravenous (IV) iron.

METHODS: This retrospective study included patients over 18 years of age who were admitted to ChristianaCare for a heart failure (HF) exacerbation with reduced ejection fraction (EF< 40%). ChristianaCare data warehouse was used to obtain a list of patients with an HF admission diagnosis between 6/1/2021 and 6/1/2022. Patient list was randomized and data collection was continued until 100 patients were included based on the inclusion/exclusion criteria. Key exclusion criteria included pregnancy, bacteremia, COVID-19 infection, hemoglobin>15mg/dL, mechanical support devices and inotropic therapy. The primary outcome of this study was the proportion of iron deficient patients administered IV iron during admission. Secondary outcomes included the proportion of patients ordered iron studies, determined to be iron deficient according to criteria, administered an appropriate course of IV iron, administered oral iron, and readmitted within 30 days of discharge.

RESULTS: Of the 100 patients included, appropriate iron studies were obtained for 32 (32%) patients, within a median time of 2.3 days from admission. Of the 32 patients who were ordered appropriate iron studies, 22 (69%) patients were determined to be iron deficient according to the pre-specified criteria. Of these 22 patients, 5 (23%) patients who were iron deficient received oral iron and 7 (32%) received IV iron, all of which received iron sucrose. Five (71%) out of the 7 patients who received IV iron received the full recommended 1000 mg dose. None of the iron deficient patients who received IV iron were re-admitted within 30 days and 1 (5%) iron deficient patient who did not receive IV iron was re-admitted within 30 days.

CONCLUSIONS: The majority of heart failure patients admitted to ChristianaCare are not screened for iron deficiency. Patients who were screened and determined to be iron deficient often did not receive IV iron. Association between 30-day re-admission and administration of IV iron was not demonstrated, due to the small sample size and low frequency of re-admission. The addition of pre-selected order for iron studies to the HF admission order set can possibly improve identification of iron-deficient patients.

2:00pm – 2:15pm Y **Evaluation of a change in open fracture antimicrobial prophylaxis** Empire C

Presenters: Zachary Kalikow
Evaluators: Varshney Navya
Evaluators 3: emily herron
Evaluators 2: Sarah Siemion

TITLE: Evaluation of a change in open fracture antimicrobial prophylaxis

AUTHORS: Z. Kalikow, K. McCormick, J. Kelly, H. Choi; Christiana Care Health System (CCHS), Newark, Delaware

OBJECTIVE: This retrospective, quasi-experimental study aims to identify how a change in our academic medical centerâ€™s open fracture antimicrobial prophylaxis protocol to include alternatives to an aminoglycoside affects surgical site infection (SSI) rates.

METHODS: Adult patients who presented to the emergency department with an open fracture of a long bone between September 6, 2021 to January 6, 2022 were eligible for inclusion in the pre-protocol group. The same type of patients who presented between September 6, 2022 to January 6, 2023 were eligible for inclusion in the post-protocol group. Patients received antimicrobial prophylaxis for the open-fracture as consistent with the protocol at the time of presentation which included aminoglycosides in the pre-protocol but not the post protocol. Patients were followed for 60-days post-admission. Data collected included demographics, incidence of SSI, incidence of AKI, incidence of Clostridioides difficile infections, door-to-antibiotic time, and adherence to antibiotic protocol. Endpoints were analyzed using the Chi-square or Fisherâ€™s exact tests for categorical data, and the Mann Whitney U test for continuous variables. A corresponding p-value < 0.05 indicated statistical significance.

RESULTS: A total of 80 patients were included in this study, with 40 patients in both the pre- and post-protocol groups. There was a lower incidence of surgical site infection in the post-protocol group as compared to those in the pre-protocol group, however this finding did not achieve statistical significance (5% vs 17.5%, p = 0.077). Median door-to-antibiotic times in the pre-protocol group and the post-protocol group were 84.5 minutes and 18.5 minutes respectively; the distributions in the two groups differed significantly (Mann-Whitney U = 470, p=0.001). There was no significant difference in the incidence of AKI, incidence of Clostridoides difficile infections, or proportion of patients with antimicrobial prophylaxis adherent to protocol.

CONCLUSIONS: This study found that a prophylactic antimicrobial protocol for open fractures which excludes aminoglycosides is non-inferior in efficacy and safety to a protocol which includes aminoglycosides. The observed reduction in SSI may be due to more rapid administration of the complete initial antibiotic regimen as time-to-antibiotics is directly correlated with SSI rates, however this should be further evaluated in future studies.

2:00pm – 2:15pm G **The clinical efficacy of standardized treatment algorithms for postoperative nausea and vomiting at a large academic medical center** Empire D

Presenters: Noah Ball
Evaluators: Gail Sanchez
Evaluators 3: Shirley Bonanni
Evaluators 2: Brian Austin

TITLE: The clinical efficacy of standardized treatment algorithms for postoperative nausea and vomiting at a large academic medical center

AUTHORS: Noah Ball, PharmD; Eric Likar, PharmD; Jeffrey Quedado, PharmD

OBJECTIVE: To determine the incidence of post-operative nausea and vomiting (PONV) following cholecystectomy and hysterectomy procedures before and after implementation of a pre-selected order panel for antiemetic therapy in the peri-anesthesia care unit (PACU)

METHODS: This is an institutional review board (IRB) approved, single-center, retrospective analysis of patients at least 18 years of age who underwent either a cholecystectomy or hysterectomy procedure and received an anti-emetic medication for the purpose of nausea and/or vomiting during admission to the PACU at WVU Medicine - WVU Hospitals. The primary objective is to determine the incidence of nausea and emesis in the PACU setting before and after implementation of a guideline directed, pre-selected order panel. Confounding factors that influence nausea and vomiting were identified and included in the analysis. Secondary objectives include quantifying the number of medications ordered before and after incidence of PONV, recording the length of stay in the PACU prior to and after order panel implementation, characterizing the adherence to the PONV order panel, and documenting adverse events in the PACU that could be attributable to antiemetics.

RESULTS: Interim results are currently being finalized and will be presented at the meeting.

CONCLUSIONS: PONV leads to numerous complications after surgery. These complications can impact the individual patient, that patientâ€™s complexity of care, and the perioperative workflow. PONV prevention is essential in surgical patients. The Fourth Consensus Guidelines for the Management of Postoperative Nausea and Vomiting, published in 2019, guide selection and timing of antiemetic therapy. Standardized treatment regimens can help reduce rates of PONV and provide structured, goal directed therapy.

2:00pm – 2:15pm | **Effect of Appropriateness of Antimicrobial Regimens at Discharge on Global Patient Outcomes**
Magnolia A

Presenters: Haley Torr
Evaluators: Lauren Allen
Evaluators 3: Anita Henderson
Evaluators 2: Alice Hsu

TITLE: Effect of Appropriateness of Antimicrobial Regimens at Discharge on Global Patient Outcomes

AUTHORS: Haley Torr, PharmD;Nicholas Mercuro, PharmD, BCIDP; Christian Caveness, PharmD; Minkey Wungwattana, PharmD, BCIDP; Kristina Rokas, PharmD, BCIDP, Patricia Stogsdill, MD

OBJECTIVE: To identify the proportion of optimal vs. non-optimal antibiotic discharge regimens, as defined by national guidelines and to identify correlations between non-optimal antibiotics and undesirable global outcomes.

METHODS: A multicenter, retrospective, cohort study which included hospitalized adults discharged with antimicrobials for community acquired pneumonia (CAP), urinary tract infections (UTI), or cellulitis at Maine Medical Center (MMC), Southern Maine Medical Center (SMMC), and PenBay Medical Center (PBMC) between May 2019 and June 2022. Patients were excluded if they had a positive Covid-19 test within 30 days of treatment, were immunocompromised, had a complicated infections, or had a concomitant. Antibiotic discharge regimens were evaluated for optimal selection, dose, and duration based on national and local guidelines. A desirability of outcome ranking (DOOR) was created among the antimicrobial stewardship group which evaluated a composite of clinical failure, readmissions, adverse effects, and mortality on an ordinal scale. The primary endpoint was likelihood of a better global outcome between patients with optimal and non-optimal antibiotic discharge regimens.

RESULTS: 224 patients were included. The average age was 71.1 and 53.8% were female. 30-day readmission (11.3 vs 12%) , 30-day mortality (2.3 vs 3.5%), adverse events (3.6 vs 9.9%), and clinical failure (12.1 vs 10.8%) were similar between the optimal and non-optimal regimen groups; however patients receiving optimal regimens were more likely to achieve a better global endpoint.. Following discharge, patients diagnosed with CAP received a median of 3 (IQR 2-6) unnecessary days; cystitis 3 (IQR 2-4) unnecessary days; cUTI 0 (IQR 0-3) unnecessary days; SSTI patients 4 (IQR 0-6) unnecessary days. Patients who had pathogens identified were more likely to receive an optimal course.

CONCLUSIONS: This study highlights the discordance between guideline directed therapy and antibiotic discharge prescribing. This study did not find significance in 30-day readmission or mortality rates, however, it did highlight a concerning amount of inappropriate prescribing across multiple institutions. Patients receiving optimal antibiotic regimens had higher probability of a better outcome compared to those who did not.

2:00pm – 2:15pm | **Evaluation of the Efficacy and Safety of Linezolid Oral Step-Down Therapy in Gram-Positive Bloodstream and Endovascular Infections**
Wild Rose B

Presenters: Kara Kassekert
Evaluators: Lauren Pino
Evaluators 3: Avni Desai
Evaluators 2: Manny Isherwood

TITLE: Evaluation of the efficacy and safety of linezolid oral step-down therapy in gram-positive bloodstream and endovascular infections

AUTHORS: Shannon Purcell, PharmD Kara Kassekert, PharmD Jennifer Szwak, PharmD, BCPS Dannielle Brown, PharmD, BCPS Kate Dzintars, PharmD, BCPS Kerri Smith, PharmD, BCPS Lindsay Bowman, PharmD, BCPS James Ladd, MD

OBJECTIVE: The primary objective of this study is to investigate the safety and efficacy of oral linezolid for gram-positive bloodstream and endovascular infections. Patient-specific risk factors for serotonin syndrome will be characterized.

METHODS: This is a single-center, retrospective chart review at an academic medical center from 07/01/2016-06/30/2022. Patients >18 years old with a documented gram-positive bloodstream or endovascular infection and who received oral linezolid during admission or at discharge are included. Exclusion criteria are death

2:00pm – 2:15pm I **Penicillin Allergy Assessment and Delabeling at SBH Health System** Magnolia B

Presenters: Romina Javadi
Evaluators: Mona Nashed
Evaluators 3: Pooja Dogra
Evaluators 2: Nikunj Vyas

TITLE: Penicillin allergy assessment at SBH Health System

AUTHORS: R. Javadi, D. Willner; SBH Health System, Bronx, New York

OBJECTIVE: The objective is to evaluate the significance of carrying a penicillin allergy label on patient outcomes. The findings will be utilized to develop a protocol for the assessment and evaluation of penicillin allergies in the Emergency Department

METHODS: Medical records of patients who were labeled as having a penicillin allergy from January1st, 2022 to January1st, 2023 were reviewed. In this study patients aged 18 years and above with a documented penicillin allergy and who received antibiotics for an infection were identified via an electronic medical record (EMR). Patients under 18 years of age and those with inadequate medical records were excluded

RESULTS: The following measures will be assessed: clinical history of suspected penicillin allergy (drug name, type of reaction and reaction severity), number of patients who could potentially have their label removed based on patient history, number of patients who were subsequently prescribed beta-lactam antibiotics such as penicillins, cephalosporins, carbapenems, and aztreonam, as well as non-beta-lactam antibiotics such as vancomycin, fluoroquinolones, and clindamycin.

CONCLUSIONS: It is anticipated that the results of this project will demonstrate that a considerable number of patients carry a documented penicillin allergy that may not be warranted, and it will also reveal a rise in the utilization of non-beta lactam antibiotics in patients with a penicillin allergy label

2:00pm – 2:15pm O **An Evaluation of the Treatment of Steroid-refractory Immune-related Diarrhea and Colitis Within a Health System** Magnolia C

Presenters: Eza Ali
Evaluators: Andy Hui
Evaluators 3: Briana Balsamo
Evaluators 2: Frank Massaro

TITLE: An Evaluation of the Treatment of Steroid-refractory Immune-related Diarrhea and Colitis Within a Health System

AUTHORS: Eza Ali, Pharm.D., MBA, Bryna Delman Ewachiw, Pharm.D., BCOP, Cambree Fillis, Pharm.D., BCOP, Kayla Garzio, Pharm.D., BCPS, BCOP, Michael Goldenhorn, Pharm.D., MBA.

OBJECTIVE: Due to limited literature, this study seeks to describe the clinical treatment course of patients with steroid-refractory immune-related diarrhea and colitis (IMDC) treated with infliximab, vedolizumab, and/or alternative non-steroidal therapy.

METHODS: This is an IRB-approved, multicenter, retrospective chart review of patients treated for IMDC following at least one dose of CTLA-4, PD-1, or PD-L1 directed therapy within The Johns Hopkins Health System between July 1st, 2019, to June 30th, 2022. Patients included were â‰¥ 18 years, received steroids and a subsequent therapy such as infliximab, vedolizumab, and/or alternative non-steroidal therapy. Patients were excluded with confirmed viral or bacterial diarrhea/colitis. The electronic health record was used to collect patient demographics and characterize their clinical course. Data were then analyzed using STATA version 17.

RESULTS: The results of this study will be presented at the meeting. Anticipated outcomes include characterization of steroid course, time to initiate second line therapy and factors affecting decision making for patients with steroid refractory IMDC.

CONCLUSIONS: This study will highlight the clinical and/or formulary related factors impacting therapeutic decision making between infliximab and vedolizumab use for steroid refractory IMDC, as well as characterize each patientâ€™s clinical course. In doing such, it is anticipated this study will facilitate discussion regarding practice standardization and the appropriate management of steroid refractory IMDC to improve patient outcomes.

2:00pm – 2:15pm 2 **Improving the Discharge Process for Children Newly Diagnosed with Type 1 Diabetes Mellitus** Magnolia D

Presenters: Lindsay Dalton
Evaluators: Frank Szczerba
Evaluators 3: Rosa Bates
Evaluators 2: Kevin Mulieri

TITLE: Improving the discharge process for children newly diagnosed with type 1 diabetes mellitus
AUTHORS: Lindsay Dalton, PharmD, Jeffrey Low, PharmD, BCPPS, FPPA
OBJECTIVE: We created a new order set for the discharge medications and supplies needed for children newly diagnosed with Type 1 Diabetes Mellitus (T1DM). This order set is intended to improve the discharge process and prevent any medication omissions.
METHODS: This single-center, quality improvement project assessed the current discharge process for children newly diagnosed with T1DM at a rural academic medical center, and established a new discharge order set for integration into the electronic health record. Retrospective analysis, prior to order set implementation, included patients who were less than 18 years of age who had a diagnosis code of T1DM added to their chart within 7 days of an admission, up to 7 days after discharge, from January 1, 2019 to March 7, 2023. All outpatient orders within 3 days before discharge and within 14 days post-discharge were assessed for missed medications or supplies.
RESULTS: We measured the number of pediatric patients newly diagnosed with T1DM, as well as the percentage of omissions associated with the medications and supplies at discharge. Results will be presented at the Eastern States Conference.
CONCLUSIONS: We anticipate there has been an increase in discharge order omissions in recent years due to staff turnover and the shift in ordering responsibility to the pediatric residents on the hospitalist service. We have created a new discharge order set that will be implemented soon to improve this process and ensure newly diagnosed T1DM patients are discharged with all the medications and supplies that they need. Further conclusions will be presented at the Eastern States Conference.

2:00pm – 2:15pm 5 **Therapeutic Drug Monitoring of Lithium within a Veterans Affairs medical center** Crystal A

Presenters: Stanley Zhu
Evaluators: Mei Liu
Evaluators 3: John Roglieri
Evaluators 2: Gregory Bogart

TITLE: Therapeutic drug monitoring of lithium in patients within a veteran affairs medical center
AUTHORS: S. Zhu, S. Jacob, T. Kish; Veterans Affairs Medical Center (VAMC), Bronx, New York
OBJECTIVE: To evaluate the frequency of therapeutic drug monitoring in veterans prescribed lithium, the incidences of subtherapeutic and supratherapeutic lithium serum levels, and hospitalizations due to lithium toxicity or psychiatric hospitalizations
METHODS: A retrospective chart review was conducted using computerized patient record system (CPRS) on patients prescribed lithium between 1/1/2019 and 12/31/2022 in James J. Peters Veterans Affair (VA) Medical Center. Patients were included if they had an active or inactive prescription for lithium and diagnosis for bipolar disorder, major depressive disorder, or suicidality. Patients were excluded if hypersensitivity to lithium, severe renal impairment, untreated hypothyroidism, or cardiovascular insufficiency were documented. Parameters listed in the VA/Department of Defense Clinical Practice Guideline for Management of Bipolar Disorder in Adults, Version 2.0 was utilized to evaluate appropriate frequency and lithium serum levels. Data collected from CPRS included patient demographics, active medications, laboratory results, and hospitalization to psychiatric unit. Descriptive and nominal statistics were utilized for all analyses.
RESULTS: In progress
CONCLUSIONS: In progress

2:00pm – 2:15pm Q **Impact of antimicrobial stewardship driven methicillin-resistant Staphylococcus aureus (MRSA) nares screening on de-escalation of IV vancomycin for pneumonia** Wild Rose A

Presenters: Leeann Mahalick
Evaluators: Andrea Tully
Evaluators 3: Michael Kachmarsky
Evaluators 2: Ashley Covert

TITLE: Impact of antimicrobial stewardship driven methicillin-resistant Staphylococcus aureus (MRSA) nares screening on de-escalation of IV vancomycin for pneumonia

AUTHORS: Leeann Mahalick, Pharm D; Heather Seitzinger, Pharm D, BCPS; Holland Hood, Pharm D

OBJECTIVE: The primary objective of this study was to assess the impact of antimicrobial stewardship driven methicillin-resistant Staphylococcus aureus (MRSA) nares screening on de-escalation of IV vancomycin for pneumonia.

METHODS: In this retrospective, chart-review, quality-improvement study data was obtained from the Computerized Patient Record System (CPRS) for patients treated with IV vancomycin for confirmed or suspected pneumonia from January â€“ September 2021 and January â€“ September 2022. The time period from January â€“ September 2022 represents when antimicrobial stewardship pharmacists began ordering a MRSA nares PCR screen due to an observed increase in IV vancomycin use at the institution. This was compared to the time period from January â€“ September 2021 where antimicrobial stewardship pharmacists were not routinely ordering a MRSA nares PCR screen. The primary outcome of duration of vancomycin therapy was compared between both groups. Secondary outcomes assessed include hospital length of stay, readmission for MRSA pneumonia within 30 days, and acute kidney injury.

RESULTS: A total of 40 patients were included in the 2021 analysis and 39 patients in the 2022 analysis. The primary outcome was similar between both the 2021 and 2022 group, with an average duration of therapy of 3.2 days (SD Â± 2.2) and 2.9 days (SD Â± 1.4), respectively. The average length of hospital stay was shorter in the 2022 group at 5.9 days (SD Â± 3.2) compared to the 2021 group at 6.6 days (SD Â± 3.7). A total of 3 MRSA screens were completed in the 2021 group and 15 were completed in the 2022 group. Of those who received sputum cultures, only 1 culture in the 2021 group grew MRSA. Zero patients in either group were readmitted within 30 days for MRSA pneumonia. Acute kidney injury occurred in six patients in both groups.

CONCLUSIONS: Although the duration of IV vancomycin therapy was similar between both groups, the results highlight the low amount of MRSA pneumonia confirmed via sputum culture at the facility. Additionally, a relatively low number of MRSA nares screens were completed in each group, emphasizing the need for routine MRSA nares screening in patients initiated on IV vancomycin therapy for pneumonia in an effort to reduce unnecessary antibiotic use at the facility.

2:20pm – 2:35pm A **Adherence to Recommended Laboratory Monitoring Following Initiation of Teriflunomide in Patients with Multiple Sclerosis (MS)** Empire A

Presenters: Ruchi Vyas
Evaluators: Vega Sanchez
Evaluators 3: Paul Abourjaily
Evaluators 2: Kevin Charron

TITLE: Adherence to recommended laboratory monitoring following initiation of teriflunomide in patients with multiple sclerosis (MS)

AUTHORS: Ruchi Vyas, PharmD, Janice Lee, PharmD, BCPS

OBJECTIVE: To analyze adherence rates for monitoring alanine aminotransferase (ALT) levels within the first six months of starting teriflunomide, and to determine whether non-adherence to monitoring of therapy resulted in an increase in ALT.

METHODS: An electronic report with a list of patients taking teriflunomide from August 31st, 2021 to August 31st, 2022 was pulled from the electronic health record in the outpatient neurology clinic. Patients were excluded if they stopped therapy prior to 6 months, had documented pre-existing liver disease, were concomitantly taking hepatotoxic medications and were prescribed teriflunomide by a provider no longer practicing in the clinic. Chart abstraction was used to determine if recommended monthly ALT levels resulted within the first six months of teriflunomide initiation. Levels were assessed to determine if injury to liver could have been prevented with appropriate monthly monitoring based on resulting serum transaminase trends. Descriptive statistics to include percentages of the frequency of adherence to monthly laboratory monitoring and detected elevations in ALT categorized into elevation above accepted range (ALT 0-55 U/L) and elevation three times the upper level of normality (ULT).

RESULTS: Of the 143 patient charts that were identified, 75 patientsâ€™ charts met the inclusion criteria and were used for chart abstraction. Of included patient charts, 8.0% of patients were found to be adherent to the full monitoring recommendation, and there were no incidences of elevated ALTs and no incidence of severe hepatoxicity resulting in ALT increases greater than three times the ULN. Within the population of patients who were non-adherent to recommended laboratory monitoring, 43.5% of patients had elevated liver enzymes and there were no incidences of severe hepatoxicity resulting in ALT increases greater than three times the ULN.

CONCLUSIONS: Adherence to ALT monitoring varied in number of laboratory draws completed. Patients defined as non-adherent did not present with severe hepatotoxicity, however the increase in LFTs demonstrates an area for improvement and intervention. Barriers to adherence include transportation, patient mobility, and burden of frequent laboratory draws. Solutions to non-adherence may involve addition of continued education, notification, and collaborative practice agreements between providers and pharmacists.

2:20pm – 2:35pm C **Clevidipine vs. nitroglycerin for hypertensive emergency complicated by pulmonary edema**

Empire B

Presenters: Alexander Wolanin

Evaluators: Helen Sutow

Evaluators 3: Jennifer Costello

Evaluators 2: Careen-Joan Franklin, Jaclyn Harth

TITLE: Clevidipine vs. nitroglycerin for hypertensive emergency complicated by pulmonary edema

AUTHORS: Alexander J. Wolanin, PharmD and Travis Reinaker, PharmD, BCCCP

OBJECTIVE: To compare the objective improvement of respiratory status in patients with hypertensive emergency complicated by pulmonary edema treated with intravenous (IV) clevidipine to nitroglycerin.

METHODS: A retrospective chart review from May 2019 to September 2022 identified all patients who received IV clevidipine or nitroglycerin. Hypertensive emergency was defined as systolic blood pressure (SBP) > 180 mm Hg and organ dysfunction. The study included patients with provider-documented pulmonary edema and receiving oxygen support when the medications began. Patients were excluded if they presented with acute coronary syndrome or aortic dissection. The primary outcome was the improvement of oxygen status using an ordinal scale at hour three of therapy. The ordinal scale categories are: 0, no oxygen support; 1, nasal cannula; 2, high-flow or noninvasive mechanical ventilation; 3, invasive mechanical ventilation; 4, death. Notable secondary outcomes were achievement of guideline-directed blood pressure goals, medication infusion duration, duration of respiratory support in the first 24 hours, and need for medication discontinuation around an acute decrease in blood pressure.

RESULTS: In the study, 31 patients received clevidipine and 37 received nitroglycerin. Ordinal scale improvement after three hours occurred in 16.1% of clevidipine patients and 16.2% of nitroglycerin patients; P>0.99. The first hour SBP reduction goal of 15-25% was achieved in 54.8% of clevidipine patients and 37.8% receiving nitroglycerin; P=0.22. Medication infusion duration was 11 hrs for clevidipine and 3.5 hrs for the nitroglycerin group; P=0.01. During the first 24 hours, patients received respiratory support for 17.7 hrs when receiving clevidipine and 20.1 hrs for nitroglycerin; P=0.01. Medication discontinuation around an acute decrease in blood pressure occurred in 3.2% of clevidipine patients and 43.3% receiving nitroglycerin; P=0.01.

CONCLUSIONS: At three hours, there was no difference in ordinal scale improvement of oxygen support between the clevidipine and nitroglycerin groups. There were more discontinuations of therapy around an acute decrease in blood pressure in the nitroglycerin group, which suggests a potential safety benefit of using clevidipine in this patient population.

2:20pm – 2:35pm Y **Impact of Pharmacist Education on Culture Follow Up in the Emergency Department (Pharm-CFU)** Empire C

Presenters: Nina Seretis
Evaluators: Varshney Navya
Evaluators 3: emily herron
Evaluators 2: Sarah Siemion

TITLE: Impact of Pharmacist Education on Culture Follow Up in the Emergency Department (Pharm-CFU)
AUTHORS: Nina Seretis, PharmD [1]; Larissa Woloszczuk, PharmD [1]; Michael Casias, PharmD, BCIDP, AAHIVP [1]; Harry Kopolovich, MD, MBA, FAAEM, FAEMS [1]
OBJECTIVE: The objective is to assess 72-hour ED revisit rates and appropriateness of antibiotics prescribed before and after a pharmacist-led education on appropriate empiric antibiotic regimens for UTIs, Group A streptococcal (GAS) pharyngitis, and STIs.
METHODS: This study is a single-center retrospective chart review analyzing outcomes pre- and post-pharmacist education. The primary outcome is 72-hour ED revisit for the same or related infection. Secondary outcomes are 30-day admissions, receipt of appropriate antibiotic therapy in accordance with Infectious Disease Society of America (IDSA) and Centers for Disease Control and Prevention (CDC) guidelines, and time to appropriate antibiotic therapy. A pharmacist subsequently provided education to ED physicians and advanced practice providers who perform culture follow up as part of routine patient care. Antibiotic choices were evaluated for appropriateness based on choice of agent, dose, duration, renal function, and/or antibiotic allergies.
RESULTS: A total of 101 patients were evaluated, and 82 were included in the pre-education chart review. The rate of 72-hour ED revisits was low at 3.7% (3/82). Overall, the rate of inappropriate antibiotic prescribing was 61.0% (50/82). Of those prescribed inappropriate antibiotics, inappropriate duration was most prevalent, occurring in 29/50 (58.0%) patients. Inappropriate agent occurred in 11/50 (22.0%) patients, and inappropriate dose in 8/50 (16.0%), with 2/50 (4.0%) not receiving any antibiotic prescription based on information available in the chart. Inappropriate prescribing by disease state was as follows: UTI, 76.4% (42/55); GAS pharyngitis, 40.0% (6/15); STI, 16.7% (2/12). One patient was readmitted to the hospital within 30 days.
CONCLUSIONS: The rate of inappropriate empiric antibiotic prescribing for UTIs, STIs, and GAS in this study was 61.0% and highlights the need for continuing education on appropriate agent, dose, and duration selection for these common â€œtreat-and-releaseâ€ disease states. Post-education chart review and analysis is currently in progress.

2:20pm – 2:35pm G **Comparison of traditional and protocolized dosing of four-factor prothrombin complex concentrate (4F-PCC) for factor Xa inhibitor-associated intracranial hemorrhage** Empire D

Presenters: Erin McDonough
Evaluators: Gail Sanchez
Evaluators 3: Shirley Bonanni
Evaluators 2: Brian Austin

TITLE: Comparison of high- and low- dose of four-factor prothrombin complex concentrate (4F-PCC) for factor Xa inhibitor-associated intracranial hemorrhage

AUTHORS: Erin McDonough, PharmD, PGY1 Pharmacy resident; Megan Trombi, PharmD, BCCCP; Ilya Dubinsky, PharmD, BCPS, BCCCP; Subutay Berke Bozkurt, MD, Neurology resident; Yong-Bum Song, PharmD, BCPS, BCCCP

OBJECTIVE: The purpose of this study was to evaluate outcomes of a P&T approved dosing protocol implementing a low-dose (25 units/kg) of 4F-PCC compared to high-dose (50 units/kg) for factor Xa inhibitor-associated intracranial hemorrhage.

METHODS: A retrospective chart review was conducted for a six month period pre-implementation of the P&T approved 25 units/kg dosing for 4F-PCC and for a six month period post-implementation of the protocol. Patients 18 years and older were included if they received 4F-PCC for reversal of factor Xa inhibitor-associated intracranial hemorrhage, and major exclusion criteria included epidural hematoma (EDH), administration of andexanet alfa, and pregnancy. The primary outcome assessed was hemostatic efficacy at 24 hours between patients receiving 50 units/kg versus 25 units/kg, and safety was assessed by evaluating the presence of thrombotic events (stroke, DVT, and PE) between the groups. Descriptive statistics was used to evaluate the data.

RESULTS: A total of 18 patients were included, with 9 patients in each group. The median 4F-PCC dose in the pre-protocol group was 48.7 units/kg (median total dose was 3738 units) compared to 26 units/kg (median dose 1599 units) in the post-protocol group. There was 1 patient in the post-protocol group who received desmopressin, while no other reversal agents or blood products were given in either group. The percentage of patients who achieved good or excellent hemostasis at 24 hours from baseline was similar between the two groups (pre-protocol: 6 patients [75%]; post-protocol: 8 patients [89%]). Safety outcomes were also similar, with only 1 patient in each group experiencing a DVT post-administration of 4F-PCC.

CONCLUSIONS: The implementation of a P&T approved dosing protocol utilizing a lower dose of 25 units/kg of 4F-PCC for factor Xa inhibitor-associated intracranial hemorrhage seems to be as safe and effective as higher doses of 50 units/kg. Similar outcomes were seen in hemostatic efficacy at 24 hours as well as the incidence of thrombotic events between both groups. This study is limited by its small sample size, and larger studies are needed to confirm the efficacy and safety of this dosing strategy.

2:20pm – 2:35pm | **Construction and implementation of antimicrobial-use protocols for the treatment of community-acquired pneumonia and chronic obstructive pulmonary disease exacerbations at VA Hudson Valley Health Care System** Magnolia A

Presenters: David Fama
Evaluators: Lauren Allen
Evaluators 3: Anita Henderson
Evaluators 2: Alice Hsu

TITLE: Construction and implementation of antimicrobial stewardship protocols for the use of antibiotics in community acquired pneumonia and acute chronic obstructive pulmonary disease exacerbations at a Veteran Affairs health care system

AUTHORS: David Fama, PharmD; Rita Bodine, PharmD, DPLA; Kimberly Allison, PharmD, BCACP; Punidha Sundaram, MD

OBJECTIVE: The purpose of this project is to ensure that antibiotic use at our facility is in compliance with updated requirements from The Joint Commission, so as to reduce risk of antimicrobial resistance and antibiotic-related adverse effects.

METHODS: Encounter information from every acute medicine admission for fiscal year 2022 was reviewed for infectious disease-related admitting diagnoses. The most prevalent infectious disease-related diagnoses (3+ encounters) were extracted, with two of the top three most prevalent diagnoses (community acquired pneumonia and acute chronic obstructive pulmonary disease exacerbations) being chosen for protocol implementation following further review of individual admissions. Recommendations from nationally-recognized clinical practice guidelines for both disease states were adapted into written ordering templates, with consideration of the VA national formulary and of the preferences of local providers. The ordering templates were then reviewed with the siteâ€™s infectious disease specialist who provided input on specific sections of each.

RESULTS: Both ordering templates were presented to and approved by the siteâ€™s local Nutrition, Pharmacy, & Therapeutics (NP&T) Committee. The ordering templates were then submitted for review and implementation by the siteâ€™s Clinical Applications Coordinator (CAC); as of the time of abstract submission, the templates are still under review by the CAC.

CONCLUSIONS: Use of the ordering templates at our site is anticipated to reduce inappropriate use of antibiotics for each disease state and will help streamline clinical decision-making for the siteâ€™s providers. Adherence to at least one protocol will consistently be assessed by the siteâ€™s infectious disease pharmacist or, if necessary, by another designated pharmacist. The content of the protocols will also be assessed by the NP&T Committee to ensure they remain in-line with best practice.

2:20pm – 2:35pm | **Development & Implementation of Vancomycin AUC-Guided Protocol at a Community Hospital** Magnolia B

Presenters: Brian Clarke
Evaluators: Mona Nashed
Evaluators 3: Pooja Dogra
Evaluators 2: Nikunj Vyas

TITLE: Development and implementation of vancomycin area-under-the-curve-guided management at a small community hospital: a pilot study

AUTHORS: B. Clarke, S. Burke, J. Howard; Shore Medical Center, Somers Point, New Jersey

OBJECTIVE: Trough monitoring of vancomycin, with a target of 15 to 20 mg/L, is no longer recommended in patients with severe infections due to MRSA. This study evaluates the safety and efficacy of an area-under-the-curve-guided protocol at a community hospital.

METHODS: In this single-center pilot study, an AUC-guided vancomycin protocol was applied to a cohort of patients receiving vancomycin therapy. This protocol included using a first-order kinetics calculator designed by the Society of Infectious Disease Pharmacists. Following a 2-month implementation period, a retrospective chart analysis will be conducted. Inclusion criteria for all participants involved presumed or confirmed severe infections (bacteremia, sepsis, endocarditis, pneumonia, osteomyelitis, meningitis, and cellulitis). The pre-implementation cohort of AUC monitoring included patients who received trough-only vancomycin monitoring during their hospital stay. Patients with acute kidney injury or known chronic kidney disease were excluded from both groups. The primary endpoints of this research include the efficacy of area under the curve monitoring (initial therapeutic AUC value vs. initial therapeutic trough) and the incidence rate of vancomycin-associated nephrotoxicity.

RESULTS: The success rates of an initial therapeutic value for both cohorts of patients receiving either trough- or AUC-guided vancomycin dosing will be presented. Incidence rates of vancomycin-associated nephrotoxicity for each cohort will be reported.

CONCLUSIONS: This study was designed to stay current with guideline recommendations for new vancomycin management for serious MRSA infections. This project is anticipated to demonstrate the necessity and role of pharmacist-led area-under-the-curve-guided management of vancomycin in a small community hospital.

2:20pm – 2:35pm | **Evaluation of the Efficacy and Safety of Linezolid Oral Step-Down Therapy in Gram-Positive Bloodstream and Endovascular Infections** Wild Rose B

Presenters: Shannon Purcell
Evaluators: Lauren Pino
Evaluators 3: Avni Desai
Evaluators 2: Manny Isherwood

TITLE: Evaluation of the Efficacy and Safety of Linezolid Oral Step-Down Therapy in Gram-Positive Bloodstream and Endovascular Infections

AUTHORS: Shannon Purcell, PharmD | Kara Kassekert, PharmD | Jennifer Szwak, PharmD, BCPS | Dannielle Brown, PharmD, BCPS | Kate Dzintars, PharmD, BCPS | Kerri Smith, PharmD, BCPS | Lindsay Bowman, PharmD, BCPS | James Ladd, MD

OBJECTIVE: The primary objective of this study is to investigate the safety and efficacy of oral linezolid for gram-positive bloodstream and endovascular infections. Patient-specific risk factors for serotonin syndrome will be characterized.

METHODS: This is a single-center, retrospective chart review at an academic medical center from 07/01/2016-06/30/2022. Patients >18 years old with a documented gram-positive bloodstream or endovascular infection and who received oral linezolid during admission or at discharge are included. Exclusion criteria are death

2:20pm – 2:35pm

O **Implementation of a Pharmacy-Driven Transitions of Care Service to Reduce Unplanned Medical Oncology Readmissions** Magnolia C

Presenters: Jonathan Kissam
Evaluators: Andy Hui
Evaluators 3: Briana Balsamo
Evaluators 2: Frank Massaro

TITLE: Implementation of a pharmacy-driven transitions of care service to reduce unplanned medical oncology readmissions

AUTHORS: Jonathan Kissam, PharmD; Gloria Espinosa, PharmD, MAT, BCOP; Anshika Singh, PharmD, BCOP

OBJECTIVE: The objective of this study is to evaluate the impact of a pharmacist-led 72-hour post-discharge phone call on 30-day hospital readmissions in patients with hematologic malignancies at Thomas Jefferson University Hospital.

METHODS: This prospective study includes patients 18 years of age or older discharged from the Blue 1 or Blue 2 medical service with a hematologic malignancy between October 2022 and April 2023. Patients are included if they are discharged home, are English speaking (and/or English speaking primary caregiver/proxy) and are able to provide consent. Patients are excluded if their life expectancy is â‰¤ 1 month, are discharged to a healthcare facility, have a provider visit within 72 hours, or do not have a hematologic malignancy. The primary endpoint is to assess the impact of a 72-hour post-discharge phone call on 30-day readmissions. The readmission rate for patients enrolled in this study will be compared to historical records using a two-sided Z-test with unpooled variance. Descriptive statistics will be used to summarize baseline characteristics. Secondary endpoints will categorize reasons for 30-day readmissions and assess types of interventions made regarding medication discrepancies.

RESULTS: The number and percentage of patients that are readmitted and the reason for their readmission will be recorded and presented.

CONCLUSIONS: It is anticipated that this project will demonstrate the role for pharmacist-based transition of care program to reduce unplanned medical oncology readmissions.

2:20pm – 2:35pm

2 **Do ancillary medications decrease the sedative burden in the Pediatric Intensive Care Unit?**

Magnolia D

Presenters: Rachael McElhinny
Evaluators: Frank Szczerba
Evaluators 3: Rosa Bates
Evaluators 2: Kevin Mulieri

TITLE: Do ancillary medications decrease the sedative burden in the Pediatric Intensive Care Unit (PICU)?
AUTHORS: Rachael S. McElhinny, PharmD, Lindsay C. Trout, PharmD, BCPPS, Catherine E. Rejrat, PharmD, BCPPS, Robert Ciancaglini, MD
OBJECTIVE: This study hypothesizes that the addition of ancillary medications (melatonin, risperidone, or quetiapine) may reduce sedative requirements of PICU patients as demonstrated by decreased total daily dose of sedative medications and length of stay.
METHODS: This is a retrospective chart review of pediatric patients prescribed ancillary medications for a minimum of 24 hours in addition to a continuous infusion of sedative medication between January 2018 and September 2022. Patients were excluded if ancillary medications were continued from home, propofol was required outside of procedural anesthesia, sedative was being used only for indication of seizure, or no chronological overlap between course of sedatives and ancillary medication. Total daily doses of sedation (opioids, dexmedetomidine (DEX), and benzodiazepines) were reviewed for 48 hours prior to initiation of an ancillary medication and up to 120 hours following ancillary initiation. Sedation burden was assessed by calculating total daily opioid dose (oral morphine mg equivalents MME/kg) and total daily benzodiazepine dose (approximate mg lorazepam/kg). Patients were stratified into subgroups by their sedation requirements being increased or weaned on the day of ancillary addition.
RESULTS: 223 patients were reviewed with 49 meeting inclusion criteria. Patients were excluded for prior home use (n=57), less than 24 hours of use (n=33), propofol (n=24), no sedatives (n=38), or no overlap in sedatives and ancillary medication (n=35). Melatonin was the most common ancillary (n=41), followed by risperidone (n=7), and quetiapine (n=1). Opioid MME requirements in patients requiring ongoing sedation (n=19) were reduced from 6.2 mg/kg (48 hours prior) to 0.4 mg/kg and 0.14 mg/kg (72 and 120 hours post-ancillary). This subgroup also demonstrated reduced DEX escalation after ancillary addition. In the weaning subgroup (n=30), MME decreased from 3.5 mg/kg (48 hours prior) to 0.04 mg/kg and 0 mg/kg (72 and 120 hours post-ancillary).
CONCLUSIONS: Addition of an ancillary medication demonstrated decreased opioid requirements and a slower rate of increase for DEX in patients with increasing sedation requirements. Addition of an ancillary medication demonstrated decreased opioid requirements and an increased rate of wean for DEX in patients being weaned from sedation. This is a practice that should be further investigated in clinical practice to help reduce sedation exposure for PICU patients.

2:20pm – 2:35pm

5 **Retrospective review of linezolid and tedizolid prescribing with serotonergic antidepressant medications and associated outcomes within the Stratton VA Medical Center** Crystal A

Presenters: Lindsey Parese
Evaluators: Mei Liu
Evaluators 3: John Roglieri
Evaluators 2: Gregory Bogart

TITLE: Retrospective review of linezolid and tedizolid prescribing with serotonergic antidepressant medications and associated outcomes within the Stratton VA Medical Center

AUTHORS: Lindsey Parese, PharmD, Courtney Skriptshak, PharmD, BCPP

OBJECTIVE: To identify outcomes associated with/without changes to serotonergic antidepressant treatment during therapy with linezolid or tedizolid. This study will serve as a pilot to determine need for a larger study that could reform prescribing practices.

METHODS: This is an internal Quality Assurance/Performance Improvement project conducted via retrospective chart review of Veterans prescribed linezolid or tedizolid with concomitant serotonergic antidepressant agents from Stratton VAMC providers between January 1st, 2019, and August 18th, 2022. The data was extracted from the computerized patient record system (CPRS). Descriptive statistics will be used to analyze and identify trends in patient demographic information (age, gender), length of antibiotic treatment and washout period (if present), chronic antidepressant agent(s) prescribed, continuation vs. discontinuation of antidepressant therapy, serotonin syndrome, acute decompensation of mental health, or serotonin withdrawal. Veterans were included if they received linezolid or tedizolid while prescribed concomitant chronic serotonergic antidepressant therapy within the relative time frame of antibiotic initiation. Veterans were excluded if they were receiving either as a Non-VA prescription.

RESULTS: All chronic antidepressant agents were chosen to be either strictly continued (N = 33, 44%)) or discontinued (N = 31, 41.3%) while receiving either linezolid or tedizolid in a similar number of patients. There was a total of 6 patients (8%) that had a serotonergic antidepressant agent continued and discontinued. Signs or symptoms of serotonin syndrome were not identified in any of the patients receiving either antibiotic with continued concomitant antidepressant therapy. Potential serotonin withdrawal was identified in 13 patients (41.9%) and acute mental health decompensation in 10 patients (32.3%) whose chronic antidepressant therapy was discontinued due to the drug-drug interaction. For patients who had an antidepressant continued and discontinued, 2 patients (33.3%) were identified for serotonin withdrawal and 1 patient (16.7%) for acute mental health decompensation.

CONCLUSIONS: At this institution, no standardized prescribing patterns were observed. The incidence of serotonin syndrome within this study population aligns with the low risk seen in clinical practice as no patients were identified. However, the observed negative patient outcomes when chronic antidepressant therapy was abruptly discontinued supports the need to conduct future large-scale studies to inform and potentially change prescribing practices when aiming to optimize patient outcomes.

2:20pm – 2:35pm Q **Design and Implementation of a Teratogenic Medication Monitoring System at a Veteran Affairs Medical Center** Wild Rose A

Presenters: Zaria Comer
Evaluators: Andrea Tully
Evaluators 3: Michael Kachmarsky
Evaluators 2: Ashley Covert

TITLE: Safe teratogenic agent notation and documentation (STAND)

AUTHORS: Zaria Comer, PharmD; Katherine SÃ¡nchez Vega, PharmD, BCACP; Sierra Simpkins PharmD, BCPG

OBJECTIVE: Female Veterans are the fastest growing population within the Veterans Health Administration. There is a need to emphasize the importance of including appropriate documentation in encounter notes to ensure safe prescribing of teratogenic medications.

METHODS: Charts were reviewed for female Veterans with child bearing potential and an active prescription for a potentially teratogenic medication as defined by pharmacy benefit managers during the third quarter (Q3) of the 2022 fiscal year (FY22) at the VAMHCS. A Veteran with child bearing potential was defined as persons with female sex assignment at birth, between the ages of 18 â€“ 52 years old. Data collected includes whether screening for pregnancy, lactation, and medication counseling was documented. Additionally, the medication prescribed, prescriberâ€™s name, and area of practice were collected. The data will be utilized to create the STAND (Safe Teratogenic Agent Notation and Documentation) system. Information will be reported as descriptive statistics. Optimization of the current clinical reminder will be completed as a final step towards the project.

RESULTS: Pregnancy screening, medication counseling, and lactation screening were documented 31%, 11%, and 5% of the time, respectively. Lipid lowering therapy made up 40% of all teratogenic medications prescribed followed by antihypertensives (30%), mental health medications (10%), antirheumatics (7%), weight loss medications (6%), and miscellaneous medications (7%). Additionally, 74% of potentially teratogenic medications prescribed occurred in primary care clinics, followed by rheumatology (11%), endocrine (10%), and mental health clinics (5%). Furthermore, 74% of all potentially teratogenic medications were refills while 26% were new prescriptions.

CONCLUSIONS: Results will be utilized to develop the STAND system which aims to address areas needing improvement as identified by the Q3 FY22 review. The final plan will be presented and may include updating the alert for teratogenic medications at the time of prescribing and/or the creation of a pre-templated note that contains the necessary information assessed by STAND that providers may utilize to ensure documentation is on record for each teratogenic medication prescription.

2:40pm – 2:55pm A **Evaluation of the Effect of Metabolic Syndrome in the Cause of Breast Cancer in a Minority Population - Data Analysis on Patients in Ambulatory Clinics** Empire A

Presenters: Adedolapo Akintola
Evaluators: Vega Sanchez
Evaluators 3: Paul Abourjaily
Evaluators 2: Kevin Charron

TITLE: Retrospective evaluation of the effect of metabolic syndrome in the progression of breast cancer in African American women

AUTHORS: Adedolapo Akintola, Jordan Louis, Baskaran Padmamalini, Salome Bwayo Weaver, Ebony Evans

OBJECTIVE: Signaling pathways associated with obesity and hyperglycemia may trigger breast cancer (BC) and increase the risk of progression and metastasis. However, data is limited to the association of diabetes management and breast cancer progression.

METHODS: This was a retrospective longitudinal cohort study of the involvement of metabolic disorders and breast cancer progression in African American (AA) patients treated at the Howard University Hospital (HUH). The electronic medical records at HUH were used to identify patients diagnosed with diabetes and breast cancer who had follow-up appointments in clinic within the last 3 years, including at least 3 A1c results between October 2019 to October 2022. Provider documentation was reviewed to determine follow-up rates. Males and patients under the age of 18 were excluded from this study. Data was recorded without patient identifiers and maintained confidentially. The level of diabetes control, rate of follow-up, and progression or metastasis of BC was assessed with patient demographics to determine whether there is an association between proper management of diabetes and progression of breast cancer. Data was analyzed using descriptive statistics and multivariate logistic regression.

RESULTS: Most of the AA women diagnosed with BC were obese and half were diabetic or prediabetic. Additionally, majority of the AA patients with BC were post-menopausal women, however premenopausal women did not follow up thus the status of their disease progression could not be determined. Forty-two percent of the total diabetic breast cancer women developed diabetes after breast cancer diagnosis. There was no association between metformin use and BC progression in 70% of diabetic AA women. There was an association with patients with at least 3 A1cs within 3 years and reduced risk of cancer progression. Further investigation in a larger patient population is required to confirm definitive causality of BC progression in AA patients with diabetes.

CONCLUSIONS: The data from our study provides valuable information on the effect of obesity, diabetes, and metformin use BC progression in AA. Post-menopausal women become obese due to a combination of hormonal and metabolic changes which may increase the chances for BC. This data will aid in developing future therapeutic strategies for treatment of BC in AA and highlights the importance of utilizing information on comorbidities into patient care to improve outcomes in AA women suffering from BC.

2:40pm – 2:55pm C **Low-dose Rivaroxaban plus Clopidogrel in Peripheral Arterial Disease** Empire B

Presenters: Nathan Gemberling-Johnson
Evaluators: Helen Sutow
Evaluators 3: Jennifer Costello
Evaluators 2: Careen-Joan Franklin, Jaclyn Harth

TITLE: Low-dose Rivaroxaban and Clopidogrel in Peripheral Arterial Disease
AUTHORS: Nathan Gemberling-Johnson PharmD
OBJECTIVE: This study assessed lower extremity outcomes in patients with peripheral arterial disease (PAD) who received rivaroxaban 2.5mg plus clopidogrel following a revascularization intervention. The incidence of bleeding was also evaluated.
METHODS: In this retrospective quality assurance and quality improvement project, medical records were selected for review if patients had been prescribed rivaroxaban 2.5mg twice daily plus clopidogrel for PAD following a revascularization intervention at Corporal Michael J. Crescenz VAMC. Patient characteristics including comorbid conditions of atherosclerotic disease, medication regimens, prior interventions, and type of index intervention were examined during data analysis. The primary efficacy endpoint was time to amputation or repeat revascularization due to occlusion. The primary safety endpoint was incidence of clinically significant bleeding as defined by Thrombolysis in Myocardial Infarction (TIMI) and International Society on Thrombosis and Haemostasis (ISTH).
RESULTS: The impact of rivaroxaban 2.5mg plus clopidogrel on lower extremity outcomes in patients with PAD following a revascularization intervention was assessed in this study. Results for the safety and efficacy endpoints will be presented and interpreted with considerations for the type of index intervention, comorbid conditions, and medication regimens.
CONCLUSIONS: The endpoints evaluated in this study will help providers and patients anticipate outcomes of the lower extremities if rivaroxaban 2.5mg plus clopidogrel is prescribed following revascularization surgery. It will help identify which patients will benefit from this medication combination, while also identifying those who will not benefit due to either lack of improvement in outcomes or increased risk of bleeding.

2:40pm – 2:55pm Y **Emergency Medicine Pharmacists Improving PALS Compliance and Dosing in Pediatric Cardiac Arrests** Empire C

Presenters: Taylor Everett
Evaluators: Varshney Navya
Evaluators 3: emily herron
Evaluators 2: Sarah Siemion

TITLE: Emergency Medicine Pharmacists Improving PALS Compliance and Dosing in Pediatric Cardiac Arrests
AUTHORS: T. Everett, J. Kerestes, A. Adams; Geisinger Lewistown Hospital (GLH), Lewistown, Pennsylvania
OBJECTIVE: The aim of this study is to determine whether an emergency medicine trained pharmacist will improve compliance with the PALS algorithm and decrease time to epinephrine administration during a pediatric cardiac arrest.
METHODS: This retrospective, single-center, multi-site study included patients less than 18 years of age who presented with cardiac arrest to any Geisinger hospital betweenâ€¯June 1st, 2015 and June 30th, 2022. The primary outcome was evaluating dosing accuracy of epinephrine after presentation to the emergency department with an emergency medicine pharmacist present compared to when a pharmacist was not present. Secondary outcomes were patient survival to hospital admission at day 30 post-event, as well as the total time to administration of the first dose of epinephrine. Patients who achieved return of spontaneous circulation prior to emergency department presentation with no further cardiac events were excluded from this study.
RESULTS: The occurrence of appropriate epinephrine dose administrations compared to inappropriate administrations, in accordance to the current PALS algorithm in pediatric patients presenting with cardiac arrest.
CONCLUSIONS: It is anticipated that this project will demonstrate the value of emergency medicine trained pharmacists at pediatric codes.

2:40pm – 2:55pm G **Hospital-Wide Expansion of Rapid Intravenous Push Levetiracetam** Empire D

Presenters: Briana O\'Connell
Evaluators: Gail Sanchez
Evaluators 3: Shirley Bonanni
Evaluators 2: Brian Austin

TITLE: Hospital-Wide Expansion of Intravenous Push Levetiracetam

AUTHORS: Briana Oâ€™Connell, PharmD; Taylor Hodle, PharmD, BCCCP; Scott May, PharmD, BCCCP; Katherine Boughton, PharmD

OBJECTIVE: The objective of this initiative at Baystate Medical Center was to implement a hospital-wide transition from intravenous piggyback (IVPB) levetiracetam to IV push (IVP) levetiracetam to minimize critical delays in antiepileptic drug administration.

METHODS: All orders for IV levetiracetam for adults â‰¥ 18 years of age were transitioned from IVPB to IVP slowly over at least five minutes. Two cohorts from pre- and post-implementation phases were evaluated in this retrospective analysis. Patients â‰¥ 18 years of age were included for assessment. Exclusion criteria included patients admitted to pediatric units or the emergency department and orders that were not placed with a priority of STAT or ASAP. The primary outcome assessed was time from order verification to administration of IV levetiracetam. The secondary outcome was the number of benzodiazepine rescue doses required between verification and administration of IV levetiracetam, defined as an ASAP order within 1 hour of levetiracetam verification or PRN for seizure activity. The incidence of IV infiltration was recorded for both cohorts. Other data collected included patient age, gender, weight, reason for admission, home seizure medications, and the levetiracetam dose ordered.

RESULTS: Between January and March 2022, 50 out of 130 patients met inclusion criteria for pre-implementation analysis. In this pre-implementation cohort, the average time from order verification to documented administration of IVPB levetiracetam was 58.6 minutes. The IVPB levetiracetam doses ordered inpatient ranged from 500mg (16%) to 4g (2%). Ten patients required rescue benzodiazepines, with one patient requiring two rescue doses. Post-implementation data collection is still ongoing as the new protocol continues to be utilized.

CONCLUSIONS: Compounding IVPB levetiracetam in an inpatient pharmacy setting has been associated with critical delays in drug administration, necessitating alternative strategies for timely antiepileptic administration. An IVP levetiracetam protocol expanded across adult inpatient units has demonstrated the ability to safely reduce delays in antiepileptic administration. A comparison of pre-implementation and post-implementation data is still ongoing and will be presented at the Eastern States Conference.

2:40pm – 2:55pm | **Impact of COVID-19 on Risk Factors for Development of Multi-Drug Resistant Organisms** Magnolia B

Presenters: Farah Ahmed
Evaluators: Mona Nashed
Evaluators 3: Pooja Dogra
Evaluators 2: Nikunj Vyas

TITLE: Impact of COVID-19 pandemic on institutional specific risk factors for multi-drug resistant organisms

AUTHORS: Farah Ahmed, BS, PharmD, Jamie Desai, PharmD, BCPS, BCIDP, and Douglas St. John, PharmD, BCPS

OBJECTIVE: This study establishes the prevalence of infections caused by multi-drug resistant organisms and associated risk factors at Capital Health since the COVID-19 pandemic according to the CDC Core Elements of Antibiotic Stewardship recommendations.

METHODS: A multi-center randomized retrospective study to observe the incidence of infections caused by multi-drug resistant organisms (MDRO) two years after the onset of the COVID-19 pandemic from January 1, 2022 to December 31, 2022. The study will include patients from two hospital sites at Capital Health, the Regional Medical Center (RMC) campus and the Hopewell (HPW) campus. Additionally, the patients had to be 18 years and older with infections due to methicillin-resistant Staphylococcus aureus (MRSA), vancomycin-resistant Enterococcus (VRE), and extended-spectrum beta-lactamases (ESBLs). Patients were only included if they had positive blood, sputum, wound, or urine cultures with sensitivities. A chart review was performed to determine possible risk factors contributing to the infections two years after the onset of the pandemic.

RESULTS: A total of 100 patients were included in this study. There was a higher prevalence of ESBLs at RMC (46%) compared to HPW (42%). The least prevalent MDRO was VRE across both campuses. A majority of the MDROs identified were from urine cultures (43%) followed by wound cultures (22%). The most common risk factors among patients at Capital Health include previous hospitalizations in the past 90 days (53%), residence in a long-term care facility/ nursing home (51%), and previous intravenous (IV) antibiotic use in the past 90 days (43%). Frequent antibiotics prescribed during those previous admissions were cefepime, vancomycin, and ceftriaxone that primarily treated urinary tract and skin/soft tissue infections.

CONCLUSIONS: Upon identification of these population specific MDRO risk factors, a tailored education will be established for providers. Education will be catered towards timely de-escalation/ discontinuation of antibiotics given the prevalence of previous IV antibiotics use. Additionally, this study sets the basis for future studies to examine contamination rates in urine cultures. Limitations to this study were mainly due to its retrospective nature and incomplete data the electronic health record system.

2:40pm – 2:55pm I **Impact of Procalcitonin on Antibiotic Duration in COVID-19 Patients** Magnolia A

Presenters: Nehal Ahmed
Evaluators: Lauren Allen
Evaluators 3: Anita Henderson
Evaluators 2: Alice Hsu

TITLE: Impact of procalcitonin on antibiotic duration in COVID-19 patients

AUTHORS: Nehal Ahmed, PharmD, Eun Jin Park, PharmD, BCPS, BCIDP, Daryn Norwood, PharmD, BCPS

OBJECTIVE: This study aimed to determine how procalcitonin (PCT) levels impacted the duration of antibiotics in COVID-19 patients and if non-elevated levels led to a shorter duration of antibiotics.

METHODS: This is a single-center, retrospective observational chart review utilizing a patient cohort from Howard County General Hospital. Patients were identified through the electronic health record and included if they had a positive COVID-19 test and procalcitonin level obtained on admission between 3/01/2020 - 8/30/2022. Patients were excluded if they received antibiotics for an indication other than pneumonia. The patients were then separated by procalcitonin level (<0.10 ng/mL, ≥ 0.10 ng/mL, ≥ 0.11-0.24 ng/mL, and ≥ 0.25 ng/mL), and an unpaired t-test was utilized to determine if there is a difference in antibiotic duration between procalcitonin groups.

RESULTS: Patients were separated into 4 groups: <0.10 ng/mL, ≥ 0.10 ng/mL, 0.11-0.24 ng/mL, and ≥ 0.25 ng/mL. The average duration of antibiotic use (days) for the various procalcitonin groups were as follows: <0.10 ng/mL: 0.54 ± 1.30 (n = 50), ≥ 0.10 ng/mL: 2.84 ± 2.97 (n = 50), 0.11-0.25 ng/mL: 1.40 ± 2.19 (n = 50), and ≥ 0.25 ng/mL: 3.66 ± 2.84 (n = 50). When compared to patients with non-elevated procalcitonin levels (<0.10 ng/mL), patients with elevated procalcitonin levels had a statistically significant increased length of antibiotic duration.

CONCLUSION: Procalcitonin is a useful marker in distinguishing viral and bacterial infections. In COVID-19 patients, measurement of procalcitonin can assist in identifying bacterial co-infections and lead to shorter duration of antibiotics. This study found a linear relationship between procalcitonin levels and duration of antibiotics, reflecting the finding that prescribers at our facility are appropriately utilizing procalcitonin to discontinue inappropriate antibiotics in this patient population.

2:40pm – 2:55pm P **Impact of Initial Opioid Recommendations on Risk of Continued Opioid Use in Previously Opioid NaÃ¯ve Patients** Magnolia C

Presenters: Julie Weaver
Evaluators: Andy Hui
Evaluators 3: Briana Balsamo
Evaluators 2: Frank Massaro

TITLE: Impact of initial opioid recommendations on risk of continued opioid use in previously opioid naÃ¯ve patients

AUTHORS: Julie Weaver, PharmD, Seema Ledan, PharmD, Gregory Khan-Arthur, MD, Sara Mukherjee, MD

OBJECTIVE: The purpose of this study is to evaluate continued opioid prescription rate after initiation of an electronic medical record (EMR) alert that triggered to decrease total day supply prescribed at onset of initial opioid therapy.

METHODS: In this retrospective chart review conducted at an integrated healthcare system with computerized prescription entry, opioid prescriptions filled following an alert for a seven-day supply limit for opioid-naÃ¯ve patients at the point of prescribing were analyzed. Refills sold within 31 and 62 days of initial fill were compared one year prior to the alert versus one-year post. Key exclusion criteria included patients with diagnosis of cancer and sickle-cell disease, long-term care, hospice, or terminally ill patients, or those prescribed suboxone. The primary endpoint was the percentage of members with a sold refill in a 31-day period that had an alert triggered in the EMR at the point of initial opioid prescribing. Secondary endpoints included sold refills in a 62-day period post-alert and sold refill rates during both the 31 and 62-day periods post-alert. An alpha of

2:40pm – 2:55pm 2 **Comparison of Low-Dose and High-Dose Intravenous Ketorolac for the Treatment of Post-Operative Pain in Pediatric Patients** Magnolia D

Presenters: Zachary Kiss
Evaluators: Frank Szczerba
Evaluators 3: Rosa Bates
Evaluators 2: Kevin Mulieri

TITLE: Comparison of low-dose and high-dose intravenous ketorolac for the treatment of post-operative pain in pediatric patients

AUTHORS: Zachary Kiss, PharmD; Layne Smith, PharmD, BCPPS

OBJECTIVE: The objective of this study is to determine if patients who receive low-dose ketorolac will require analogous morphine milliequivalence (MME) of opioids within 24 hours post-operatively to patients who receive high-dose ketorolac.

METHODS: This is an institutional review board (IRB) approved, retrospective, single-center noninferiority cohort chart review focusing on the analysis of patientâ€™s age 6 months to < 18 years admitted inpatient after a surgical procedure at WVU Medicine Childrenâ€™s within Ruby Memorial Hospital for at least 24-hours post-operatively who received at least two doses of ketorolac within the identified post-operative window. Patients were excluded if they were intubated during the 24-hour post-operative window, received a dose less than 15 mg of parenteral ketorolac, and/or if a patient received different doses of ketorolac within the 24-hour window. The study aimed to identify if low-dose (15 mg) parenteral ketorolac is noninferior in analgesia improvement via MME and pain scores in pediatric patients within 24 hours post-operatively compared to high-dose ketorolac (> 15 mg). Post-operative pediatric patients were investigated between May 1st, 2020 and May 1st, 2022.

RESULTS: Depiction and assessment of completed data collection is in progress. Upon completion of data collection, a total of 113 patients were included in the study: 72 patients received at least two ketorolac 15 mg parenteral doses within 24-hours of being post-operative and 41 patients received at least two ketorolac parenteral doses > 15 mg within the same specified post-operative timeframe. Assessment of MME required per patient and between the study arms, mean pain score calculated within 24-hours post-operative, and additional analyses are underway to assess for analgesia efficacy. Results surrounding MME requirements, mean assessment of pain scores required, and further evaluation and analysis will be provided in the final presentation.

CONCLUSIONS: Individuals who undergo surgical procedures in any clinical practice environment are at risk of experiencing acute pain in the short term after surgery, with treatment of acute post-surgical pain determined by the severity, whether known or expected. This retrospective, single-center noninferiority cohort chart review is anticipated to conclude a statistically nonsignificant difference in improvement of post-operative pain via MME requirement and reported pain scores between the groups.

2:40pm – 2:55pm 5 **Inpatient Buprenorphine Inductions via Micro-Dosing Medication-Use Evaluation** Crystal A

Presenters: Matthew Blackburn
Evaluators: Mei Liu
Evaluators 3: John Roglieri
Evaluators 2: Gregory Bogart

TITLE: Inpatient Buprenorphine Inductions via Micro-Dosing Medication-Use Evaluation

AUTHORS: Matthew Blackburn, PharmD; Melissa Shiner, PharmD BCGP BCPP MHA; Courtney Saw, MD; Yu-Heng Guo, MD

OBJECTIVE: To assess the utility of the current buprenorphine micro-dosing protocol at an academic urban medical center with goal to revise the protocol based on characteristics associated with clinical outcomes.

METHODS: A retrospective chart review was conducted for all adult inpatients at an academic urban medical center who were ordered buprenorphine in accordance with a micro-dosing induction protocol during a 15 month period. Data from the electronic medical record was collected including patient demographics, pertinent past medical history, outpatient medications, subjective and objective measures from admission including labs, facility-administered medications, scores from clinical scales (ex. Clinical Opioid Withdrawal Scale), and information on post-discharge readmissions.

RESULTS: Clinical characterization of the micro-dosing protocolâ€™s successes and failures will be analyzed and results will be presented. Patient characteristics will be assessed for association with treatment outcomes.

CONCLUSIONS: It is anticipated that this data will advise best practice for the centerâ€™s ongoing effort to champion harm reduction in treatment of opioid use disorder. Based on characteristics associated with clinical outcomes, the current buprenorphine induction micro-dosing protocol will be revised with intention to implement and monitor its ongoing utility.

2:40pm – 2:55pm

Q **Assessment of the Medication Reconciliation Process in a 242 Bed Community Hospital by Analyzing Rate of Reconciliation Errors and Readmissions Pre- and Post-Quality Improvement Interventions**

Wild Rose A

Presenters: Dorcas Adjaloko
Evaluators: Andrea Tully
Evaluators 3: Michael Kachmarsky
Evaluators 2: Ashley Covert

TITLE: Assessment of the medication reconciliation process in a 242-bed community hospital by analyzing the rate of reconciliation errors pre- and post-quality improvement interventions

AUTHORS: Dorcas Adjaloko, Maggie Montgomery, Annie Poon

OBJECTIVE: A comprehensive medication reconciliation can reduce medication errors and adverse drug events. The purpose of this study is to assess the impact of educational and workflow interventions on the rate of medication reconciliation errors.

METHODS: The pre-intervention rate of reconciliation errors was measured utilizing the nationally recognized Leap Frog survey protocol. The post-intervention rate of reconciliation errors will be assessed and compared to the pre-intervention results. Interventions included nursing and pharmacist education on the policy and best practices in obtaining and documenting prior to admission medication lists. Patients 18 years and older admitted to inpatient care areas are eligible for inclusion. Patients included will be interviewed by a pharmacist within 24 hours of admission to obtain a prior to admission medication list. Reconciliation errors will be identified by comparing the patientâ€™s prior to admission medication list to the inpatient and discharge orders. Differences in dosing, duration of therapy, administration routes, formulations, frequency along with duplications and omissions will be classified as either intentional or unintentional discrepancies.

RESULTS: The pre-intervention rate of medication reconciliation errors was calculated to be 0.319 in October and November of 2022. This rate placed the institution above the 75th percentile ranking based on the 2021 Leap Frog distribution of hospital performance where a lower percentile ranking was better. Post-intervention data collection will commence in April 2023. Post-intervention rate of reconciliation errors will be compared to the pre-intervention rate to assess if the hypothesis that educational interventions will make a positive impact on the medication reconciliation process holds true. Results from the pre- and post-intervention analysis will be assessed and presented during the podium presentations.

CONCLUSIONS: It is anticipated that re-education of nursing and pharmacy staff on the medication reconciliation process will have a positive impact on the rate of reconciliation errors. Improvement into the 50th percentile ranking of the 2022 Leap Frog distribution of hospital performance will demonstrate significant progress as the institution continues its efforts to address deficiencies in the medication reconciliation process.

2:40pm – 2:55pm 6 **Assessment of Apixaban Levels in Solid Organ Transplant Patients and Risk Factors Contributing to Abnormal Levels** Wild Rose B

Presenters: Kevin Ly
Evaluators: Lauren Pino
Evaluators 3: Avni Desai
Evaluators 2: Manny Isherwood

TITLE: Assessment of apixaban levels in solid organ transplant recipients and risk factors contributing to abnormal levels

AUTHORS: K. Ly, I. Shah, A. Diamond, J. Au, K. Mohrien

OBJECTIVE: The objective of this study is to identify solid organ transplant recipients with sub- or supra-therapeutic levels when taking apixaban and to identify risk factors contributing to those abnormal levels.

METHODS: This single-center, retrospective chart review evaluated patients at TUH from January 1st, 2014 to August 31st, 2019 who received a solid organ transplant and had at least one anti-Xa level drawn while on apixaban. Incidence of sub- or supra-therapeutic peak or trough concentrations based on a standard anti-Xa assay established by Quest Diagnostics were recorded for each patient. The primary endpoint was incidence of abnormal levels. Secondary endpoints included number of dose adjustments made as a result of abnormal levels, risk factors associated with abnormal apixaban levels, and number of solid organ transplant recipients who experienced a stroke, clotting, or bleeding event while on apixaban with a level drawn. Data collection included patient demographics, baseline characteristics, and medications associated with pharmacokinetic or pharmacodynamic drug interactions with apixaban. Descriptive analysis and logistic regression were utilized for the data.

RESULTS: Factors which contributed most to incidence of abnormal apixaban anti-Xa levels appeared to be advanced age and low body weight. Solid organ transplant recipients with three or more contributing risk factors were at greatest risk of developing supra-therapeutic levels. End organ dysfunction and pharmacokinetic interactions did not appear to contribute significantly to supra-therapeutic levels. Bleeding events occurred with significantly greater frequency in recipients who had supra-therapeutic levels.

CONCLUSIONS: Therapeutic drug monitoring may be warranted in solid organ transplant recipients on apixaban with at least three risk factors for supra-therapeutic levels. Recipients with advanced age and/or low body weight warrant additional caution.

3:00pm – 3:15pm A **Identifying Patient Barriers to Equitable Hypertension Care in the Haitian Community** Empire A

Presenters: Megan Chatowsky
Evaluators: Vega Sanchez
Evaluators 3: Paul Abourjaily
Evaluators 2: Kevin Charron

TITLE: Identifying Patient Barriers to Equitable Hypertension Care in the Haitian Community

AUTHORS: Megan Chatowsky, Monica Akus, Victoria Liu; The Cambridge Health Alliance (CHA); Cambridge, MA

OBJECTIVE: Our project aims to improve our current blood pressure care services at CHA by identifying barriers of equitable hypertension care for patients who self-identify as Black and Haitian in the outpatient setting.

METHODS: Interviews of patients were completed at two specific CHA primary care clinics. The inclusion criteria for patients to be interviewed was 18-80 years old self-identifying as Black and Haitian, having a diagnosis of hypertension, and receiving hypertension management by a CHA provider within the last two years. Provider surveys were completed electronically from all CHA clinic sites. Qualifying providers practiced in the ambulatory outpatient setting and currently treat patients who self-identify as Black and Haitian. The patient interview included questions evaluating various issues surrounding access to healthcare, views towards blood pressure management and the overall patient care experience while being treated at CHA. The provider surveys included questions to determine how providers have been navigating care for this specific patient population and what their opinion is on the biggest factors inhibiting successful hypertension management while practicing at CHA.

RESULTS: The primary outcome of our project will analyze the results of the patient interviews. The secondary outcome will include analysis of the provider surveys. A total of 23 patient interviews and 32 provider surveys were completed and documented. Finalized results will be presented.

CONCLUSIONS: The information collected through patient interviews will guide further development of resources for improved care delivery to this patient population. Culturally sensitive education tools will contribute to increasing the percentage of controlled hypertension patients at CHA. We plan to initially create interventions to improve care provided by the pharmacotherapy team with the goal to implement in all CHA hypertension outpatient care.

3:00pm – 3:15pm C **Discontinuing Vasopressin or Norepinephrine First In Patients With Septic Shock** Empire B

Presenters: Ioannis Serris
Evaluators: Helen Sutow
Evaluators 3: Jennifer Costello
Evaluators 2: Careen-Joan Franklin, Jaclyn Harth

TITLE: Discontinuing vasopressin or norepinephrine first in patients with septic shock

AUTHORS: Ioannis Serris, PharmD, MHS; Ilanit Zada, PharmD, BCCCP; Ricardo Velasquez, MD; David Chong MD, FCCM, FCCP, FACP

OBJECTIVE: The objective of this retrospective study is to determine if the discontinuing vasopressin or norepinephrine first is associated with hypotension within 24 hours in patients with septic shock.

METHODS: Data from the electronic medical record was extracted for patients over 18 years old admitted to the intensive care unit (ICU) who received at least 1 day of vasopressin and norepinephrine for septic shock. Patients were excluded if they expired before discontinuation of vasopressin or norepinephrine, if norepinephrine and vasopressin were discontinued at the same time, if an inotropic agent was administered, or if blood pressure documentation was not complete. The primary outcome was the incidence of hypotension (mean arterial pressure less than 65 mmHg) during first 24 hours after vasopressor discontinuation. Secondary outcomes included number of hypotensive events during the first 24 hours, time until first hypotensive value, incidence of restarting the discontinued vasopressor, ICU length of stay and mortality. Statistical significance of the outcomes and baseline characteristics were analyzed using Fisherâ€™s exact tests, Mann-Whitney U tests or unpaired t-tests as appropriate.

RESULTS: The results will be presented. It is anticipated that discontinuing vasopressin first will result in an increased risk for hypotension within 24 hours in patients with septic shock.

CONCLUSIONS: The conclusion will be presented. If discontinuation of vasopressin first is associated with increased risk for hypotension within 24 hours, the order of vasopressor discontinuation in patients with septic shock should be carefully considered along with other patient specific factors.

3:00pm – 3:15pm Y **Ambulatory Pharmacist Urine Culture Review on Emergency Department Patients** Empire C

Presenters: Gionna Knauss
Evaluators: Varshney Navya
Evaluators 3: emily herron
Evaluators 2: Sarah Siemion

TITLE: Research Protocol Ambulatory Pharmacist Urine Culture Review on Emergency Department Patients

AUTHORS: Jamie Kerestes, PharmD, BCCCP; Gionna Knauss, PharmD; Leonard Learn, PharmD; Sydney Estock, PharmD; Ronald S. Strony, MD; Luke Sullivan, MD

OBJECTIVE: We aim to analyze how urine culture follow up services managed by pharmacists compares to provider-managed services at Geisinger. Our hypothesis is that the pharmacy-managed subgroup has improved rates in time to appropriate antibiotic therapy.

METHODS: Medical records of any patient 18 years or older who had a urine culture collected at participating Geisinger Emergency Departments (ED) between 06/01/2021-04/30/2022 were included in this study. Urine culture follow-up service is split between pharmacists and either physicians or mid-level providers depending on the site. The primary endpoint is the time until appropriate antibiotic therapy is addressed, including initiation, change, or discontinuation. Secondary endpoints include the number of patients who: returned to the ED within 30 days; called their primary care provider the next time they had urinary complaints instead of utilizing the ED (â€œThe Call Firstâ€□ program); and never received appropriate antibiotic therapy. A time study survey was also conducted to measure the amount of time it takes these healthcare providers to complete urine culture follow-up service tasks.

RESULTS: The number and percentage of differences in values between both subgroups will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate that pharmacist-led urine culture follow-up services will result in improved time to and rate of appropriate antibiotic therapy for patients who had a urine culture obtained in participating Geisinger ED sites compared to physician/mid-level provider-led follow up services.

3:00pm – 3:15pm G **Impact of Hypoglycemia Protocol at SBH Health System** Empire D

Presenters: Aderinola Omoniyi
Evaluators: Gail Sanchez
Evaluators 3: Shirley Bonanni
Evaluators 2: Brian Austin

TITLE: Impact of the hypoglycemia protocol at SBH health system
AUTHORS: Aderinola Omoniyi, B.S Pharm, PharmD; Ilanit Zada, PharmD, BCCCP; Amanda Rampersaud, BS, PharmD, BCPS; Ruth Cassidy, BS, PharmD, MBA, FACHE;
OBJECTIVE: The aim of this study is to evaluate the impact of a hypoglycemic protocol at SBH over the last 6 months, by addressing the root cause of hypoglycemia, identify steps taken to correct the hypoglycemic episode and evaluate episodes not adherent
METHODS: Medical records of patients with at least one episode of hypoglycemia since admission will be reviewed . Data will collected over a six-month period (September 2022 to February 2023) with a goal of analyzing at least 100 patients. Each patientâ€™s hypoglycemic episode will be evaluated for compliance with our hypoglycemia protocol. Data recorded include insulin regimen, hypoglycemia event time, blood glucose value, cause of hypoglycemia, treatment administered, and symptoms of hypoglycemia, documentation, repeat treatment, and blood sugar after correction, time to next CBG, and adjustment to treatment.
RESULTS: The percentage of patients treated in line with our protocol will be recorded and evaluated. Education will be provided to our staff to ensure future compliance.
CONCLUSIONS: This project will allow for pharmacist-based intervention in order to increase compliance with adherence of our hypoglycemia protocol.

3:00pm – 3:15pm I **Evaluating the Feasibility of a Novel Pharmacist-Driven Bowel Regimen Protocol in Critically Ill Patients** Magnolia B

Presenters: Taylor Parajon
Evaluators: Mona Nashed
Evaluators 3: Pooja Dogra
Evaluators 2: Nikunj Vyas

TITLE: Evaluating the feasibility of a novel pharmacist-driven bowel regimen protocol in critically ill patients
AUTHORS: Taylor Parajon, PharmD, PGY-1 Pharmacy Resident; Megan Trombi, PharmD, BCCCP, Clinical Pharmacy Specialist; Yong-Bum Song, PharmD, BCPS, BCCCP, Clinical Pharmacy Specialist
OBJECTIVE: The purpose of this study is to evaluate the feasibility of a novel pharmacist-driven bowel regimen protocol in critically ill patients with the goal of preventing constipation and its related complications from occurring.
METHODS: A pharmacist-driven bowel regimen protocol was approved by the pharmacy and therapeutics (P&T) committee with the goal of improving bowel regimen prescribing practices for critically ill patients. A retrospective chart review was conducted two months prior to implementation of the protocol to establish baseline practices and six months after to assess its feasibility. Inclusion criteria consisted of patients admitted to the intensive care unit (ICU) on a continuous opioid infusion for at least 24 hours and major exclusions were hospice or comfort care patients, patients with an active gastrointestinal bleed, presence of diarrhea within the past 24 hours and those admitted for abdominal surgery or showing evidence of bowel obstruction/perforation. The primary outcome used to assess feasibility was whether the patient had a bowel movement within 72 hours from the start of the opioid infusion and safety outcomes included incidence of diarrhea and ileus.
RESULTS: A total of 56 patients were included, with 28 patients in each group. Descriptive statistics were used to analyze the results. The average fentanyl equivalent daily requirement was 2020 mcg/day in the pre-protocol group and 2539 mcg/day in the post-protocol group. The number of patients who had a bowel movement within 72 hours was 6 patients (21%) in the pre-protocol group and 5 patients (18%) in the post-protocol group. In the pre-protocol group there were 6 patients (21%) never started on a bowel regimen compared to 0 patients (0%) in post-protocol group. For safety outcomes, 15 patients (54%) experienced diarrhea in the pre-protocol group and 9 patients (32%) in the post-protocol group and no incidence of ileus in either group.
CONCLUSIONS: The initiation of a pharmacist-driven bowel regimen protocol seems to be a feasible option to prevent constipation and related complications in ICU patients. Clinical pharmacists identified 28 patients in need of a bowel regimen and no major adverse outcomes were observed in this cohort. This study is limited by a small sample size but shows a feasible option to implement at other institutions that may have inconsistent prescribing practices of bowel regimens in ICU patients.

3:00pm – 3:15pm I **Impact of a comprehensive Infectious Disease pharmacist-led antimicrobial stewardship program on outcomes in a Veterans Affairs Hospital in the Bronx** Magnolia A

Presenters: Julia Ye
Evaluators: Lauren Allen
Evaluators 3: Anita Henderson
Evaluators 2: Alice Hsu

TITLE: Impact of a comprehensive Infectious Disease pharmacist-led antimicrobial stewardship program on outcomes in a Veterans Affairs Hospital in the Bronx

AUTHORS: J. Ye, N. Ahmed, K. Vest; Veterans Affairs Medical Center (VAMC), Bronx, New York

OBJECTIVE: To evaluate the impact of a comprehensive antimicrobial stewardship program (ASP) led by Infectious Disease (ID)-trained pharmacists on outcomes such as length of stay, 30-day readmission rates, and antibiotic consumption.

METHODS: A single-center retrospective chart review will be performed on veterans admitted with antibiotic treatment for at least one calendar day from April 1, 2021 to June 30, 2021 (targeted ASP) and April 1, 2022 to June 30, 2022 (comprehensive ASP). Targeted ASP will be defined as antimicrobial stewardship performed by one ID pharmacist trainee supervised by an ID-trained pharmacist with limited direct patient care duties. Comprehensive ASP will be defined as antimicrobial stewardship performed by two ID-trained pharmacists alongside one ID pharmacist trainee. Patients requiring greater than 14 days of antibiotics, those placed on comfort care, or transferred to or from another facility will be excluded. Patients will be included once based on their first eligible diagnosis. Data collection will include antibiotic consumption, length of stay, 30-day readmission rate, incidence of C. difficile infection, and number of ID consultations and ID pharmacist interventions.

RESULTS: In progress

CONCLUSIONS: In progress

3:00pm – 3:15pm P **Impact of a Pharmacy-Driven Pain Stewardship Program in Reducing the Use of Opioids at a Community Hospital** Magnolia C

Presenters: Matthew Turnipseed
Evaluators: Andy Hui
Evaluators 3: Briana Balsamo
Evaluators 2: Frank Massaro

TITLE: Impact of a Pharmacy-Driven Pain Stewardship Program in Reducing the Use of Opioids at a Community Hospital

AUTHORS: M.Turnipseed, S. Burke; Shore Medical Center, Somers Point, New Jersey

OBJECTIVE: The objective of this study is to measure the impact of a pharmacist-led pain stewardship program specifically on the total amount of opioid prescriptions dispensed within the hospital among other metrics.

METHODS: Reports of high risk patients on opioid medications were generated and patients were followed for 3 months by the pharmacist. A patient was deemed high risk if they were older than 60, concomitantly ordered a benzodiazepine, were taking doses over 40MME daily or were taking extended release formulations. The pharmacist reached out to providers and made recommendations for patient pain regimens including de-escalation, multi-modality and appropriate pain scale indications. Additionally, a consult was created for providers to reach out to pharmacy with any questions or tasks regarding pain medication regimens. Recommendations were based off the 2022 CDC Clinical Practice Guideline for Prescribing Opioids for Pain along with other resources. The endpoints assessed were compared to a 3 month period in the prior year.

RESULTS: Recorded results will be presented including pre and post-implementation comparisons in amount of opioid orders, amount of opioid orders in older higher risk adults, opioid-associated rapid response calls, total pharmacy pain interventions recorded and patient reported pain control scores.

CONCLUSIONS: It is anticipated that this project will demonstrate the impact a pharmacist driven pain stewardship program can have with reducing opioid orders, optimizing pain regimens and controlling patient pain within a small community hospital. This project can also help draw conclusions on effective pharmacy pain stewardship procedures as well as shortcomings to address and build upon in the future.

3:00pm – 3:15pm

2 **Evaluation of Sputum and Tracheal Cultures in Pediatric Patients within a Community Hospital**

Magnolia D

Presenters: Michelle Gronski

Evaluators: Frank Szczerba

Evaluators 3: Rosa Bates

Evaluators 2: Kevin Mulieri

TITLE: Evaluation of sputum and tracheal cultures in pediatric patients within a community hospital

AUTHORS: M. Gronski, L. Hayn, S. Wheatley, T. Villalobos-Fry, K.H. Wheatley; Lehigh Valley Health Network, Allentown, Pennsylvania

OBJECTIVE: Clinicians rely on clinical findings to diagnose ventilator-associated pneumonia resulting in practice variability. The purpose of this review was to evaluate the criteria which led to collection of a sputum or tracheal culture in pediatric patients.

METHODS: A retrospective chart review was performed of sputum and tracheal cultures in patients younger than 18 years located in the childrenâ€™s emergency room, inpatient pediatric unit or pediatric intensive care unit obtained between October 1, 2020 and September 30, 2022. Exclusion criteria included patients managed by a pediatric hospitalist service, those located in the neonatal intensive care unit or with cystic fibrosis. The primary objective was to characterize clinical criteria which resulted in collection of a sputum or tracheal culture. Secondary objectives included identification of organisms isolated, treatment duration, and treatment differences by organism and by organism category (pathogen vs colonization vs contaminant). Descriptive statistics were utilized to evaluate the data.

RESULTS: A total of 123 patients were included with 154 sputum and tracheal cultures collected. More than half of cultures were obtained within 24 hours of admission (66%). Within 24 hours of collection, the following were present: infiltrate, consolidation or cavitation (62 cultures; 40.3%), fever (100 cultures; 64.9%), and leukopenia or leukocytosis (63 cultures; 40.9%). Most commonly documented finding within 24 hours of culture was increased secretions (110 cultures; 71.4%). An organism was identified in 147 cultures with 99 cultures (67.4%) identified as colonization, 30 cultures (20.4%) as pathogens and 18 cultures (12.2%) as contaminants. The median duration of antibiotic therapy was 6 days (IQR 2-10 days).

CONCLUSIONS: It is anticipated that this project will identify clinical criteria at the time sputum or tracheal cultures were obtained in pediatric patients and potential yield. This information will be used to educate providers and determine best practice for obtaining cultures in the future with a focus on decreasing overall number and lessening antimicrobial use.

3:00pm – 3:15pm 5 **Implications of Clozapine Monitoring During the COVID-19 Pandemic** Crystal A

Presenters: Allison Little
Evaluators: Mei Liu
Evaluators 3: John Roglieri
Evaluators 2: Gregory Bogart

TITLE: Implications of Clozapine Monitoring During the COVID-19 Pandemic
AUTHORS: Allison Little, PharmD [1], Ashley Maister, PharmD, BCPP [1], Lauren Ash, PharmD, BCPS, BCPP [2], Alex Corboy, PharmD [3], 1. Corporal Michael J. Crescenz VA Medical Center, Pennsylvania 2. St. Louis VA Medical Center, Missouri 3. William Jennings Bryan Dorn VA Medical Center, South Carolina
OBJECTIVE: The purpose of this retrospective study was to evaluate the discontinuation rate of clozapine due to severe neutropenia, which is a rare but significant adverse event, with less frequent ANC monitoring during the COVID-19 pandemic.
METHODS: This 16-month IRB-approved retrospective study included all adult patients within the Veterans Health Administration (VHA) who were prescribed clozapine for at least 12 months prior to March 2020. Patients were excluded from the study if they were prescribed clozapine for less than one year due to the increased risk of severe neutropenia, or were receiving clozapine from any source other than the VHA. Secondary endpoints included: (1) all-cause discontinuation rate of clozapine, (2) correlation between ANC monitoring intervals draws and discontinuation rate, (3) correlation between duration of clozapine use and discontinuation rate, and (4) differences in discontinuation rates among different regions of the United States. Demographic data included indication for use, concomitant antipsychotics, age, and race. Descriptive statistics were performed to analyze both study objectives and demographic data utilizing Microsoft ExcelÂ®, as well as chi-square tests for secondary endpoints.
RESULTS: 2,106 patients were included in this study. The incidence rate of severe neutropenia during the COVID-19 pandemic and additional outcomes were stratified based on average time between lab draws, duration of clozapine use, and different regions. These results will be presented.
CONCLUSIONS: It is anticipated that this study will demonstrate that less frequent ANC monitoring during the COVID-19 pandemic will not have an impact on the established discontinuation rate of clozapine due to severe neutropenia that has been previously reported in primary literature.

3:00pm – 3:15pm Q **Evaluation of the Efficacy and Safety of Perioperative Methadone Administration in Cardiac Surgery** Wild Rose A

Presenters: Emily Eaton
Evaluators: Andrea Tully
Evaluators 3: Michael Kachmarsky
Evaluators 2: Ashley Covert

TITLE: Evaluation of the Efficacy and Safety of Perioperative Methadone Administration in Cardiac Surgery
AUTHORS: Emily Eaton, PharmD; Justina Tesauro, PharmD; Doug Pfiel, MD, PhD; Brandi Thoma, PharmD, BCPS, BCCP
OBJECTIVE: The purpose of this study is to evaluate the efficacy and safety of a single-dose of intraoperative methadone in patients undergoing cardiac surgery.
METHODS: This was a retrospective chart review at an academic medical center. Patients were included if they received methadone according to an institutional methadone guideline for cardiac surgery that went into effect April 2022. A historical control group undergoing cardiac surgery prior to April 2022 was used for comparison. All patients were opioid naÃ¯ve prior to surgery. Exclusion criteria included end stage renal disease on dialysis, a QTC > 500 msec, active medications for opioid use disorder, or if patients were undergoing a ventricular assist device implant or heart transplant. The primary outcome is to compare opioid requirements, in morphine milligram equivalents (MME), within 24 hours post-surgery in patients who received methadone versus usual care for intraoperative analgesia. A safety analysis evaluated the occurrence of adverse events, including gastric dilatation, naloxone administration and prolonged mechanical ventilation. Data were analyzed using descriptive statistics.
RESULTS: In the methadone group, a total of 105 patients underwent cardiac surgery from April 24, 2022 to July 8, 2022. Of those patients screened, 50 met inclusion criteria. In the methadone group, 19 (62%) were male and the mean age was 63 years. The MME used in the 24-hour post-operative period was 8.5 [IQR 3.3 â€“ 18.9]. Data collection is ongoing. Results will be analyzed and presented at the conference.
CONCLUSIONS: It is anticipated that this study will support current findings that a single-dose of intraoperative methadone in cardiac surgery reduces 24-hour post-op opioid use and is not associated with an increase in adverse events. Future studies are necessary to determine the optimal, weight-based dosing of methadone.

3:00pm – 3:15pm 6 **Pre-Donation Medication Patterns Among Living Kidney Donors** Wild Rose B

Presenters: Drew Dickinson
Evaluators: Lauren Pino
Evaluators 3: Avni Desai
Evaluators 2: Manny Isherwood

TITLE: Pre-Donation Medication Patterns Among Living Kidney Donor Candidates

AUTHORS: D. T. Dickinson, X. Liu, A. Leonberg-Yoo, G. Castro, M. Cherry, F. Dadabaev, L. Nguyen, A. Forte, G. Malat, H. Sanchez Rodriguez, T. B. Dunn, R. R. Redfield, III, J. Trofe-Clark; Hospital of the University of Pennsylvania, Philadelphia, PA

OBJECTIVE: We characterized pre-donation medications in living kidney donor candidates (LKDCs) evaluated at our site via medication reconciliations conducted at nephrologist evaluation and transplant pharmacist pre-operative visits.

METHODS: This retrospective single center cohort study included HIV-negative adult LKDCs evaluated for donation between October 1, 2019-October 1, 2021. Systemic and inhaled medications of each LKDC were abstracted from pre-donation medication reconciliations at: 1. evaluation visit with program nephrologist and 2. pre-operative visit with transplant pharmacist. Medications were reported descriptively by therapeutic class. Medication use between LKDCs approved and declined for donation was compared with chi-square/Fisherâ€™s exact test. Concordance between medication therapeutic classes identified among LKDCs approved for donation in the nephrologist evaluation visit and pharmacist pre-operative visit was compared using the McNemar test.

RESULTS: Among 213 LKDCs, 112 were approved for donation and 101 were declined for donation. One-hundred-two (91.1%) LKDCs approved for donation and 96 (95.1%) LKDCs declined were taking at least one medication or dietary supplement pre-donation (p=0.257). Dietary supplements were taken among 55 (49.1%) and 62 (61.5%) LKDCs who were approved and declined for donation, respectively (p=0.072). Antidepressants were the most common prescription therapeutic class among approved LDKCs (13.5%) compared to antihypertensives among declined LKDCs (20.8%). Among LKDCs approved for donation, NSAID use was reported in 33 (29.5%) candidates at the nephrologist evaluation visit compared to 1 (0.9%) candidate at the pharmacist pre-operative visit (p

3:40pm – 3:55pm C **Incidence of fever and withdrawal symptoms with prolonged dexmedetomidine use in adult patients admitted to the intensive care unit** Empire B

Presenters: Aneesha Bhatia
Evaluators: Jenny Shah
Evaluators 3: Semie Durrani
Evaluators 2: Michelle Kohute

TITLE: Incidence of fever and withdrawal symptoms with prolonged dexmedetomidine use in adult patients admitted to the intensive care unit

AUTHORS: Aneesha Bhatia, PharmD

OBJECTIVE: The purpose of this study is to evaluate the relationship of dexmedetomidine use and fever in critically ill patients and to determine the prevalence of withdrawal symptoms after infusions of 72 hours or longer.

METHODS: A retrospective chart analysis was conducted which evaluated patients who were initiated on dexmedetomidine. Patients were considered if they received administered dexmedetomidine continuously for at least 72 hours. One of the two primary outcomes included in this analysis was incidence of fever within 72 hours of initiation. Fever was defined as temperature greater than 38.3â□° Celsius. The next primary outcome was the incidence of withdrawal symptoms after discontinuation of dexmedetomidine for patients who received a continuous infusion for greater than 72 hours. Symptoms of withdrawal include onset of tachycardia, hypertension, agitation, or vomiting. Tachycardia was defined as a heart rate over 100 beats per minute and hypertension was defined as systolic blood pressure over 140 mmHg or diastolic blood pressure over 80 mmHg. Agitation and vomiting was identified by chart review. Patients that had 2 out of 4 of the aforementioned symptoms were considered to be in withdrawal.

RESULTS: Patients who were started on dexmedetomidine and 100 patients met inclusion criteria. The median length of dexmedetomidine infusion was 4 days. During dexmedetomidine therapy, 57% of patients had a clinically significant fever, of which 18% had a clinically significant fever after the infusion was stopped. Of the patients that had a fever during dexmedetomidine therapy, 79% were on dexmedetomidine for greater than 72 hours. In evaluating withdrawal symptoms, 29% of patients had a higher heart rate range after infusion, 23% of patients had a higher blood pressure range after infusion was stopped, 13% of patients experienced agitation and 14% experienced vomiting. Overall, 12% of patients met the criteria defined for withdrawal.

CONCLUSIONS: Our findings suggest that prolonged use of dexmedetomidine may be related to the occurrence of drug-induced fever and withdrawal symptoms. Further data analysis will be conducted to analyze co-existing factors that may contribute to the incidence and magnitude of fever. Additionally, review of existing weaning practices should be conducted to reduce the risk of withdrawal symptoms when discontinuing dexmedetomidine.

3:40pm – 3:55pm C **Inhaled Epoprostenol Outcomes for Patients with Acute Respiratory Distress Syndrome** Empire C

Presenters: Princy John
Evaluators: John Papadopoulos
Evaluators 3: Bryna Delman Ewachiw, Courtney Skriptshak
Evaluators 2: Ashley Quintili

TITLE: Inhaled epoprostenol (iEpo) outcomes for patients with acute respiratory distress syndrome

AUTHORS: Princy John, PharmD, MBA, Angela Slampak-Cindric, PharmD, BCPS, BCCCP, Jason A. Stamm, MD

OBJECTIVE: The primary objective of this retrospective cohort study is to evaluate the effectiveness of iEpo in adult patients with severe hypoxemia defined as a 20% increase in Partial Arterial Pressure of Oxygen (PaO2) with the initiation of iEpo.

METHODS: Medical record of patients who were 18 years or older who received iEpo from 02/01/2020 to 07/31/2022 were included in the study. Patients who received iEpo after cardiac surgery, who received both inhaled nitric oxide and iEpo during the same admission, or who received intravenous epoprostenol were excluded. Baseline demographic and clinical characteristics will be compared between subjects. The primary outcome will be a positive response in oxygenation with the initiation of iEpo. Secondary outcome measures include protocol adherence, duration of mechanical ventilation after initiation of iEpo, length of hospital stay, mortality, and safety outcomes.

RESULTS: Will be presented at the Eastern States Residency Conference.

CONCLUSIONS: Will be presented at the Eastern States Residency Conference.

3:40pm – 3:55pm N **Assessing the impact of a community pharmacists led sickle cell management program** Crystal A

Presenters: E'Shay Winfield
Evaluators: Suzanne Nesbit
Evaluators 3: Yogini Patel
Evaluators 2: Nicholas Sandoval

TITLE: Assessing the impact of a community pharmacists led sickle cell management program

AUTHORS: Eâ€™Shay Winfield, PharmD, Tamara McCants, PharmD, Laâ€™Marcus Wingate, PharmD, PhD, Careen-Joan Franklin, PharmD, Tony Droppleman, RPh

OBJECTIVE: The study objective is to analyze the role of the community pharmacist in increasing access to chronic maintenance care for patients with sickle cell disease (SCD).

METHODS: Patients were recruited using prescriptions dropped off at Walgreens from providers in the Center for Sickle Cell Disease at the Howard University Hospital. Adherence to maintenance medications is assessed at baseline and an electronic pre and post-intervention survey is administered through google forms for analysis of change in knowledge and perception of access and perception of self-management ability. The intervention consists of an educational session, medication counseling, and monthly adherence follow up. Baseline characteristics will be reported using means and standard deviations for continuous variables and frequencies and proportions for categorical variables. Chi-Square analysis will be used to assess association between patient characteristics, knowledge and perceptions of self-efficacy in SCD management. Multivariate logistic regression analysis will assess the association between community pharmacy-based intervention and improved access and adherence to medications.

RESULTS: Pre and post intervention screening surveys, change in the number of patients receiving maintenance therapy, and change in adherence to maintenance medications based on percentage of days covered (PDC) will be assessed following the intervention. The PDC goal for participants is a 20% increase from baseline. As of 03/31/2023, 8 participants have completed the pre-intervention screening and 1 has undergone the education session and is in the follow-up stage. Approximately 5 patients have agreed to participate but barriers to communication have prevented completion of intervention. Data is pending statistical analysis.

CONCLUSIONS: Current interventions suggest varying patient knowledge, perception, and barriers but consistency in lack of access to care exists. It is anticipated that the data from this study will demonstrate a role for community pharmacists in the chronic management of SCD. Thus far, participants express gratitude for an expanded healthcare team that acknowledges their condition and is able to discuss their treatment and experiences.

3:40pm – 3:55pm D **Assessing Diabetes Prevention Behaviors and Mental Health Risks in adults** Empire D

Presenters: Laura DiVirgilio
Evaluators: Annie Poon
Evaluators 3: Leila Forouzan
Evaluators 2: Wafaa Abou-Zeineddine

TITLE: Assessing Mental Health and Associated Risks in Young Adults

AUTHORS: Gladys Ekong B.S.Pharm, PhD, Laura DiVirgilio, PharmD, Kam Capoccia PharmD, BCPS, CDCES

OBJECTIVE: 1) determine the prevalence of prediabetes, type 1 diabetes, and type 2 diabetes among adults 2) determine health behaviors for diabetes prevention and management 3) determine the prevalence of mental health comorbidities in the study population

METHODS: This cross-sectional research study enrolled students, faculty and staff at Western New England University and patients at a community care clinic. Data was collected from October to December 2022 using an online survey platform (Qualtrics). The 35-item questionnaire was composed of a series of questions from six validated measures. The first research objective will be assessed using the four-item Patient Health Questionnaire (PHQ-4), General Anxiety Disorder-7 (GAD-7) and EuroQol-5-dimensional (EQ-5D). Data for the second objective will be collected using the Consideration of Future Consequences (CFC) survey, the Summary of Diabetes Self-Care Activities Measure (SDSCA), and Self-Efficacy for Diabetes Scale (SED). Participant demographics and diabetes profile were collected. Data analysis included descriptive analysis to determine the prevalence of mental health comorbidities. Summary scores were calculated to determine health behaviors for pre-diabetes and diabetes management.

RESULTS: Survey results revealed that 7.6% of participants have been diagnosed with diabetes (T1DM or T2DM). Within this population, 4.2% have T1DM and 3.4% have T2Dm. A CDC prediabetes risk score of 5 or higher was observed in 5% of participants who completed the risk test (n = 132) Results suggest that the general population had a slightly greater consideration of future consequences of their behaviors as compared to the diabetes population, however, both groups had above average scores. Participants living with diabetes reported high scores for adherence to self-management behaviors like blood glucose monitoring and general diet. The GAD-7 and PHQ-4 revealed a mild presence of anxiety and depression (greater in general population group)

CONCLUSIONS: Pharmacists can play a role in combatting mental health risks & addressing diabetes specific behaviors among pts. In pts identified as having a low consideration of future consequences or scoring low on the SDSCA, pharmacists may provide education to address low rates of physical activity, diabetes foot care, blood glucose monitoring, & food choices. Pharmacists may also screen pts w/ DM using the GAD-7 & PHQ-4 to identify mental health comorbidities and associated risks and offer interventions

3:40pm – 3:55pm E **Evaluating the impact of pharmacist-led diabetes education after acute stroke** Empire A

Presenters: Catherine Wymer
Evaluators: Cathy Walker
Evaluators 3: Sarah Dombrowski
Evaluators 2: Matthew Lengel

TITLE: Evaluating the impact of pharmacist-led diabetes education after acute stroke
AUTHORS: Catherine Wymer, PharmD, Sherif Ahmed, PharmD
OBJECTIVE: Diabetes is a major risk factor for stroke and is associated with negative effects on the brain and functional outcomes. The objective of this study is to evaluate the impact of implementing pharmacist-led post-stroke diabetes education for patients.
METHODS: This was a 12-week prospective, intention-to-treat, observational pilot study for stroke patients with pre-diabetes, diabetes, or A1C â‰¥5.7% admitted to our hospital. We excluded patients with cognitive impairment or dysphagia unless they identified a primary caregiver to participate. Baseline characteristics were analyzed, and knowledge was assessed using pre- and post-surveys before and after the verbal and written pharmacist-led diabetes education. The primary objective assessed if pharmacist-led diabetes education impacted patientsâ€™ knowledge, and secondary objectives assessed change in A1C, completion of medication reconciliation, appropriateness of diabetes medication regimens, confidence in patientsâ€™ knowledge of diabetes management, and satisfaction with the education.
RESULTS: Ten patients were enrolled, and seven completed the post-survey. A majority of patients (60%) had type-2 diabetes, with a median A1C of 6.8%. Seven patients were male, with an average age of 71.9 years. A majority of patients (90%) presented with an ischemic stroke. One caregiver participated on behalf of a patient. The average scores on the pre-and post-surveys were 57.3% and 50%, respectively, and were analyzed using a Wilcoxon-signed rank test where Z=-1.134 based on positive ranks. Repeat A1Cs were not available. All patients received a medication reconciliation, with 50% not on appropriate diabetes medications. On average, patients rated their confidence in their knowledge as 4/5 and satisfaction with the education as 5/5.
CONCLUSIONS: Diabetes education is important to improve patient knowledge of the role of diabetes management and stroke risk. Due to the small sample size, we could not assess the full impact of this education. However, the benefits of assessing medication reconciliation before discharge, identifying appropriate diabetes medication regimens, and improving patientsâ€™ confidence can be used as a basis to implement a standardized educational intervention for stroke patients at our hospital.

3:40pm – 3:55pm Y **Comparison of Tenecteplase to Alteplase for non-Large Vessel Occlusion (non-LVO) Acute Ischemic Stroke** Magnolia A

Presenters: Jennifer Hodge
Evaluators: Justin Miller
Evaluators 3: Riya Patel
Evaluators 2: Laura Koons

TITLE: Comparison of tenecteplase to alteplase for non-large vessel occlusion (LVO) acute ischemic stroke

AUTHORS: Jennifer Hodge, PharmD; Jessica Williams, PharmD, BCPS; Jason Parker, PharmD, BCPS; Bon Secours health system, Richmond, VA

OBJECTIVE: While robust data using tenecteplase for LVO stroke exist, few studies investigate its real-world use in non-LVO stroke. The purpose of this study was to compare the efficacy and safety of tenecteplase versus alteplase for non-LVO stroke.

METHODS: This was a retrospective chart review of patients who received tenecteplase from July 19, 2022 until December 31, 2022 and alteplase from July 19, 2021 until December 31, 2021 at seven community hospitals in the Richmond Bon Secours Mercy Health system. Patients were eligible if they were 18 years or older with acute ischemic stroke (AIS) confirmed by magnetic resonance imaging (MRI) within 24-48 hours following thrombolytic therapy. Non-LVO stroke was confirmed based on the computed tomography angiography (CT-A) read. Those with LVO stroke documented by the CT-A, active internal bleeding, no NIH stroke scale (NIHSS) score documentation, no confirmatory MRI by 48 hours, or were pregnant were excluded. Baseline characteristics, NIHSS scores, needle time, in-hospital death, discharge to hospice, symptomatic intracranial hemorrhage, angioedema, use of emergent antihypertensives, and several other parameters were recorded. Both descriptive and analytical statistics were used.

RESULTS: The comparison of the change in NIHSS score from baseline to 24 hrs between tenecteplase and alteplase along with the secondary outcomes regarding symptomatic intracranial hemorrhage, angioedema due to thrombolytic, and door to needle time will be recorded and results presented.

CONCLUSIONS: The anticipated conclusion of this study is that there will be no difference in the primary outcome between tenecteplase and alteplase.

3:40pm – 3:55pm G **Evaluation of the efficacy of sodium sulfate, magnesium sulfate, and potassium chloride compared to polyethylene glycol with and without electrolytes for bowel cleanout for patients requiring a colonoscopy** Magnolia B

Presenters: Aliyah Carty
Evaluators: Monique Bonhomme
Evaluators 3: Ansue Koshy
Evaluators 2: Jaclyn Seiple

TITLE: Evaluation of the efficacy of sodium sulfate, magnesium sulfate, and potassium chloride compared to polyethylene glycol with and without electrolytes for bowel cleanout for patients requiring a colonoscopy

AUTHORS: Aliyah Carty, PharmD, Stephanie Manspeaker, PharmD, Thao Vuong, PharmD, MBA, BCAP, Eric Wollins, MD

OBJECTIVE: Compare rate of successful colonoscopies on the first attempt using sodium sulfate, magenisium sulfate, potassium chloride compared to using polyethylene glycol with and without electrolytes.

METHODS: This is an observational, retrospective study. List of Kaiser Permanente Mid Atlantic patients prescribed sodium sulfate, magenisium sulfate, potassium chloride, or polyethylene glycol with or without electrolytes for colonoscopy preparation from December 1, 2021 to November 30, 2022, will be collected from pharmacy utilization tool COGNOS and then randomized. The data will be collected via chart review from Kaiser Permanente Health Connect.

RESULTS: The number and percentage of successful first attempts using sodium sulfate, magenisium sulfate, potassium chloride, polyethylene glycol with and without electrolytes will be recorded. Secondary endpoints include average number of repeated attempts needed to have a successful colonoscopy using sodium sulfate, magenisium sulfate, potassium chloride versus polyethylene glycol with and without electrolytes and the number of patients that failed the first colonoscopy attempt and switched to alternative treatment and had a successful repeat attempt. Statistical analysis will be completed using chi-square test for the primary endpoint. Secondary endpoints will be analyzed using descriptive analysis.

CONCLUSIONS: It is anticipated that the results of the study will demonstrate if there is a difference in efficacy between sodium sulfate, magenisium sulfate, potassium chloride, and polyethylene glycol with and without electrolytes in regards to bowel cleanout for a colonoscopy.

3:40pm – 3:55pm | **Local Risk Factors for Community-Acquired Methicillin-Resistant Staphylococcus aureus Infections** Magnolia D

Presenters: Benjamin Miller
Evaluators: Michael Fox
Evaluators 2: Kimberly Allison

TITLE: Local risk factors for community-acquired methicillin-resistant Staphylococcus aureus infections
AUTHORS: Benjamin M. Miller, PharmD; Thomas L. Smoot, PharmD, BCPS
OBJECTIVE: Local risk factors associated with community-acquired methicillin-resistant Staphylococcus aureus (CA-MRSA) infections may be validated in patients being treated at Frederick Health Hospital (FHH).
METHODS: This project will be a retrospective case control study of patients admitted through the emergency department to an inpatient unit at FHH from October 01, 2019 â€“ September 30, 2022. Patients will be analyzed if they were at least 18 years old and received intravenous empiric antibiotic therapy for â‰¥ 48 hours. Individuals undergoing analysis will be grouped into one of two cohorts: (1) produced a culture which was positive for MRSA, and (2) produced a culture which was either negative or positive for any non-MRSA organism. Cohort characteristics will be arranged into contingency tables and subsequently quantified through odds ratio calculations; the statistical significance of these values will be determined using chi-squared and Fisherâ€™s exact tests. Data will also be analyzed via multivariate logistic regression, and each variableâ€™s correlative magnitude will be further augmented via predictive model simulation using IBMÂ® Statistical Product and Service Solutions (SPSS) software.
RESULTS: With the increased incidence of CA-MRSA infections, results will be derived by extracting likely risk factors present in both cohorts. The expectation is that patients with confirmed CA-MRSA infections will exhibit specific characteristics that are absent in patients without CA-MRSA infections. Hypothesized risk factors will be validated through the aforementioned statistical analysis. It is anticipated that quantifiable risk factors for CA-MRSA infections will be identified through this study. Finalized results will be described through presentation.
CONCLUSIONS: Results will be used to optimize empiric antibiotic selection at Frederick Health Hospital. Moving forward, patients with validated risk factors for CA-MRSA infections would qualify to receive antibiotics with MRSA coverage, while unwarranted MRSA coverage will be avoided in patients lacking any of the identified risk factors.

3:40pm – 3:55pm | **Readmission rate association with oral step-down therapy versus intravenous therapy for gram negative bloodstream infection.** Magnolia C

Presenters: Hope Durham
Evaluators: Sharon Blum
Evaluators 3: Kam Capoccia
Evaluators 2: Yosef Nissim

TITLE: Effect of oral step-down therapy for gram-negative blood stream infection on length of stay and readmission rate.

AUTHORS: H. Durham, R Gokhman; Reading Hospital, West Reading, Pennsylvania

OBJECTIVE: The objective of this study is to compare patients treated with oral (PO) step-down therapy for gram negative bloodstream infections (GN-BSI) to intravenous (IV) therapy only based on 30 day readmission rate, 30 day mortality, and length of stay

METHODS: This was a retrospective, single center chart review. Patients that met the inclusion criteria (> 18 years old with a positive culture for GN-BSI), were considered candidates for review. Exclusion criteria included patients with neutropenia, osteomyelitis, and endocarditis. After using microbiologic results to identify eligible patients, the electronic medical record was used to gather information such as patient demographics, past medical history, infection source, intensive care unit admission, susceptibility data, bloodstream infection mortality risk score (BSIMRS), antimicrobial regimen, length of stay, 30-day mortality rate, and readmission within 30 days. Readmission rate and length of stay were coprimary outcomes measured for this study. Thirty-day mortality and recurrent bacteremia were surrogates for success as well. BSIMRS was used to assess the correlation between severity of infection and the outcome measures.

RESULTS: 264 patients were selected for review with 164 patients receiving PO step-down therapy and 100 receiving IV only therapy. The length of stay was on average 6.5 days for PO versus 11.4 days for IV. The recurrence of bacteremia was 2.4% for PO versus 8% for IV. The 30-day readmission rate was 14.6% for PO versus 24% for IV, and the 30-day mortality rate for PO was 2.4% versus 16% for IV. The average BSIMRS for PO patients to fail stepdown therapy was 4.8 versus 2.6 for patients not readmitted in 30 days. The average BSIMRS for IV patients that failed therapy was 5.9 for failure versus 4.5 for success. The 30-day mortality BSIMRS for PO failure was 5 versus 2.9 for success. For IV therapy the score was 7 for failure versus 4.2 in success.

CONCLUSIONS: Oral step-down therapy was associated with shorter length of stay and lower readmission rate. This study suggests a reasonable cutoff BSIMRS for transition to PO therapy is 4.5 â€“ 5. A common reason for primary endpoint failure was infection source other than urinary tract infection. The difference seen in primary outcome between PO stepdown therapy and IV only therapy is likely due to selection bias. More ill patients were kept on IV therapy and healthy patients were ready to go home.

3:40pm – 3:55pm L **Assessment of Level of Burnout Amongst Johns Hopkins Home Care Group Staff** Wild Rose A

Presenters: Evan Buzgo
Evaluators: Janet Mighty
Evaluators 3: Jacqueline Saunders
Evaluators 2: Amy Nathanson

TITLE: Assessment of Level of Burnout Amongst Johns Hopkins Home Care Group Staff

AUTHORS: Evan Buzgo, Scott Canfield, Kris Rusinko, Jean Freels, Matt Diehl, Kenneth Shermock, Cheryl Gast-Whitaker, Molly Wascher

OBJECTIVE: This project focuses on establishing the incidence of burnout across the pharmacy department and outlining strategies to make the necessary changes to support employee wellness and resiliency.

METHODS: Burnout will be assessed through a validated survey instrument with the addition of specific demographic questions to identify employee subgroups. The survey will be administered at a department wide education session in which all employees will be present and given the opportunity to complete. Pre-communications explaining the survey relevancy will be delivered via email on two separate occasions preceding the department wide information session. A brief presentation explaining the importance of the survey in influencing departmental policies and initiatives will be delivered. A link to the electronic survey will be disseminated during the education session and staff will be given time to complete the survey. Completed surveys will be compiled electronically. Data from completed surveys will be organized in preparation for analysis. The analysis will involve descriptive analyses determining the distribution to each question by respondents.

RESULTS: The implementation of this survey is necessary to understand the current employee perspective. The results and subsequent interpretation of the results will provide an excellent basis to suggest critical organizational changes to address employee burnout.

CONCLUSIONS: The results of this study will seek to improve employee wellness and resiliency. As well as, aid in the development of an implementation strategy to reduce burnout amongst outpatient centric pharmacy staff.

3:40pm – 3:55pm M **Reducing the Delay in Initial Administrations of Tacrolimus Oral Suspensions in a Pediatric Population** Wild Rose B

Presenters: Angelly Joy Miane
Evaluators: Bradley Peterson
Evaluators 3: Kelcy Henrique
Evaluators 2: Ashley Street

TITLE: Reducing the delay in initial administrations of tacrolimus oral suspensions in a pediatric population

AUTHORS: A. Miane, J. Savva, A. Brownstein, D. Shah; Montefiore Medical Center, Bronx, NY

OBJECTIVE: Tacrolimus has a narrow therapeutic index and should be administered at the same time each day. We aim to decrease the delay in initial administrations of tacrolimus oral suspensions by 30 minutes to ensure consistent administration of the drug.

METHODS: Tacrolimus is an immunosuppressive agent that requires routine therapeutic drug monitoring. To maintain a steady blood level, tacrolimus should be administered at the same time each day. When doses are adjusted based on levels, administration of the new orders are often late. We retrospectively reviewed tacrolimus oral suspension administration times from January 2022 - June 2022 and identified that 45 out of the total 400 administrations (11.25%) were late. We considered a medication administered an hour past its due time as "late". Of these late orders, 84% were one-time orders or first doses in a series. The mean delay from the time the dose was due to the actual administration time was about 90 minutes. We plan to further investigate the cause of the delay in administration by evaluating our hazardous drug preparation process. The primary outcome is the difference between the time the dose was due and the actual time of administration of the dose of tacrolimus oral suspensions.

RESULTS: Data will be obtained through Business Universe and DoseEdge and the following data will be collected: date and time the order was placed, the time the order was due and the time of the actual administration. This will be collected following each PDSA cycle and results will be presented.

CONCLUSIONS: It is anticipated that this project will decrease the delay in initial administrations of tacrolimus oral suspensions by 30 minutes to ensure consistent administration of the hazardous drug.

4:00pm – 4:15pm C **Sedation Requirements in Intensive Care Unit Patients on Methadone or Buprenorphine/naloxone Prior to Admission** Empire B

Presenters: Erika Mackie
Evaluators: Jenny Shah
Evaluators 3: Semie Durrani
Evaluators 2: Michelle Kohute

TITLE: Initial sedation requirements in intensive care unit patients on prior-to-admission medication assisted treatment for opioid use disorder

AUTHORS: E. Mackie, A. Kinney, A. Shigle, S. Burwell; WVU Medicine â€“ WVU Hospitals (WVUH), Morgantown, West Virginia

OBJECTIVE: The purpose of this study is to determine the sedation requirements in medical intensive care unit (MICU) patients that were on buprenorphine/naloxone prior-to-admission (PTA) compared to opioid-naÃ¯ve MICU patients.

METHODS: Medical records of adult MICU patients intubated on a fentanyl infusion that were either on buprenorphine/naloxone PTA or were opioid-naÃ¯ve at WVUH from January 2018 to December 2022 were reviewed. The primary outcome was the total amount of fentanyl in morphine milligram equivalents (MME) in the first 72 hours of admission. Secondary outcomes included total amount of opioids (in MME) and non-opioids in the first 72 hours, daily average Richmond Agitation and Sedation Score and Critical Care Pain Observation Tool Score for the first 72 hours, buprenorphine/naloxone dose at discharge, and MICU and hospital length of stay.

RESULTS: The total amount of opioid and non-opioid sedation for both groups will be recorded and results will be presented. It is anticipated that this project will demonstrate an increased opioid and non-opioid sedation requirement in the buprenorphine/naloxone group as compared to the opioid-naÃ¯ve control group.

CONCLUSIONS: Medication assisted treatment is a cornerstone in treatment of opioid use disorder. Patients on buprenorphine/naloxone PTA have been shown to require increased amounts of opioid and non-opioid analgesics for pain control in the perioperative setting. To our knowledge, no studies exist looking at sedation requirements in the MICU patient population.

4:00pm – 4:15pm C **Train of Four and Bispectral Index Monitoring after Implementation of a Modified Neuromuscular Blockade Titration Protocol** Empire C

Presenters: Nicole Eng
Evaluators: John Papadopoulos
Evaluators 3: Bryna Delman Ewachiw, Courtney Skriptshak
Evaluators 2: Ashley Quintili

TITLE: Train of four and bispectral index monitoring after implementation of a modified neuromuscular blockade titration protocol

AUTHORS: NL Eng, M McIntyre, JL Costello, M Patel; Penn Medicine Lancaster General Health (LGH), Lancaster, Pennsylvania.

OBJECTIVE: To assess if liberalizing the train of four goal and requiring use of an order set will increase appropriate paralytic and sedation monitoring to ensure safety, efficacy and appropriate dosing of neuromuscular blocker continuous infusions.

METHODS: This is a retrospective, single-center chart review occurring from September 2019 to February 2023. A washout period between September 2021 to June 2022 was used due to the new protocol training period and COVID-19 surge. Patients were included if they were eighteen years or older, in the intensive care unit, and received a vecuronium or cisatracurium continuous infusion for acute respiratory distress syndrome or ventilator dyssynchrony for at least six hours. Patients were excluded if they were receiving a paralytic for targeted temperature management. The primary outcome includes time to goal train of four and time to goal bispectral index. Secondary outcomes include total duration and dose of the paralytic infusions, thirty day mortality, and cumulative dose of sedative agents.

RESULTS: The results of the primary and secondary outcomes will be presented.

CONCLUSIONS: It is hypothesized that the patients who utilized the updated protocol will have more consistent monitoring and documentation of the train of four readings, and will have spent more time in goal train of four and bispectral index range.

4:00pm – 4:15pm D **Venous Thromboembolism Prophylaxis Management of Inpatients with Acute Gastrointestinal Bleeding** Empire D

Presenters: Daniel Sweitzer
Evaluators: Annie Poon
Evaluators 3: Leila Forouzan
Evaluators 2: Wafaa Abou-Zeineddine

TITLE: Venous thromboembolism prophylaxis management of inpatients with acute gastrointestinal bleeding
AUTHORS: Daniel Sweitzer, PharmD; Gabrielle Grossman, PharmD, BCPS, BCCCP; Cara McDaniel, PharmD, BCPS, BCCCP, FCCM
OBJECTIVE: Recommendations for the use of pharmacologic venous thromboembolism (VTE) prophylaxis in patients with gastrointestinal bleeding (GIB) are lacking. This study aims to describe our institutionâ€™s use of pharmacologic VTE prophylaxis in this population.
METHODS: This retrospective review includes patients identified using a secure electronic medication report and diagnosed with overt (confirmed via endoscope) or suspected (presence of hematochezia, hematemesis, melena, or bright red blood per rectum) GIB from January 1, 2022 to December 31, 2022. Patients with active or previous malignancies, history of VTE, use of anticoagulation prior to admission, and those that were discharged or expired within 24 hours of admission are excluded. The primary outcome is the incidence of VTE prophylaxis utilization in patients with gastrointestinal bleeding. Key secondary outcomes include: incidence of VTE, incidence of blood product utilization, characterization of anticoagulants utilized, and timing. Patient characteristics will be analyzed using descriptive statistics. Categorical data will be analyzed using Chi-squared test or Fisherâ€™s exact test. Continuous data will be analyzed using Studentâ€™s t-test or Mann-Whitney U test.
RESULTS: The incidence, characterization, and outcomes of VTE prophylaxis utilization in patients with GIB will be assessed, and these results will be presented.
CONCLUSIONS: The findings from this study will describe our institutionâ€™s prescribing patterns for VTE prophylaxis management in this patient population. The outcomes will be utilized to assess our institutionâ€™s clinical practice regarding management of patients with GIB, identify areas for performance improvement, as well as contribute to the current body of literature describing this population.

4:00pm – 4:15pm Y **Impact of Adding Reduced Insulin Dosing Options to the Emergency Department/Inpatient Hyperkalemia Order-Set** Magnolia A

Presenters: Elaina Lioudis
Evaluators: Justin Miller
Evaluators 3: Riya Patel
Evaluators 2: Laura Koons

TITLE: Impact of adding reduced insulin dosing options to the emergency department and inpatient hyperkalemia order-set

AUTHORS: Elaina Lioudis, PharmD, BS; Regine Ghoubrial-Waibel, PharmD; Micah Kidd, RN, AGCNS-BC, CMSRN

OBJECTIVE: The purpose of this study is to compare the effects of reduced (5 units), weight-based (0.1 units/kg, max 10 units), and standard (10 units) IV insulin doses on potassium reduction and hypoglycemia incidence in the treatment of acute hyperkalemia.

METHODS: The hyperkalemia treatment order-set was updated in December 2022 to include reduced and weight-based insulin dose options, in addition to the previous standard dose option. Pre-protocol data was collected from July 1, 2022 through September 30, 2022 and post-protocol data was collected from December 20, 2022 through March 21, 2023. Patients over 18 years old with acute hyperkalemia treated with insulin using the order-set were included. Patients with missing data (weight, follow-up potassium level, no glucose levels) and patients who started dialysis before follow-up potassium monitoring were excluded. The primary efficacy outcome was reduction in serum potassium from baseline. The primary safety outcome was incidence of hypoglycemia (glucose less than 70 mg/dL) and severe hypoglycemia (glucose less than 40 mg/dL). Secondary outcomes included insulin dose ordered, completion of hourly glucose checks, and dextrose use.

RESULTS: The pre-protocol group included 60 patients and the post-protocol group included 76 patients. Potassium reduction was similar with a mean reduction of 0.9 mmol/L in the pre-protocol group and 0.85 mmol/L in the post-protocol group. The incidence of hypoglycemia was 18.3% in the pre-protocol group with 1.7% of patients developing severe hypoglycemia. The incidence of hypoglycemia was 13.2% in the post-protocol group with 2.6% of patients developing severe hypoglycemia. Weight-based and reduced insulin doses were used in 84.2% and 13.2% of patients, respectively, in the post-protocol group. Less than 25% of patients completed all hourly glucose checks. Dextrose doses were given to less than 50% of patients with hypoglycemia.

CONCLUSIONS: The findings of this study suggest that using reduced and weight-based insulin doses compared to standard doses in the treatment of acute hyperkalemia results in similar efficacy through comparable potassium reduction and improved safety through reduced hypoglycemia incidence. Limitations of this study include small sample size, single-center design, inconsistent timing of potassium and glucose monitoring, and variable utilization of additional potassium-lowering treatment options.

4:00pm – 4:15pm G **Interim analysis of a buprenorphine microinduction protocol for opioid use disorder (OUD) in hospitalized patients** Magnolia B

Presenters: Emily Wagner
Evaluators: Monique Bonhomme
Evaluators 3: Ansue Koshy
Evaluators 2: Jaclyn Seiple

TITLE: Interim analysis of a buprenorphine microinduction protocol for opioid use disorder in hospitalized patients

AUTHORS: Emily M. Wagner, PharmD, Briana J. Coughlin, PharmD, Travis Reinaker, PharmD, BCCCP, Leila Forouzan, PharmD, CACP, and Serge-Emile Simpson, MD

OBJECTIVE: Analyze the characteristics of the patient population who were initiated on buprenorphine (BUP) microinduction for opioid use disorder (OUD) to provide practical considerations for patient selection and protocol revision.

METHODS: This retrospective, single-center cohort study analyzed inpatients who received BUP for microinduction at Einstein Medical Center Philadelphia (EMCP) from October 1, 2021-December 14, 2022. Inclusion criteria consisted of patients who received at least one dose of both BUP and methadone (MTD) per the microinduction protocol. The primary composite outcome defined successful completion of the protocol as: inpatient transition to full-strength doses of BUP, documentation of a follow-up appointment for continued OUD treatment, and discharge with a prescription for BUP-naloxone. Descriptive statistics were utilized to report variables that may correlate to treatment success as noted in previous studies, such as reason for presentation, non-prescription drug use prior to admission, and prior medications for OUD treatment. Daily Clinical Opiate Withdrawal Scale (COWS) assessments were also analyzed to determine if precipitated withdrawal was avoided in patients undergoing microinduction.

RESULTS: Nine patients received both BUP and MTD as part of the microinduction protocol. Of all patients included, 88.9% presented to EMCP due to a complication of injection drug use. Urine drug screen results were available for five patients, and 80% were positive for a substance other than an opioid. Both BUP and MTD had previously been utilized by 55.6% of all patients. Six patients successfully completed the protocol, while three did not. Two of the unsuccessful patients left against medical advice, and one decided to pursue MTD for OUD treatment instead of BUP. Daily COWS assessments were recorded for five successful and two unsuccessful patients. The average daily COWS for the successful and unsuccessful patients were 5 and 6.4, respectively.

CONCLUSIONS: Buprenorphine microinduction is a method for initiating OUD treatment in hospitalized patients. However, there is limited data for its utilization. The results of this interim analysis were unrevealing, due to the limited number of patients included. Factors associated with treatment success must be further examined.

4:00pm – 4:15pm 1 **Evaluation of Aspirin Use for Primary Prevention in Veterans Older than 70 Years Old** Empire A

Presenters: Catherine Kim
Evaluators: Cathy Walker
Evaluators 3: Sarah Dombrowski
Evaluators 2: Matthew Lengel

TITLE: Evaluation of aspirin use for primary prevention in veterans older than 70 years old

AUTHORS: C. Kim, J. Pyhtila, E. Assogba; VA Maryland Health Care System, Baltimore, Maryland

OBJECTIVE: This study investigates aspirin prescribing practices at the Veterans Affairs Maryland Health Care System (VAMHCS) adhere to the updated guideline recommendations against routine use of low-dose aspirin as primary prevention in older adults.

METHODS: This retrospective cohort study used descriptive statistics to evaluate the number of VAMHCS veterans older than 70 receiving aspirin for primary prevention and looked at the practice setting of VAMHCS providers prescribing aspirin outside the 2019 ACC/AHA guideline. This study included veterans older than 70 with a prescription for aspirin therapy indicated for primary prevention prescribed at VAMHCS from January 2021 to January 2022. Exclusion criteria consisted of veterans receiving aspirin with indications for secondary prevention of Coronary Artery Disease (CAD), Transient Ischemic Attack (TIA), Cerebrovascular Accident (CVA), or Peripheral Vascular Disease (PVD), and other indications such as colorectal cancer prevention. Additionally, veterans with non-VA aspirin, discontinued or expired aspirin prescriptions during the project period were excluded. However, this study included veterans with discontinued aspirin prescriptions due to adverse drug reactions such as bleeding.

RESULTS: There were 250 unique electronic charts reviewed for data collection. After applying inclusion and exclusion criteria, 150 veterans were included in the study, while 100 veterans were excluded from the analysis. Of those included in the study, the average age was 75.9 years old, and 98.7% were male. This study found that there were 150 veterans receiving aspirin on a routine basis for the primary prevention of ASCVD among adults >70 years of age outside the 2019 ACC/AHA guideline indications between January 2021 to December 2021. Seventy-eight VA providers prescribed aspirin administered outside the 2019 ACC/AHA guideline indications. The percentage of VAMHCS veterans with a bleeding event while on aspirin was 4%.

CONCLUSIONS: The study displays the frequent use of aspirin on a routine basis for the primary prevention of ASCVD among adults >70 years of age outside the 2019 ACC/AHA guideline indications between January 2021 to December 2021. Educational material to aid in updating clinical practice in VA providers may be helpful in practicing with up-to-date standards.

4:00pm – 4:15pm | **Antibiotic utilization after implementation of cefazolin MIC breakpoint changes for complicated cystitis and pyelonephritis** Magnolia C

Presenters: Julie Ing
Evaluators: Sharon Blum
Evaluators 3: Kam Capoccia
Evaluators 2: Yosef Nissim

TITLE: Antibiotic utilization after implementation of cefazolin MIC breakpoint changes for complicated cystitis and pyelonephritis

AUTHORS: Julie Ing, Stephen May, Nicole Harrington, Jessica Leri, Megan Lazo; ChristianaCare, Newark, Delaware

OBJECTIVE: First-generation cephalosporin use may have decreased after March 11, 2020 implementation of new cefazolin minimum inhibitory concentration (MIC) breakpoints for complicated urinary tract infection (cUTI) and pyelonephritis due to Enterobacterales.

METHODS: This retrospective study compared adult patients at ChristianaCare between March 10, 2019 and March 10, 2020 (pre-group) to those between March 10, 2020 and March 10, 2022 (post-group). Patients had cUTI or pyelonephritis with or without associated bacteremia due to E. coli, K. pneumoniae, or P. mirabilis for which empiric treatment was cefepime, ceftriaxone, or cefazolin; urine isolate susceptibility to cefazolin was sensitive for the pre-group or indeterminate for the post-group. â€œIndeterminateâ€ is an internal designation for urinary isolates for cefazolin since automated susceptibility testing can only determine MIC â‰¤ 4 mcg/mL. The primary outcome was use of a first-generation cephalosporin as definitive therapy. Secondary outcomes included appropriate definitive therapy, antibiotic de-escalation and escalation, hospital length of stay, 30-day and 90-day readmission for UTI, duration of therapy, C. difficile infection, confirmatory Kirby-Bauer testing, and antibiotics used.

RESULTS: 100 patients were included in this study, with 50 patients in the pre- group and 50 patients in the post-group. Use of a first-generation cephalosporin as definitive therapy for cUTI or pyelonephritis was significantly lower after implementation of the new cefazolin MIC breakpoints, with 48 patients (96%) in the pre-group versus 13 patients (26%) in the post-group ($p < 0.05$). Cephalexin was the most-used definitive therapy for the pre-group (38 patients, 76%), while ceftriaxone was the most-used definitive therapy for the post-group (19 patients, 38%). Antibiotic de-escalation occurred more often in the pre-group (41 patients, 82%) than in the post-group (20 patients, 40%) ($p < 0.05$). One patient in the post-group escalated therapy.

CONCLUSIONS: Use of first-generation cephalosporins has significantly decreased after implementation of new cefazolin MIC breakpoints for cUTI and pyelonephritis due to E. coli, K. pneumoniae, or P. mirabilis. These results demonstrate a potential need to update health system automated susceptibility testing methods for urine isolates to a panel that would capture MIC â‰¤ 2 mcg/mL in order to optimize use of first-generation cephalosporins as definitive therapy in these infections.

4:00pm – 4:15pm I **Pharmacy-Directed Penicillin Skin Testing Initiative For De-escalation Of Inpatient Antibiotic Therapy** Magnolia D

Presenters: Fatema Lukmanji
Evaluators: Michael Fox
Evaluators 2: Kimberly Allison

TITLE: Pharmacy-Directed Penicillin Skin Testing Initiative For De-escalation Of Inpatient Antibiotic Therapy
AUTHORS: F. Lukmanji, T. Kim, T. Pham, K. Tawfik, K. Manthani, J. Yazak, M. Huang, A. Zahra, B. Van Slyke
OBJECTIVE: Approximately 90% of patients who report a penicillin allergy do not have a true allergy. The purpose of this research is to deescalate patient stated penicillin allergy and decreasing antibiotic drug resistance.
METHODS: During a three-month prospective research period between January 2023-March 2023, we will enroll patients with a documented penicillin allergy who have the following: greater than or equal to 18 years of age and are able to give written consent. Patients will be excluded for reports of severe, non-IgE-mediated reaction to a beta lactam antibiotic, anaphylaxis within 4 weeks, to be discharged within 24 hours, taken an antihistamine within the past 48-72 hours or any skin condition or insufficient skin amendable that may interfere with reading the skin test. Patients will be interviewed to determine the degree of allergy and if skin testing is required. If skin testing is warranted, tests will be performed following our health system Penicillin Allergy Sensitivity Testing Guideline. Our primary outcome is the rates of de-escalation of broad-spectrum antimicrobials because of negative penicillin allergy skin test. Our secondary outcome will be the rates of penicillin allergy delabeling.
RESULTS: Data collection is in progress and results will be presented.
CONCLUSIONS: It is anticipated this initiative will de-escalate many patient penicillin allergies and antibiotic regimen to enhance treatment of various Infectious Disease.

4:00pm – 4:15pm L **Impact of Clinical Decision Support for Immunosuppressant Drug-Drug Interactions in Preventing Graft Failure in Transplant Patients** Wild Rose A

Presenters: Michelle Nguyen
Evaluators: Janet Mighty
Evaluators 3: Jacqueline Saunders
Evaluators 2: Amy Nathanson

TITLE: Impact of Clinical Decision Support for Immunosuppressant Drug-Drug Interactions in Preventing Graft Failure in Transplant Patients
AUTHORS: M. Nguyen, S. Ledan, A. Yishak
OBJECTIVE: To prevent potentially severe drug-drug interactions and medication-related adverse events associated with immunosuppressants, this study seeks to examine the impact of patient safety alerts on the prevention of graft failure in transplant patients.
METHODS: A retrospective chart review was conducted at an integrated healthcare system with computerized provider order entry. Adult transplant patients with an active order of oral tacrolimus in the electronic medical record were included if a prespecified medication known to severely impact tacrolimus levels was added (new or continuation therapy) or discontinued from their medication list. Data was collected through alert reporting and analyzed by looking at a one-year period prior to and following implementation of the alert with a pre-specified one-month transition period. The primary outcome measure was the percent change in therapy adjustments due to patient safety alerts triggered in the electronic medical record. The secondary outcome measures include the subsequent change in tacrolimus blood concentrations and dose adjustments. A chi-square test was conducted to detect differences between the groups prior to and following the implementation of the alerts.
RESULTS: A total of 207 patients met inclusion criteria for chart review with 105 patients included in the pre-implementation period and 102 patients in the post-implementation period. Data was analyzed for each of the three interaction types (newly initiated, continued, or discontinued). After the implementation of the alert, there was a statistically significant 58% difference in therapy adjustments resulting from interactions with newly initiated medications compared to the pre-implementation period (p

4:00pm – 4:15pm M **Outcomes of Opioid Stewardship Pharmacist Intervention and Outreach on Patients Identified as Having Increased Risk for Opioid-induced Respiratory Depression at a Large Academic Medical Centerâ€‹** Wild Rose B

Presenters: Benazir Asifa Mohamed Raffi
Evaluators: Bradley Peterson
Evaluators 3: Kelcy Henrique
Evaluators 2: Ashley Street

TITLE: Outcomes of Opioid Stewardship Pharmacist Intervention and Outreach on Patients Identified as Having Increased Risk for Opioid-induced Respiratory Depression at a Large Academic Medical Center
AUTHORS: BA. Mohamed Raffi, E. Casey, J. Radcliff, J. Pomeroy, T. Uritsky
OBJECTIVE: Opioid-induced Respiratory Depression (OIRD) can be minimized through utilization of opioid stewardship to prevent adverse events. This study assessed outcomes of opioid stewardship pharmacist intervention on patients at high risk for OIRD.
METHODS: This retrospective, single-center, cohort study characterized opioid stewardship pharmacist intervention on patients identified to be at increased risk for OIRD between March 2021 and May 2021. Patients were included if they had an active opioid order and at least one of the following: obstructive sleep apnea (OSA) on problem list, risk of OSA or met â‰¥ 4 OIRD risk factors. The exposure group includes patients who met the inclusion criteria and received pharmacist intervention. The control group comprises patients who met the criteria but did not receive opioid pharmacist intervention. The primary endpoint was naloxone prescribed at discharge. The secondary endpoint was discontinuation of opioids at discharge following pharmacist intervention. Data was collected via EHR chart review. Descriptive statistics were utilized to assess demographic characteristics and parametric continuous variables between the groups.
RESULTS: A total of 125 patients were included in the analysis. Fifty-four patients were included in the exposure group and 71 patients were included in the control group. The average age was 58.9 years, 51.2% of the patients were male, and 48.8% had OSA. Forty-four percent of patients in the exposure group and 57.7% of patients in the control group had â‰¥ 4 OIRD risk factors. The percentage of naloxone prescribed at discharge was 12.9% in the exposure group and 11.2% in the control group. The median MEDD at discharge was 21.2 in the exposure group and 45 in the control group. Discontinuation of opioids at discharge was evident in 38.9% and 33.8% respectively in the exposure and control groups.
CONCLUSIONS: Despite being at a substantially higher risk for OIRD, most patients were not prescribed naloxone. Our results showed that pharmacist intervention did not result in significantly more naloxone prescription at discharge. The timing of the intervention needs to be optimized to better assess for potential impact. Further studies are necessary to study the impact of opioid stewardship in ensuring optimal naloxone prescribing at discharge to minimize adverse events associated with OIRD.

4:00pm – 4:15pm

O **Evaluation of Emergency Department Visits and Admissions by Oncology Patients at a Community Hospital Under the Centers for Medicaid and Medicare Services OP-35 Measure**

Crystal A

Presenters: Miranda Holt
Evaluators: Suzanne Nesbit
Evaluators 3: Yogini Patel
Evaluators 2: Nicholas Sandoval

TITLE: Evaluation of emergency department visits and admissions by oncology patients at a community hospital under the Centers for Medicaid and Medicare Services OP-35 chemotherapy measure
AUTHORS: Miranda Holt, PharmD, Julie Paris, PharmD, Sean Young, PharmD
OBJECTIVE: Oncology patients are more likely to have emergency department (ED) encounters, indicating potentially avoidable gaps in healthcare delivery. Evaluating incidence and causes of ED encounters by oncology patients can potentially improve patient care.
METHODS: Electronic medical records were reviewed to identify oncology patients with ED encounters between January 1, 2022 and December 31, 2022. Oncology patients who had an active treatment plan, an ED encounter within the specified time frame, and received outpatient chemotherapy within 30 days of their ED visit were included. Patients less than 18 years of age and those receiving oncology treatment at an outside institution were excluded. The primary endpoint was the number of ED visits and admissions by oncology patients that had one or more preventable conditions listed in the CMS OP-35 chemotherapy measure: anemia, nausea, vomiting, dehydration, neutropenia, diarrhea, pain, pneumonia, fever, and sepsis. Secondary endpoints included: disposition, length of stay, and pre-encounter utilization of the cancer center nurse telephone hotline. The data collected included: age, sex, cancer type, chemotherapy regimen received within the past 30 days, and ED chief complaint.
RESULTS: The number of ED visits and admissions by oncology patients that had one or more preventable conditions listed in the CMS OP-35 chemotherapy measure will be recorded and results will be presented.
CONCLUSIONS: It is anticipated that the retrospective review of ED visits and admissions by oncology patients will assist in determining future quality improvement efforts.

4:20pm – 4:35pm

C **Evaluation of a Nurse-Driven Unfractionated Heparin Protocol Versus a Provider-Driven Protocol**

Empire C

Presenters: Christopher Cardace
Evaluators: John Papadopoulos
Evaluators 3: Bryna Delman Ewachiw, Courtney Skriptshak
Evaluators 2: Ashley Quintili

TITLE: Evaluation of a nurse-driven unfractionated heparin protocol versus a provider-driven protocol
AUTHORS: Christopher Cardace, PharmD; Yogini Patel, PharmD, BCPS
OBJECTIVE: To assess the time to a therapeutic activated partial thromboplastin time (aPTT) in patients receiving a heparin drip for venous thromboembolism or atrial fibrillation without a cardiac thrombus, before and after a nurse-driven heparin protocol.
METHODS: This retrospective, single-center, observational cohort study utilized the electronic medical record to collect patient data. Patients were included if they were â‰¥18 years of age and receiving a heparin drip for atrial fibrillation without a cardiac thrombus or venous thromboembolism (VTE). Patients were excluded if they were receiving a heparin infusion for less than twenty-four hours, the patient was switched to a different heparin protocol within twenty-four hours, or if they were transferred in from another hospital on a heparin drip. Data was collected from hospital encounters before and after the introduction of the nurse-driven protocol. Each patient's medical management was evaluated for compliance with its respective protocol using the aPTT. Secondary endpoints included the percentage of patients with an aPTT greater than 150 seconds, the number of patients that received a bolus dose, the number of deviations from either protocol and the presence of any safety events.
RESULTS: Of the 907 patients screened, 81 were included in the provider-driven and 102 in the nurse-driven group. The median time to a therapeutic aPTT was 58.2 hours in the provider group vs. 43.6 hours in the nurse-driven group (95% CI 68.1-91.4; p=0.522). Time to rate adjustment was 0.4 hours in the nurse-driven group vs. 1.3 hours in the provider-driven. 86% of patients in the provider-driven experienced supratherapeutic aPTTs vs. 70% in the nurse-driven group. 58% of received at least one bolus dose in the provider-driven group vs. 75% in the nurse-driven group. Nomogram/protocol deviations occurred in 96% of the provider-driven group while 89% in the nurse-driven group. Numerically, the safety outcomes were similar between both groups.
CONCLUSIONS: In this retrospective, single-center, observational cohort study, there was not a statistically significant difference in the time to a therapeutic aPTT between the provider-driven or nurse-driven protocols.

4:20pm – 4:35pm C **The Efficacy and Safety of Intravenous versus Oral Sotalol Loading in Patients with Atrial Arrhythmias in Maintenance of Normal Sinus Rhythm** Empire B

Presenters: Melinda Novak
Evaluators: Jenny Shah
Evaluators 3: Semie Durrani
Evaluators 2: Michelle Kohute

TITLE: Efficacy and safety of intravenous versus oral sotalol loading in patients with atrial arrhythmias in maintenance of normal sinus rhythm

AUTHORS: M. Novak, K. Weaver, N. Sauers, B. Heikkinen; Geisinger Lewistown Hospital (GLH), Lewistown, Pennsylvania

OBJECTIVE: This retrospective study will aim to evaluate the safety and efficacy of patients with atrial arrhythmias who have undergone IV sotalol loading compared to patients who have undergone oral sotalol loading in maintenance of normal sinus rhythm.

METHODS: Patients admitted to Geisinger Lewistown Hospital or Geisinger Medical Center between May 1, 2019, and August 1, 2022, to undergo sotalol loading were included in the study. Eligible patients were at least 18 years old and diagnosed with atrial fibrillation or atrial flutter. Pregnant or breastfeeding patients along with patients with a creatinine clearance of less than 30 ml/min were excluded. The primary outcome was successful initiation of sotalol at target maintenance dosing upon discharge in patients receiving IV sotalol loading versus oral sotalol loading. Secondary outcomes comparing IV and oral sotalol loading included: percentage of patients on oral sotalol and in normal sinus rhythm at day 30 post discharge, 30-day readmission rate and emergency department visit for atrial arrhythmia or atrial flutter, length of stay, and incidence of QTc prolongation, bradycardia, and hypotension during admission and at the first outpatient office visit at least 30 days after admission.

RESULTS: The number and percentage of successful initiation of sotalol at target maintenance dosing upon discharge in patients receiving IV sotalol loading versus oral sotalol loading, patients remaining on oral sotalol, patients in normal sinus rhythm at day 30 post discharge, 30-day readmission rate, 30-day emergency department visit for atrial arrhythmia or atrial flutter, length of stay/admission, and QTc prolongation, bradycardia, and hypotension during admission and at the first outpatient office visit at least 30 days after admission will be recorded and presented.

CONCLUSIONS: It is anticipated that this project will demonstrate the benefits of IV sotalol loading over oral sotalol loading for the treatment of atrial fibrillation and atrial flutter.

4:20pm – 4:35pm N **Evaluating the Correlation of Health Literacy Scores to Health Factors in Diabetes Patients in an Undeserved Community** Empire A

Presenters: Ralphaelia Atelefack
Evaluators: Cathy Walker
Evaluators 3: Sarah Dombrowski
Evaluators 2: Matthew Lengel

TITLE: Evaluating The Correlation of Health Literacy Scores to Health Factors in Diabetic Patients in a Medically Underserved Community

AUTHORS: Ralphaelia Atelefack, PharmD; Yen Dang, PharmD, CTTS-M; Lana Sherr, PharmD, BSPharm; Omar F. Attarabeen, RPh, PhD; Geoffrey Twigg, PharmD, BCACP, CDE

OBJECTIVE: Diabetes affects approximately 30 million people in the U.S. and is on the rise. The aim of this research is to assess health literacy levels in patients with diabetes in a medically underserved area and its impact on their glycemic control.

METHODS: Patients with diabetes in a community pharmacy in a medically underserved area will voluntarily participate in the study over a three-month period. Patients will be included if they are 18 years of age and older, have diabetes, , and speak English as their primary language. Exclusion criteria include patients that display cognitive dissonance, speech impediments or are severely visually impaired, or those who are blind. Patients who meet study eligibility are given 15 - 20 minutes to complete the demographic questionnaire about their diabetes history and then receive NVS health literacy assessment. The patientâ€™s response to the NVS will be scored to determine the level of health literacy and correlated with their diabetes health outcomes. Statistics using chi-square analysis will be used to determine correlation. The study received approval from the university IRB.

RESULTS: The data collection and evaluation process is still on-going. Patients are currently being screened at the community pharmacy to determine their study eligibility. Patientâ€™s health literacy scores from the NVS will be correlated to their diabetes outcomes including A1c control, self-monitored blood glucose values, number of diabetes medications, medication adherence, emergency room visits and hospitalizations, and their perceived self-knowledge of diabetes.

CONCLUSIONS: We anticipate that this project will demonstrate that our underserved community will have a high population of diabetic patients with low health literacy, which will lead to negative diabetic health outcomes such as hospitalizations/emergency visits due to diabetes, constant hyperglycemia or hypoglycemia, and medication non-adherence.

4:20pm – 4:35pm D **Efficacy of Helicobacter pylori infection treatment in resettled refugees presenting to a family medicine clinic in the South Philadelphia area** Empire D

Presenters: Puja Patel
Evaluators: Annie Poon
Evaluators 3: Leila Forouzan
Evaluators 2: Wafaa Abou-Zeineddine

TITLE: Efficacy of Helicobacter pylori (H. pylori) infection treatment in resettled refugees presenting to a Family Medicine clinic in the South Philadelphia area

AUTHORS: P. Patel, S. Bonanni, C. Resso

OBJECTIVE: Treating H. pylori in refugee patients is crucial but clinically challenging. This retrospective study analyzed the efficacy, safety, and barriers of H. pylori treatment in the refugee population at a Family Medicine clinic in South Philadelphia.

METHODS: Patients treated for H. pylori infection were identified using an electronic medical record report. Patients were included if they were refugees and treated for H. pylori infection at the Family Medicine clinic. Patients were excluded if they had a negative diagnostic test or did not receive treatment for H. pylori. Chart reviews were performed to collect patient demographic information and determine prescribed treatment regimens. The primary outcome was H. pylori eradication evidenced by an appropriately timed negative H. pylori test. Appropriate testing was defined as being performed at least four weeks after completion of antibiotic therapy and without proton pump inhibitor (PPI) therapy for one to two weeks. Secondary outcomes included documented side effects, counseling before treatment by any healthcare professional, and barriers to care such as language barriers, adherence concerns, or access due to costs or insurance delays.

RESULTS: The number and percentage of refugee patients that received different H. pylori treatment regimens with negative tests of cure will be assessed, and results will be presented. Preliminary results show that 13 out of 18 patients (72%) received concomitant therapy with amoxicillin, clarithromycin, metronidazole, and omeprazole for 14 days. Of those patients, 5 (38%) received a test of cure. 4 (80%) were negative, but 2 patients were still on a PPI, limiting interpretation of results. 12 patients (67%) did not receive a post-treatment test of cure. For secondary outcomes, preliminary results show that 1 patient had documented side effects to therapy, 9 received pre-treatment counseling, 13 required an interpreter, and all but one were insured.

CONCLUSIONS: Although limited by a small sample size, preliminary results suggest that concomitant therapy may be effective for the treatment of H. pylori in our refugee population. However, the study highlights the need for provider education on the importance of the test of cure and how to obtain the most accurate results, in order to better follow guideline recommendations.

4:20pm – 4:35pm Y **The Efficacy of Take-Home Naloxone Kits in Preventing Opioid-Related Emergency Department Visits** Magnolia A

Presenters: Julia Bold
Evaluators: Justin Miller
Evaluators 3: Riya Patel
Evaluators 2: Laura Koons

TITLE: Efficacy of take-home naloxone kits in preventing opioid-related emergency department visits
AUTHORS: Julia Bold, PharmD; Rebecca Lucarelli, PharmD; Justin Miller, PharmD; Nicholas Patricia, PharmD
OBJECTIVE: Providing access to naloxone has the potential to reduce opioid-related overdose and death. This study assessed the efficacy of take-home naloxone kits provided in the emergency department (ED) in reducing opioid-related ED visits.
METHODS: This study is a multicenter, retrospective chart review of patients who were treated in a St. Lukeâ€™s University Health Network Emergency Department for a non-fatal opioid overdose between February 1, 2021 to July 31, 2022. Patients who received a take-home naloxone kit upon discharge from the ED were compared to those that did not receive one. Patients were identified through ICD-10 codes and included if > 18 years of age, treated for a non-fatal opioid overdose requiring naloxone, and were subsequently discharged from the ED after the first identified encounter. The primary outcome was opioid-related ED visits within 30 days from the initial opioid overdose. Secondary outcomes included 60-day ED revisit rates, opioid overdose-related hospitalizations, intensive care unit (ICU) admissions, and need for mechanical ventilation on subsequent ED visits.
RESULTS: A total of 1825 patients were screened, and 550 patients met inclusion criteria. There were 155 patients in the naloxone group and 395 patients in the non-naloxone group. There were 10 patients (6.5%) in the naloxone group that had a repeat opioid overdose within 30 days compared to 31 patients (7.8%) in the non-naloxone group (p = 0.5748). There was one patient (0.3%) in the non-naloxone group that was admitted to the ICU and required mechanical ventilation and zero in the naloxone group (p = 1.0000). There were no differences in 60-day ED revisits, 30- or 60-day hospitalizations, or the number of ED visits per patient within the study period.
CONCLUSIONS: While not shown in this study, take-home naloxone kits are an important public health initiative to provide life-saving naloxone to community members. The emergency department is a prime location to target high risk patients as a large number of opioid overdoses were encountered in this study. Larger, prospective studies with more patients in the naloxone group are needed to determine the benefit of these programs.

4:20pm – 4:35pm G **Retrospective evaluation on therapeutic drug monitoring of lithium and anticonvulsants at Princeton Medical Center** Magnolia B

Presenters: Vanessa Clergeau
Evaluators: Monique Bonhomme
Evaluators 3: Ansue Koshy
Evaluators 2: Jaclyn Seiple

TITLE: Retrospective evaluation of therapeutic drug monitoring of lithium and anticonvulsants
AUTHORS: Vanessa Clergeau, PharmD; Mei T.Liu, PharmD., BCPP
OBJECTIVE: To evaluate the appropriateness and pattern of use of therapeutic drug monitoring (TDM) for anticonvulsants and lithium and whether the drug levels obtained were clinically relevant.
METHODS: This is a single-center retrospective chart review of medical records of patients who were ordered drug levels for lithium and anticonvulsants such as carbamazepine, valproic acid, phenytoin, phenobarbital, etc. between January-June 1st, 2022. The goal was to assess the appropriateness, clinical relevance and pattern of use of TDM at the Princeton Medical Center. Data abstracted from the electronic medical record included age, gender, diagnosis, indication for lithium and anticonvulsants, dose information, date and time of the drug levels performed, and medication dosing changes based on the drug levels. The inclusion criteria included patients â‰¥ 18 years old and patients who received the medications in the in-patient units of the hospital. Pregnant patients and patients who received the medications in the emergency department were excluded from the study. Descriptive statistics will be used to analyze the data.
RESULTS: A total of 3,580 patients were screened and a total of 1,108 patients met the inclusion criteria. The interim analysis showed that 80 drug levels were ordered in total. A pattern seen so far is that second-generation anticonvulsants had lower numbers of drug levels ordered compared to first-generation anticonvulsants.
CONCLUSIONS: The analysis of the preliminary findings demonstrates that drug levels are more commonly ordered with lithium, and first-generation anticonvulsants. TDM are less commonly used with second-generation anticonvulsants which is consistent with the literature recommendations. Further performance improvement initiatives such as staff education and order entry alerts may be implemented based on the final study result.

4:20pm – 4:35pm I **Evaluation of clinical outcomes after implementation of pharmacist vancomycin dosing and monitoring workflow** Magnolia D

Presenters: Diana Koval
Evaluators: Michael Fox
Evaluators 2: Kimberly Allison

TITLE: Evaluation of clinical outcomes after implementation of a pharmacist-led vancomycin workflow
AUTHORS: D. Koval, E. Cheon, A. Stilwell
OBJECTIVE: A pharmacist-led vancomycin therapeutic drug monitoring (TDM) service was implemented at NewYork-Presbyterian Brooklyn Methodist Hospital in April 2022. This study aims to evaluate the impact of the TDM service on clinical safety outcomes.
METHODS: A retrospective chart review will be conducted on all adult patients who received vancomycin between January to March 2022 (pre-implementation group) and September to November 2022 (post-implementation group). Patients will be excluded if they have an acute kidney injury (AKI) at baseline, end-stage renal disease (ESRD) and are receiving hemodialysis, or were started on vancomycin therapy prior to admission. Patients who did not receive monitoring according to the pharmacist-led vancomycin TDM workflow will be excluded in the post-implementation group. The primary outcome will be the incidence of AKI, defined as an increase in serum creatinine by 0.3 mg/dL or more within 48 hours, or â‰¥1.5x baseline. Secondary outcomes will include appropriateness of vancomycin level timing and occurrence of vancomycin levels above 20 mcg/mL. Descriptive statistics will be used for baseline characteristics. One-sample t-tests and chi-square tests will be used when appropriate.
RESULTS: In progress
CONCLUSIONS: In progress

4:20pm – 4:35pm I **Optimization of Identification and Correction of Antiretroviral Therapy Medication Errors at a Large Academic Medical Institution** Magnolia C

Presenters: Marina Juan
Evaluators: Sharon Blum
Evaluators 3: Kam Capoccia
Evaluators 2: Yosef Nissim

TITLE: Impact of prospective antiretroviral therapy reviews by stewardship pharmacists on antiretroviral therapy medication errors

AUTHORS: M. Juan, M. Chang, Y. Guo, T. McSweeney, T. Morgan-Joseph, H. Bao; Montefiore Medical Center, Bronx, New York

OBJECTIVE: To increase the frequency of identified and corrected medication errors associated with antiretroviral therapy (ART) orders in patients with human immunodeficiency virus (HIV) admitted to our institution by 40% by June 2023.

METHODS: To establish a pre-intervention rate of error, a retrospective chart review of ART administrations was conducted between January and February 2022 at three hospital sites within the institution. Patients less than 18 years of age and on ART for indications other than HIV treatment were excluded. Using pre-intervention baseline data, key drivers that influence ART prescribing errors were identified. We assessed associated prescriber types, ART classes prescribed, Infectious Disease involvement, and pharmacist interventions. The first PDSA (Plan-Do-Study-Act) cycle involved implementation of a refreshable ART report in the electronic health record, reviewed by Infectious Disease stewardship pharmacists daily. Using this report, patientsâ€™ ART regimens and associated medications were assessed for appropriateness, and errors were rectified in real time. Key performance indicators include frequency of ART errors and specific types of errors.

RESULTS: The pre- versus post-intervention ART error correction rates, type of error, and rate of error by drug category will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate the utility of an antiretroviral stewardship program in increasing the frequency of identified and corrected medication errors associated with ART orders in admitted patients with HIV.

4:20pm – 4:35pm L **Efficiency Assessment of Controlled Substance Dose Reconciliation through Implementation of a Drug Diversion Software** Wild Rose A

Presenters: Matthew Buchfellner
Evaluators: Janet Mighty
Evaluators 3: Jacqueline Saunders
Evaluators 2: Amy Nathanson

TITLE: Efficiency of controlled substance dose reconciliation through implementation of a drug diversion software

AUTHORS: M. Buchfellner, S. Hermann, J. Stout, L. Lutz; Dartmouth-Hitchcock Medical Center (DHMC), Lebanon, New Hampshire

OBJECTIVE: Cutting-edge software can leverage analytics to lessen the time needed to investigate drug diversion. This quality improvement project analyzed the efficiency of controlled substance reconciliation with the implementation of software.

METHODS: The diversion detection software was initiated at a tertiary care academic medical center in March of 2023. Data was collected during a pre-implementation time period of October 1, 2022 to October 31, 2022 and a post-implementation time period of March 9, 2023 to April 4, 2023. The average time for an individual to manually review and reconcile controlled substance discrepancies for each time period was gathered. This data was collocated from daily review of the medication dispensing report from the automated dispensing cabinet (ADC) server. Procedural and inpatient spaces at the medical center, an outpatient surgery center, and a hospice center associated with the medical center were included for analysis. Secondary outcomes of this assessment included analysis of total daily discrepancies and total discrepancies, ADCâ€™s that had more discrepancies than others, and the amount of each drug that had a discrepancy in the pre- and post-implementation phases.

RESULTS: The efficiency of resolving dose discrepancies with the assistance of a controlled substance diversion software will be analyzed. Additionally, this quality improvement project will present experience on lessons learned during implementation.

CONCLUSIONS: It is anticipated that this project will endorse a role for diversion detection software to enhance efficiency in reconciling controlled substance discrepancies.

4:20pm – 4:35pm M **Evaluating technology optimization and paperwork reduction in an Investigational Drug Service**

Wild Rose B

Presenters: Vy Bui

Evaluators: Bradley Peterson

Evaluators 3: Kelcy Henrique

Evaluators 2: Ashley Street

TITLE: Evaluating technology optimization and paperwork reduction for an Investigational Drug Service

AUTHORS: Vy Bui, PharmD, BCPS; Megan Ossing, BS Pharm, MS; Manisha Hong, PharmD, CCRP; Janet Mighty, BS Pharm, MBA; Rosemary Dilley, CPhT; Jacqueline Saunders, PharmD, BCPS, CCRP

OBJECTIVE: The purpose of this quality improvement (QI) project is to identify paperwork reduction opportunities and implement a sustainable method for electronic documentation and storage for the Johns Hopkins Hospital Investigational Drug Service (JHH IDS).

METHODS: This QI project was implemented using a biphasic approach. Phase 1 aimed to identify paperwork reduction methods by conducting a literature review, interviews with external IDS sites that have implemented a similar paperwork reduction model, and focus groups. Data collected from the literature review and interviews were used in a gap analysis evaluating new and current technologies, capabilities for optimization, and cost savings for JHH IDS. Pharmacist- and technician-specific focus groups were conducted to assess readiness for a more technology-focused workflow. The next step will be to conduct a one-month pilot program for the paperwork reduction model. Findings will be presented to JHH IDS leadership for approval to initiate Phase 2 which aims to implement the paperwork reduction model for all new studies and a proportion of existing studies.

RESULTS: Data from external IDS sites and JHH IDS focus groups supported the creation of a new standard operating procedure that outlines methods for scanning, electronic documentation, and storage. Additionally, the gap analysis revealed an opportunity to harmonize electronically documenting the chain-of-custody for research medications. This involved optimizing current technology and reducing the storage of paper orders. Based on a 10-year document retention rate, this QI project is expected to save JHH IDS at least $32,596 and 736 cubic feet of storage space. For pediatric studies with an extended document retention rate, approximately $16,275 would result in cost savings.

CONCLUSIONS: By optimizing existing technologies and integrating a harmonized workflow, this paperwork reduction model will enhance the efficiencies of IDS staff to provide care to research patients at JHH. It is anticipated this QI project will decrease the risk of errors while providing additional cost savings and physical space.

4:20pm – 4:35pm

O **Identification of Oncology Providers Interest, Use-Cases and Barriers to Use of Pharmacogenomic Testing**

Crystal A

Presenters: Meghna Bhatt
Evaluators: Suzanne Nesbit
Evaluators 3: Yogini Patel
Evaluators 2: Nicholas Sandoval

TITLE: Identification of Oncology Providers' Interest, Use-Cases and Barriers to Use of Pharmacogenomic Testing

AUTHORS: Meghna Bhatt PharmD; Sandra Swain, MD, FACP, FASCO; Beth Peshkin MS, CGC; Sadaf Kazi, PhD; D. Max Smith PharmD, BCPS

OBJECTIVE: Identify oncology healthcare providersâ€™ attitudes, barriers, and use-cases for pharmacogenomics (PGx) testing, and potential implications for the prescription of cancer supportive care medications.

METHODS: A web-based questionnaire was developed by incorporating questions adapted from published instruments, as well as additional questions created by the study team based on the objectives of the study. Revisions to the survey were finalized after it was reviewed by MedStar Heathâ€™s PGx Steering Committee. In January 2023, a Research Electronic Data Capture (REDCap) link to the final survey was emailed to oncology providers (physicians, nurse practitioners, and physician assistants) practicing at MedStar Health. Eligibility criteria included providers who had treated and evaluated patients with cancer in the prior 12 months. A descriptive analysis was conducted on all responses that met the eligibility criteria.

RESULTS: Of 71 providers invited, 25 eligible providers responded. A majority (88%) had heard of PGx testing previously. Many providers (72%) believed that PGx can improve patient care, and 68% have had patients present PGx results to them. Most providers had prescribed proton pump inhibitors (PPIs; 96%), NSAIDs (84%), and capecitabine (64%) in the last month. Drug-specific interest in PGx testing was measured if they had prescribed that drug in the past month. Providers were commonly interested in PGx for PPIs (84%), SSRIs (76%), NSAIDs (72%), and capecitabine (80%). Common reasons for not ordering a PGx test were insufficient evidence of utility and irrelevance for the patient. Overall, 80% of providers were interested in a PGx eConsult service.

CONCLUSIONS: This survey showed that oncology providers routinely prescribe medications with PGx implications and would be interested in PGx testing for these medications. A limitation to use is the perceived lack of evidence of utility. The findings showed that providers believe PGx testing can improve care for patients and are open to a PGx eConsult service.

4:40pm – 4:55pm C **Assessment of Safety and Efficacy of Apixaban and Rivaroxaban for Treatment of Venous Thromboembolism in Trauma Patients** Empire B

Presenters: Christina Capo
Evaluators: Jenny Shah
Evaluators 3: Semie Durrani
Evaluators 2: Michelle Kohute

TITLE: Assessment of safety and efficacy of apixaban and rivaroxaban for treatment of venous thromboembolism in trauma patients

AUTHORS: Christina Capo, PharmD; Sheriff Gbadamosi, PharmD, BCCCP; Christina Ruggia-Check, PharmD, BCCP; Abhijit Pathak, MD, MS, FACS, FCCM; Temple University Hospital, Philadelphia, PA

OBJECTIVE: The objective of this study was to compare the safety and effectiveness of apixaban and rivaroxaban for the treatment of venous thromboembolism (VTE) in trauma patients.

METHODS: This single center, retrospective chart review evaluated adult trauma patients at Temple University Hospital who received oral anticoagulation with apixaban or rivaroxaban for treatment of VTE between August 1, 2016 and July 31, 2021. Patients were excluded if they had a history of prior VTE; vascular injury with associated vein ligation; known bleeding disorder; were pregnant or breastfeeding; or had another indication for long-term anticoagulation therapy, dual antiplatelet therapy, or treatment with aspirin at a dose greater than 162 mg daily. The primary efficacy endpoint was composite recurrence of VTE and VTE-related death within 12 months, and the primary safety endpoint was occurrence of major bleeding within 12 months. Secondary endpoints included time to recurrence of VTE, time to major bleed, presence of clinically relevant non-major bleeding, and time to clinically relevant non-major bleeding. To analyze the data, descriptive statistics were performed.

RESULTS: The number and percentage of patients with recurrent VTE and any bleeding within twelve months will be reported.

CONCLUSIONS: It is anticipated that this project will provide further information regarding the safety and efficacy of direct oral anticoagulants for trauma-related VTE, although larger studies will be required to identify their place in therapy.

4:40pm – 4:55pm C **Evaluation of a Burn Pain and Sedation Clinical Practice Guideline: A Before-and-After Study** Empire C

Presenters: Vince Dryer
Evaluators: John Papadopoulos
Evaluators 3: Courtney Skriptshak
Evaluators 2: Ashley Quintili

TITLE: Evaluation of a Burn Pain and Sedation Clinical Practice Guideline: A Before-and-After Study

AUTHORS: Vince Dryer, PharmD, Carolyne Falank, MS, PhD, Kathryn Smith, PharmD, BCPS, BCCCP

OBJECTIVE: To determine the impact of implementation of a clinical practice guideline (CPG) on patient participation in physical and occupational therapy sessions following burn injury.

METHODS: An evidence-based CPG was designed by a collaborative team of burn care providers. The CPG was implemented in November of 2019. This is a single-center, retrospective, before-and-after quality improvement project of patients admitted with burn injury and was deemed not research by our local institutional review board. Patients over the age of 18 and admitted for burn injury with a total body surface area burn of greater than 10% were included. Patients were excluded if they had a length of stay less than 3 days or concomitant trauma. Data was collected for a period of 12 months prior to implementation of the CPG as well as 12 months after implementation. Data was collected on pertinent outcomes including percent of effective therapy sessions, utilization of a multimodal pain management strategy, pain medication requirements for background pain, pain medication requirements for procedural pain, and objective pain score assessment.

RESULTS: Burn injury patients completed more physical and occupational therapy sessions following CPG implementation. Patients in the pre-CPG cohort tended to have longer intensive care unit stays, had a higher incidence of mechanical ventilation, and a higher total body surface area initial burn injury. Patients in the pre-CPG cohort required more morphine milligram equivalents for both background and procedural pain. Multimodal pain management utilization was high between both cohorts. General pain assessment scores were similar between both groups, however patients in the ICU in the pre-CPG cohort did have higher pain scores.

CONCLUSIONS: Implementation of a clinical practice guideline was associated with an increase in physical and occupational therapy session completion, lower morphine milligram equivalent requirements, and lower intensive care unit pain scores. Longer stays in the intensive care unit and higher rates of mechanical ventilation suggest patients in the pre-CPG cohort were more sick at baseline, which makes it difficult to attribute the between group differences solely to CPG implementation.

4:40pm – 4:55pm

N **Knowledge and perceptions of biosimilars among people who receive biologic medication**

Empire A

Presenters: Ji Yoon "Angie"
Evaluators: Cathy Walker
Evaluators 3: Sarah Dombrowski
Evaluators 2: Matthew Lengel

TITLE: Knowledge and Perceptions of Biosimilars Among People Who Receive Biologic Medication

AUTHORS: Ji Yoon "Angie" Kim, Pharm; Kam Capoccia, PharmD, BCPHS, CDCES; Matthew Maurer, PharmD; Melissa Mattison, PharmD; Kelsey Haraty, PharmD

OBJECTIVE: The objective is to determine knowledge and perception of biologic and biosimilar medications among patients who currently receive or have a history of receiving biologic medications, including biologic originators and their FDA-approved biosimilars.

METHODS: This is a cross-sectional study. Inclusion criteria included 18 years and older who received or had a history of receiving biologic medications with FDA-approved biosimilars, who were clinically managed by a community-based specialty pharmacy, a retail community pharmacy, or the Consultation and Wellness Center. The biologic medications will include 11 biologic originators and their 37 FDA-approved biosimilars. Exclusion criteria included people who are unable to read or speak English. Participants answers 27 questionnaire survey, either by receiving a paper survey or a QR code linked to an online survey platform, SurveyMonkey®. This study was approved by the Western New England University Institutional Review Board. Descriptive statistics will be reported for all variables collected. Analysis of differences between multiple groups will be performed using a one-way analysis of variance (ANOVA) followed by the post hoc Tukey's test. An alpha level of 0.05 will be employed.

RESULTS: Participants responded that elements that differ between a biologic originator and a biosimilar are quality (10%), efficacy (20%), price (30%), safety (10%), I don't know (20%), and none of the above (10%). About 28.6% of participants believed that a biosimilar is less effective and safe compared to its original biologic medication. None of the seven participants believed that their pharmacist should be able to change the current therapy from an original biologic medication to its biosimilar. Participants reported that they were provided with information on biologics through physicians (25%), pharmacists (37.5%), other medical staff (12.5%), word/education (12.5%), and searching the internet (12.5%).

CONCLUSIONS: Preliminary results demonstrate patients are unsure of the quality, efficacy, and safety of biosimilars. Patients believe that physicians, but not pharmacists, should be able to determine their biologic medication. The results identify knowledge gaps in biologics and biosimilars among patients who receive biologics. As the most common source of information on biologics, pharmacists have an opportunity to provide counseling regarding similarities and differences between biologics and biosimilars.

4:40pm – 4:55pm D **Evaluation of Pharmacist-Led Management of Insulin Therapy in Hospitalized Patients with Diabetes Mellitus.** Empire D

Presenters: Sana Saiyed
Evaluators: Annie Poon
Evaluators 3: Leila Forouzan
Evaluators 2: Wafaa Abou-Zeineddine

TITLE: Evaluation of Pharmacist-Led Management of Insulin Therapy in Hospitalized Patients with Diabetes Mellitus

AUTHORS: S. Saiyed, B. Van Slyke

OBJECTIVE: This study aims to assess the percentage of hospitalized patients who had blood glucose levels between 80 to 180 mg/dL, as recommended by the American Diabetes Association, and the efficacy of pharmacist-led management of insulin therapy.

METHODS: One hospital will participate in the study. Patients will be stratified into two groups, one in the outcomes pre-monitoring group and the other in the intervention group. A three-month retrospective chart review will be conducted from September 2022- December 2022 and a three-month prospective period will then follow between January 2023- April 2023. The study will focus on patients in one medical unit who are 18 years or older and on insulin therapy and will exclude patients who are pregnant. Patients in the intervention group will have daily monitoring of glucose levels to determine if their blood glucose levels remain between the range of 80-180 mg/dL and will have pharmacist-led insulin management. Comparison between the two groups will be conducted based on assessing the blood glucose levels and insulin therapy.

RESULTS: Since January 2023, five interventions in insulin therapy have been made, which include adjusting sliding scale and initiating insulin regimens. An anticipated result is to see more interventions being made. Results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate that a higher percentage of blood glucose levels of patients in the group from January to April 2023 are within range because of pharmacist-led management of insulin therapy compared to blood glucose levels of patients from September to December 2022.

4:40pm – 4:55pm Y **Pharmacist Review of Select High-Risk Discharge Prescriptions in the Emergency Department**

Presenters: Sarah Sofeso Magnolia A
Evaluators: Justin Miller
Evaluators 3: Riya Patel
Evaluators 2: Laura Koons

TITLE: Pharmacist Review of Select High-Risk Discharge Prescriptions in the Emergency Department

AUTHORS: Sarah Temi Sofeso, Emily Plasencia, Natalija Farrell, Jessica Corio, Danielle Kebadjian Lindale, Anne Marie Guthrie, Ryan Attwood, Madeline Palmer, MD, Bryan Gendron

OBJECTIVE: The aim of this quality improvement (QI) project is to reduce medication errors by 25% from baseline by May 2023 through prospective pharmacist review of antibiotic regimens for urinary tract infections (UTIs).

METHODS: This QI initiative utilizes the Institute for Healthcare Improvement Model for Improvement. Patients discharged from the adult Emergency Department with an electronic prescription for select antibiotics for UTIs are included. The outcome metric is percent of medication errors, defined as a composite of appropriate antimicrobial agent, dose, frequency, and duration of treatment based on local treatment algorithm. Process metrics include the individual components of the composite metric and percent of orders a pharmacist is consulted on prior to order placement, number of total orders reviewed by a pharmacist, and percent of printed prescriptions. Balancing metrics include number of institutional cases of Clostridioides difficile diagnosis and time spent by pharmacist per order reviewed. Statistical significance was determined using Shewhart process control charts.

RESULTS: Interim results demonstrate a significant decrease from 64% to 37% in medication errors for discharge antibiotics. Errors in duration of therapy have also reduced from 46% to 15%. Final results will be presented.

CONCLUSIONS: Interim results indicate the aim of this QI initiative was achieved and prospective review of discharge antibiotics for UTIs by EM pharmacists significantly reduced medication errors. This project demonstrates EM pharmacists have a positive impact in optimization of antimicrobial therapy and overall medication appropriateness.

4:40pm – 4:55pm G **Venous thromboembolism prophylaxis in patients on low-dose rivaroxaban for peripheral artery disease and/or coronary artery disease** Magnolia B

Presenters: Drashti Vasaiwala
Evaluators: Monique Bonhomme
Evaluators 3: Ansue Koshy
Evaluators 2: Jaclyn Seiple

TITLE: Venous thromboembolism prophylaxis (VTE) in patients on low-dose rivaroxaban for peripheral artery disease (PAD) and/or coronary artery disease (CAD)

AUTHORS: D. Vasaiwala, E. Dryden, K. Mahan, M. Nguyen, R. Rendon, J. Empfield; ChristianaCare, Newark, DE

OBJECTIVE: There is limited guidance on initiation of VTE prophylaxis for patients on rivaroxaban 2.5 mg by mouth (PO) twice daily (BID). Therefore, this study aims to characterize how providers at ChristianaCare manage the initiation of VTE prophylaxis.

METHODS: This single-center, retrospective, observational cohort study included patients â‰¥ 18 years of age on rivaroxaban 2.5 mg BID for PAD/CAD before admission to ChristianaCare from October 11th, 2018, to August 31st, 2022. Patients requiring orthopedic surgery, therapeutic anticoagulation, a J-tube during admission, who were COVID-19 positive, or were pregnant, breastfeeding, or of childbearing potential were excluded from the study. The primary outcome of the study was the percentage of patients switched to an alternative VTE prophylaxis regimen (i.e., enoxaparin, heparin, pneumatic compression devices (PCDs), or rivaroxaban 10 mg daily) on admission. Secondary outcomes included the percentage of patients continued on rivaroxaban 2.5 mg BID with or without the addition of alternative VTE prophylaxis. Other secondary outcomes included the percentage of major and minor bleeding events and thrombotic events during admission.

RESULTS: Of 104 patients that were included in the study, 37% were switched from rivaroxaban 2.5 mg BID to an alternative VTE prophylaxis regimen consisting of heparin (47.4%), enoxaparin (39.5%), or PCDs (13.2%). Forty-nine percent of patients were continued on rivaroxaban 2.5 mg BID, of which 8 patients had the addition of mechanical VTE prophylaxis. No patients had chemical VTE prophylaxis added to low dose rivaroxaban. Additionally, 14.4% of patients did not initiate any VTE prophylaxis on admission nor was their home rivaroxaban resumed. There were two thrombotic events and 23 bleeding events identified in this study (major bleeding: 17 and minor bleeding: 6).

CONCLUSIONS: For patients on rivaroxaban 2.5 mg BID for PAD/CAD prior to hospitalization, there is limited data to guide the decision to initiate alternative VTE prophylaxis or continue low dose rivaroxaban alone for VTE prophylaxis when hospitalized. This study further identified this as nearly fifty percent of patients were continued on low dose rivaroxaban only for VTE prophylaxis. Further studies are needed to assess the efficacy and safety of low dose rivaroxaban when used alone for VTE prophylaxis.

4:40pm – 4:55pm | **Perioperative daptomycin for prophylaxis of vancomycin-resistant Enterococcus infection in colonized liver transplant recipients** Magnolia D

Presenters: Jordan Mak
Evaluators: Michael Fox
Evaluators 2: Kimberly Allison

TITLE: Perioperative daptomycin for prophylaxis of vancomycin-resistant Enterococcus infection in colonized liver transplant recipients

AUTHORS: Jordan T. Mak, PharmD, Sarah Perloff, DO, Seung Ha, PharmD, John P. Knorr, PharmD, BCPS, BCTXP

OBJECTIVE: Infection with vancomycin-resistant Enterococcus (VRE) in liver transplant recipients (LTR) is associated negative outcomes. We examined the use of perioperative daptomycin in addition to conventional antibiotics for prophylaxis in VRE-colonized LTR.

METHODS: This retrospective, single center chart review included adult patients who were VRE-colonized and received a liver transplant at our institution from 6/2018 to 11/2022. VRE colonization was identified by a VRE rectal swab screen or positive VRE culture prior to transplant. Analysis was separated into two groups, daptomycin vs. no daptomycin. Per protocol, all LTR receive perioperative piperacillin-tazobactam for 24 hours. If VRE colonization is identified, one dose of daptomycin (6 mg/kg) is given pre- and post-operatively. Demographics, clinical characteristics, risk factors for VRE infection, and daptomycin dose was collected if applicable. The primary outcome was VRE infection at 14 and 90 days post-transplant. Secondary outcomes were acute rejection, 90-day mortality, intensive care unit (ICU) and overall length of stay (LOS), and ICU readmission.

RESULTS: There were 36 VRE-colonized LTR; 19 received daptomycin and 17 did not. Baseline characteristics and risk factors for VRE infection were similar between groups. VRE infection within 14 days post-transplant occurred in 4 patients (24%) in the no daptomycin group and none in the daptomycin group (p=0.04). VRE infection within 90 days occurred in 5 patients (29%) in the no daptomycin group and 3 patients (16%) in the daptomycin group (p=0.43). One death occurred in the daptomycin group due to hemophagocytic lymphohistiocytosis. ICU and overall LOS were longer in the daptomycin group (p=0.04 and p=0.10, respectively). Acute rejection and ICU readmissions were similar between groups. The average daptomycin dose was 7.1 mg/kg.

CONCLUSIONS: Perioperative daptomycin reduced the rate of VRE infections in VRE-colonized LTR within 14 days post-transplant but not 90 days. Increased LOS in the daptomycin group were driven by 3 patients with VRE infections occurring after 14 days post-transplant. Recent evidence has shown that daptomycin doses greater than 9 mg/kg is associated with improved mortality. Future studies should evaluate if higher doses of perioperative daptomycin can reduce VRE infections beyond 14 days post-transplant.

4:40pm – 4:55pm | **Prescribing Patterns of Oral Vancomycin for Active Clostridium Difficile Infection in Patients Requiring Concurrent Systemic Antibiotics** Magnolia C

Presenters: Diana Kwiatkowski
Evaluators: Sharon Blum
Evaluators 3: Kam Capoccia
Evaluators 2: Yosef Nissim

TITLE: Prescribing patterns of oral vancomycin for active Clostridioides difficile infection in patients requiring concurrent systemic antibiotics

AUTHORS: Diana Kwiatkowski, PharmD; Kassandra Marsh, PharmD, BCIDP; Alyson Katz, PharmD, BCCCP; John Papadopoulos, BS, PharmD, BCCCP, FCCM; Yanina Dubrovskaya, PharmD, BCPS, BCIDP, AAHIVP; Serena Arnouk, PharmD, BCCCP

OBJECTIVE: The objective of this study is to evaluate the impact of oral vancomycin treatment duration for Clostridioides difficile infection (CDI) on clinical outcomes in patients requiring concomitant systemic antibiotics for concurrent infections.

METHODS: This is a retrospective observational study from January 2017 to October 2022 at NYU Langone Health - Tisch/Kimmel campus, an 800-bed academic medical center. Adult patients were included if they had a PCR-confirmed initial episode of CDI, received treatment with oral vancomycin, and received at least 72 hours of concomitant systemic antibiotics during their CDI treatment. Patients were excluded if they received fidaxomicin or oral metronidazole for CDI treatment. Electronic health records were reviewed to collect data on demographics, risk factors for CDI, antibiotic regimens, CDI severity, and outcomes. The primary endpoint is recurrence of CDI within eight weeks of treatment completion. Secondary endpoints include CDI recurrence within six months, vancomycin resistant Enterococci isolation, and all-cause mortality. Prescribing patterns of oral vancomycin will be described and we will assess risk factors for CDI recurrence. SPSS Statistics software will be utilized for data analysis.

RESULTS: Results are pending. After data analysis is complete, the total duration of oral vancomycin for CDI treatment, the total duration of systemic antibiotics for accompanying infections, and the total duration of overlap between the two will be described. The number of CDI recurrences within eight weeks and six months of initial CDI therapy will be reported. An analysis of risk factors for CDI recurrence in this cohort of patients will be presented to determine whether prolonging the initial oral vancomycin treatment course decreases the risk of recurrence.

CONCLUSIONS: This research will describe whether the use of concomitant systemic antibiotics impacts the prescribed duration of oral vancomycin for active CDI infection. It is anticipated that this project will also highlight risk factors for CDI recurrence in a high-risk cohort of patients unable to discontinue systemic antibiotics at the time of CDI diagnosis.

4:40pm – 4:55pm L **Diluting the Gaps: Implementation of a Standardized USP 795 Non-Sterile Compounding Education and Training Program** Wild Rose A

Presenters: Ashley Iacoviello
Evaluators: Janet Mighty
Evaluators 3: Jacqueline Saunders
Evaluators 2: Amy Nathanson

TITLE: Diluting the gaps: implementation of a standardized USP 795 non-sterile compounding education and training program

AUTHORS: Ashley Iacoviello, PharmD., Barbara Damas, PharmD, BCPS., Frank Szczerba, PharmD, BCPPS, BCPS., Jennifer Smola, PharmD, BCPS., Jill Costa, PharmD.

OBJECTIVE: Develop and implement a standardized USP 795 non-sterile compounding education and training guide to support the minimum necessary competence, compliance, and confidence among pharmacy personnel at Baystate Medical Center (BMC).

METHODS: Baystate Medical Center (BMC) acute care pharmacy consists of 125 pharmacy personnel, however, only a select few have received formal training in USP 795 non-sterile compounding. An interactive pharmacist designed USP 795 education and training guide will be created to support the learning of non-sterile compounding. The training will be implemented in phases, and Phase I includes implementation of a written job aid, with a pre/post job aid survey identifying areas of improvement in accordance with recent USP 795 updates. In Phase I, participants will be asked to take an online, anonymous pre/post job aid survey distributed by email, to assess the efficacy of the training guide on their abilities, knowledge and comfort level. The format of the surveys will include select all that apply, multiple choice, short answer, and Likert-type questions. In Phase II, select pharmacy personnel will complete a written and hands-on evaluation.

RESULTS: Data collected from both pre-surveys sculpted the focus for the written job aid in order to address knowledge gaps and achieve a minimum competency level. Pre-survey results for technician/intern revealed the biggest gaps are in knowledge in documentation and recordkeeping (72.7%), technology and equipment (54.6%) which both improved to less than 50% post job aid implementation. Pre-survey results for pharmacists revealed deficiencies in technology and equipment (47.6%), labeling and BUD/storage (47.6%), documentation and recordkeeping (43.3%), and verification (40%) which all improved to less than 30% post job aid implementation. Overall, 77.8% reported they felt very confident or confident in preparation and verification of CNSPs

CONCLUSIONS: In summary, the post job aid survey for both pharmacists and technicians/interns revealed that the job aid contributed to improvements in knowledge of where to locate resources, what documentation records were needed for a specific compound, preparation processes of different CNSPs. By providing pharmacy personnel with a concise education and training guide, it is expected that the pharmacy department will be able to meet a minimum standard, to provide a more consistent service across all shifts

4:40pm – 4:55pm M **Reduction of Avoidable Automated Dispensing Cabinet Medication Overrides in Advanced Urgent Care Outpatient Clinics** Wild Rose B

Presenters: Crei Therese Tabligan
Evaluators: Bradley Peterson
Evaluators 3: Kelcy Henrique
Evaluators 2: Ashley Street

TITLE: Reduction of Avoidable Automated Dispensing Cabinet Medication Overrides in Advanced Urgent Care Outpatient Clinics

AUTHORS: Crei Therese Tabligan, PharmD; Melissa Patel Sahay, PharmD, MBA

OBJECTIVE: This study aims to determine whether interprofessional developed interventions reduce automated dispensing cabinet (ADC) medication overrides in advanced urgent care outpatient clinics. Reducing avoidable overrides promotes safe medication dispensing

METHODS: This is an observational, retrospective, cohort study of medication overrides without a provider order from Pyxis ADCs. Override information from Pyxis Enterprise Server reports were analyzed before and after interventions were implemented. The primary objective of this study is to assess the change in the number of medication removals using the override function of the Pyxis ADC, after the implementation of interventions. These interventions were inventory management standardization (IMS), barcode scanning each dose for drug removal (BCD), streamlining different medication strengths (SMS), and implementing orderable mapping to match the provider medication order quantity to variations of the stocked drug volume (OMV). Specific medications were affected by these interventions. Secondary outcomes include number of overrides and medications overridden, override reasons, and medication events due to overrides. Medication events were collected from a patient safety event reporting system.

RESULTS: 52, 944 medication overrides were included in this study. The average number of overrides decreased by 39% after implementing IMS for acetaminophen suspension (two-tailed p

4:40pm – 4:55pm P **Supportive Care Medication Management Surrounding the Discontinuation of Life-prolonging Measures in Critically Ill Patients** Crystal A

Presenters: Aicha Fokar
Evaluators: Suzanne Nesbit
Evaluators 3: Yogini Patel
Evaluators 2: Nicholas Sandoval

TITLE: Supportive care medication management surrounding the discontinuation of life-prolonging measures in critically ill patients

AUTHORS: A. McArn, A. Fokar, T. Grucz, S. Seto, J. Waldfogel; The Johns Hopkins Hospital (JHH), Baltimore, Maryland

OBJECTIVE: There is no national consensus on the best approach to end-of-life care in the ICU. This study seeks to evaluate current practice and assess supportive care medication management in ICU patients after cessation of life prolonging measures.

METHODS: This retrospective chart review was conducted in adult and pediatric patients who were admitted to an academic medical center and either died in the intensive care unit (ICU) or were discharged to hospice from an ICU and had any life-prolonging measures discontinued. Patients were included if they met criteria from March 1 to September 30, 2019, or from March 1 to September 30, 2022 to assess for pre and post implementation of the ICU-focused order set. Patients were excluded if they died prior to discontinuation of life-prolonging measures or were full code at the time of death or discharge. Life-prolonging measures were defined as the utilization of respiratory support, mechanical circulatory support including extracorporeal membrane oxygenation, vasopressors, and/or dialysis. Data were collected on patient demographics as well as the use of opioids, benzodiazepines, and anticholinergics, including routes, indications, and order status related to the comfort care order set.

RESULTS: The results of this study will be presented at the meeting. Anticipated outcomes include baseline demographics, percentage of patients using supportive care medications after discontinuing life prolonging measures, as well as characterization of supportive care medication use including drug classes, specific drugs and routes used. We will also compare differences in supportive care medication use before and after the comfort care order set implementation.

CONCLUSIONS: It is anticipated that this study will highlight the impact of a comfort care order set on prescribing practices in the adult population and will aid in understanding if this practice would be translatable to the pediatric population.

5:00pm – 5:15pm A **Impact of a Multidisciplinary Approach towards Nirmatrelvir-Ritonavir (Paxlovid) Treatment on COVID-19 Related Hospitalization Rates at a Federally Qualified Health Center** Empire A

Presenters: Vincent Lam
Evaluators: Cathy Walker
Evaluators 3: Sarah Dombrowski
Evaluators 2: Matthew Lengel

TITLE: Impact of a multidisciplinary approach towards nirmatrelvir-ritonavir treatment on COVID-19 related hospitalization rates at a federally qualified health center

AUTHORS: Vincent Lam, PharmD; Neiloofar Jafari Amarshi, PharmD; Selma Kajtazovic, PharmD; Ashley Rogers, PharmD, BCPS; Evelyn Weiss, BSPharm, BCPS; Joshua St. Louis, MD, MPH, FAAFP; Mia Sorcinelli, MD, FASAM; Ashwini Ranade, PhD, MPH; Alicia Mam daCunha, PharmD, AE-C, BCACP

OBJECTIVE: This study aimed to assess the impact of a multidisciplinary approach towards outpatient nirmatrelvir-ritonavir treatment on coronavirus disease 2019 (COVID-19) related hospitalization rates at a federally qualified health center (FQHC).

METHODS: This retrospective study looked at the incidence of COVID-19 related hospitalizations in patients within 14 days after nirmatrelvir-ritonavir was dispensed. The intervention was a multidisciplinary approach that included primary care providers, nurse practitioners, nurses, and pharmacists who utilized a standardized order set and workflow algorithm towards nirmatrelvir-ritonavir prescribing and dispensing. Individuals in this study were patients of Greater Lawrence Family Health Center (GLFHC) who were diagnosed with COVID-19 and received nirmatrelvir-ritonavir at the community pharmacy affiliated with the FQHC from January 2022 to August 2022. Additional endpoints included interventions made on renal dose adjustments, potential drug-drug interactions (DDIs), and prescription deliveries. Data was pulled from the institutionâ€™s electronic health record (EHR), pharmacy dispensing system, and COVID-19 Therapeutics Team tracking database with endpoints collected as categorical variables.

RESULTS: Data was collected from 568 patients who met inclusion criteria. Most patients were Hispanic or Latino (501, 88.2%) and female (404, 71.1%). Of the 568 patients, 426 patients (75%) spoke Spanish as their primary language. Ages ranged from 12 to 91 years. There were 386 patients (68%) who had at least two COVID-19 vaccines documented. One patient (0.18%) experienced a COVID-19 related hospitalization within 14 days after nirmatrelvir-ritonavir was dispensed. There were 152 (26.7%) delivered prescriptions and 20 (3.5%) renally dose adjusted prescriptions. The tracking database identified 266 documented interventions that included addressing potential DDIs, counseling on pregnancy/lactation, and mitigating inappropriate antibiotic use.

CONCLUSIONS: Results of this study show the positive impact on the implementation of a multidisciplinary team approach towards safe prescribing and dispensing of nirmatrelvir-ritonavir in a population heavily impacted by social determinants of health.

5:00pm – 5:15pm

A **Impact of Provider Education on Prescribing of Anticholinergic Antidepressants in Older Adults at a Veterans Affairs (VA) Healthcare System** Wild Rose B

Presenters: Chandni Malani
Evaluators: Bradley Peterson
Evaluators 3: Kelcy Henrique
Evaluators 2: Ashley Street

TITLE: Impact of Provider Education on Prescribing of Anticholinergic Antidepressants in Older Adults at a Veterans Affairs (VA) Healthcare System

AUTHORS: Primary Author: Chandni Malani, Pharm.D. Co-Authors: Allison Pezick, Pharm.D., BCPP; Eileen Mintz, Pharm.D., BCPP; Leonard Partanna, Pharm.D., BCGP, BCPP

OBJECTIVE: Anticholinergic antidepressants are inappropriate in older adults due to elevated risks/side effects. This study aims to assess the effectiveness of provider education on prescribing of anticholinergic antidepressants in older adults.

METHODS: A retrospective chart review was conducted for patients 65 years and older who were prescribed tricyclic antidepressants or paroxetine between April 1st,2022 and September 1st,2022. The Computerized Patient Record System was used to collect patient history and to determine the top providers prescribing anticholinergic antidepressants in these patients. Top providers were targeted for one-on-one education and asked to review patients to whom they prescribed these medications. Additionally, a presentation was given to the outpatient mental health team. Education included risks of anticholinergic antidepressants and recommendations on alternatives. Follow up chart reviews will be completed. The primary outcome will be the change in prescribing patterns of anticholinergic antidepressants in the older adult veteran population from 6 months before to 3 months post-pharmacist intervention.

RESULTS: A total of 19 providers, each with at least 3 patients meeting criteria, were collectively responsible for 76% of patients prescribed an anticholinergic antidepressant. Of the 19 providers, 7 providers received one-on-one education. 4 of the 7 providers expressed willingness to re-evaluate and reduce anticholinergic prescribing in patients 65 years and older. Out of the remaining 12 providers, 3 agreed to review their patients, 5 did not respond, 3 had left the medical center, and 1 declined intervention. Due to unforeseen delays, the difference in prescribing patterns of anticholinergic antidepressants from 6 months prior to 1 month post-one-on-one education and 3 months post-presentation will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate a role for provider-focused education in reducing the prescribing of anticholinergic antidepressants in patients 65 years and older at a Veterans Affairs Healthcare System.

5:00pm – 5:15pm C **Evaluation of Norepinephrine Plus Phenylephrine as an Alternative to Norepinephrine Plus Vasopressin for Septic Shock in Adult Patients in a Resource Limited Hospital** Empire C

Presenters: NORA DANIELLE GADRI
Evaluators: John Papadopoulos
Evaluators 3: Bryna Delman Ewachiw, Courtney Skriptshak
Evaluators 2: Ashley Quintili

TITLE: Evaluation of norepinephrine plus phenylephrine as an alternative to norepinephrine plus vasopressin for septic shock in adult patients in a resource limited hospital

AUTHORS: Nora Danielle Gadri, PharmD; Dhakrit Rungkitwattanakul PharmD, BCPS, FNKF; Sanaa Belrhiti, PharmD, BCPS, BCCCP; Jenny Shah PharmD, BCCCP; Anthony Hawkins, PharmD, FCCM; La'Marcus T. Wingate PharmD, PhD; Razan Algatan, PharmD, Mohammed Aldhaeefi BSc. PharmD, BCCCP

OBJECTIVE: Our objective is to evaluate the efficacy and safety of norepinephrine plus phenylephrine as an alternative therapy to norepinephrine plus vasopressin for septic shock management among adult patients.

METHODS: This single-center retrospective study is conducted at a community teaching hospital in Washington, District of Columbia. Using electronic health records, we have identified 100 adult patients who received norepinephrine, phenylephrine, and vasopressin between July 1st, 2019, and December 31st, 2022. Patients were included if they were 18 years old and above, diagnosed with septic shock, received resuscitation fluids within the first 3 hours of diagnosis, and received norepinephrine as the first line vasopressor followed by vasopressin or phenylephrine as a second line. Patients were excluded if they were on renal replacement therapy. The primary outcome, which is time to reach mean arterial pressure (MAP) greater than or equal to 65 mmHg, will be analyzed using cox regression analysis. Secondary outcomes include ICU mortality, the cost-effectiveness of the two study groups, and treatment-emergent adverse effects. This will be analyzed using chi-square and cost-effectiveness analysis.

RESULTS: As appropriate, data will be presented as frequency and percentages or mean and standard deviation. With an estimated sample size of 100 patients, an alpha level of 0.05 and a 95% confidence interval will be utilized to denote statistical significance.

CONCLUSIONS: Norepinephrine plus phenylephrine as an alternative to norepinephrine plus vasopressin could benefit immensely based on the additive mechanism of action and potential cost-effectiveness. This could impact current practice and sepsis management, especially in resource-limited settings, to ensure optimal outcomes in septic shock management.

5:00pm – 5:15pm C **Impact of Reduced Left Ventricular Ejection Fraction on Vasopressor Weaning in Recovery Phase of Septic Shock** Empire B

Presenters: Alexis Chlada
Evaluators: Jenny Shah
Evaluators 3: Semie Durrani
Evaluators 2: Michelle Kohute

TITLE: Impact of reduced left ventricular function of vasopressor weaning in recovery septic shock

AUTHORS: K. Lopatofsky, A. Chlada, K. Kotch; Geisinger Wyoming Valley Medical Center (GWV), Wilkes Barre, Pennsylvania

OBJECTIVE: The purpose of this study is to compare rates of rebound hypotension when norepinephrine versus vasopressin were discontinued first in the recovery septic shock phase in patients with a reduced left ventricular ejection fraction.

METHODS: This retrospective, multi-hospital, cohort study included adult patients admitted to the intensive care unit (ICU) between January 1, 2012 to June 30, 2022, with recovering septic shock. Patients must have been treated simultaneously with norepinephrine (NE) and vasopressin (AVP) and have a documented echocardiogram indicating reduced ejection fraction â‰¤ 40% within twelve months prior. Patients were excluded if transitioned to palliative care or expired prior to discontinuation of vasopressors, and who were weaned from NE or AVP prior to other catecholamines. The primary outcome is incidence of clinically significant hypotension (CSH) as defined by an occurrence of a mean arterial pressure (MAP) â‰¤ 65 mmHg and received treatment within 24 hours of vasopressor discontinuation: re-institution of any vasopressor at any dosage, any increase in remaining vasopressor, or receipt of â‰¥ 500 mL/hr of a crystalloid or colloid solution following discontinuation of either NE or AVP.

RESULTS: Data regarding the order of vasopressor discontinuation will be presented post-analysis.

CONCLUSIONS: It is anticipated that patients with left ventricular dysfunction will experience a greater incidence of CSH with the discontinuation of NE prior to AVP.

5:00pm – 5:15pm D **Evaluation of erythropoietin stimulating agent use in hospitalized patients receiving hemodialysis** Empire D

Presenters: Vivian Hien Tran-Vo
Evaluators: Annie Poon
Evaluators 3: Leila Forouzan
Evaluators 2: Wafaa Abou-Zeineddine

TITLE: Evaluation of erythropoietin stimulating agent use in hospitalized patients receiving hemodialysis

AUTHORS: Vivian Hien Tran-Vo, PharmD; Jason Lancaster, PharmD, MEd, BCPS, FCCP, RPh; Adam Segal, MD

OBJECTIVE: This study aimed to compare the prescribing patterns of nephrologists regarding erythropoietin stimulating agents (ESAs) and iron dosing in patients receiving hemodialysis (HD) when admitted for care at a tertiary care center in Burlington, MA.

METHODS: This IRB-approved, single-center, retrospective analysis evaluated patients who were at least 18 years of age with a diagnosis of chronic kidney disease receiving HD at an outpatient dialysis center in Burlington, MA and were hospitalized between November 2022 â€“ March 2023. Data collected included admitting diagnosis; pre-existing comorbidities; outpatient and inpatient ESA and iron dosing; hemoglobin level prior to admission, within 24 hours of admission, and day of discharge; ferritin and iron saturation within 12 weeks of admission; and the number and quantity of red blood cell transfusions received while hospitalized. The primary outcome assessed was the change in epoetin dose from outpatient to inpatient. Secondary outcomes include the percentage of patients with an iron profile within the last 12 weeks from admission date, percentage of patients meeting criteria to receive iron and/or epoetin, number of blood transfusions received during admission, and appropriateness of ESA use.

RESULTS: The number and percentage of patients with a difference between outpatient and inpatient epoetin dosing will be recorded along with the appropriateness of these differences, and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate a need for an inpatient protocol to be implemented to guide ESA and iron dosing for patients on hemodialysis.

5:00pm – 5:15pm R **Trends in physostigmine usage and impact of drug shortage in patients with anticholinergic toxicity: A 10-year retrospective study** Wild Rose A

Presenters: Natalia Jucha
Evaluators: Janet Mighty
Evaluators 3: Jacqueline Saunders
Evaluators 2: Amy Nathanson

TITLE: Trends in physostigmine usage and impact of drug shortage in patients with anticholinergic toxicity: A 10-year retrospective study

AUTHORS: Natalia Jucha, PharmD; Anthony Jaworski, PharmD, BCCCP, CSPI; Kevin Osterhoudt, MD, MSCE, FAAP, FAACT, FACMT; Jeanette Trella, PharmD, BCPPS

OBJECTIVE: The three objectives of this study were to evaluate: national trends in physostigmine usage for anticholinergic toxicity; clinical outcomes during times of shortage/no shortage; outcomes in patients who received physostigmine at a regional hospital.

METHODS: A retrospective analysis of the National Poison Data System (NPDS) for all hospitalized cases from 01/01/2013 to 12/31/2022 that involved a single substance exposure with an anticholinergic drug (including antihistamines, over-the-counter agents, sleep aids); anticholinergic plants; atypical antipsychotics; and phenothiazines. Data points obtained from NPDS included: date, age, gender, clinical effects, therapies, medical outcome, and product code name. Odds ratio was calculated for composite outcomes (death or major effect) between physostigmine and non-physostigmine groups. Additionally, a paired student t-test was used to examine differences in composite outcomes between times of shortage and no shortage in both groups. Subsequently, a quality improvement review of a regional hospitalâ€™s usage of physostigmine over a ten-year period was performed. An EHR was used to obtain usage reports for physostigmine and was queried for all hospitalized patients that had received physostigmine.

RESULTS: NPDS data indicated that annual physostigmine usage has increased in the last decade by 24%; however, physostigmine usage increased by 122% between 2013 and 2020. When comparing periods of physostigmine shortage (June-Nov of the years 2019 and 2022) and no shortage (Jun-Nov of the years 2020 and 2021), there was no statistically significant difference in composite outcomes in the non-physostigmine group ($p > 0.05$). Patients that were administered physostigmine had presentations consistent with more severe toxicity. The evaluation of the regional hospitalâ€™s physostigmine usage indicated seldom use in the patient population with no adverse events associated with physostigmine administration.

CONCLUSIONS: There is no longer a US supplier of physostigmine, and little financial impetus exists for pharmaceutical companies to produce physostigmine as it was used in 1% of anticholinergic toxicity cases in the last decade. Although physostigmine offers potential benefits, alternative management strategies for anticholinergic toxicity should be developed. This data suggests patients can be safely managed without physostigmine as there was little impact on composite outcomes during times of shortage.

5:00pm – 5:15pm Y **Comparison of Tenecteplase vs. Alteplase Door-To-Needle Time in Acute Ischemic Stroke**

Presenters: Wilmer Gonzalez Magnolia A

Evaluators: Justin Miller

Evaluators 3: Riya Patel

Evaluators 2: Laura Koons

TITLE: Comparison of Tenecteplase vs. Alteplase Door-To-Needle Time in Acute Ischemic Stroke

AUTHORS: Wilmer Gonzalez PharmD; Jennifer Silva PharmD, BCPS; Eileen Deptula RPh; Hani Hamid PharmD

OBJECTIVE: Alteplase has been the standard of care for the treatment of acute ischemic stroke (AIS). The objective of this study is to evaluate DTN in patients diagnosed with AIS who received alteplase compared to those who received tenecteplase.

METHODS: This study will be submitted to the Institutional Review Board for approval. This is a single center retrospective evaluative study of patients that received intravenous thrombolytic therapy with alteplase or tenecteplase for AIS at Waterbury Hospital. The population that will be studied includes patients aged 18 and older who were treated with either alteplase or tenecteplase for AIS from the time frame of January 1, 2018 through December 31, 2022. Patients excluded from this study are those diagnosed with AIS who did not meet the criteria for thrombolytic therapy or patients who developed stroke symptoms after admission. The following data points for each patient will be evaluated: patient age, sex, ethnicity, systolic blood pressure, diastolic blood pressure, stroke alert timing and medication administration time. Records of patients that received alteplase will be compared to records of patients that received tenecteplase. The primary outcome, DTN, will be analyzed between groups.

RESULTS: 119 patient charts were evaluated for this study. Patient characteristics include a median age of 82 years old with 51.3% of patients being male. A total of 99 patients who received alteplase were evaluated. The average administration time of thrombolytic therapy after admission was 84 minutes. 38.4% of patients received thrombolytic therapy with alteplase in less than an hour. Of the 99 patients evaluated, 5 patients died during their stay. A total of 20 patients who received tenecteplase were evaluated. The average administration time of thrombolytic therapy after admission was 69 minutes. 50% of patients received thrombolytic therapy with tenecteplase in less than an hour. Of the 20 patients evaluated, 3 patients died during their stay.

CONCLUSIONS: Based on the preliminary data analyzed, it is anticipated that the results of this study will show a decreased door-to-needle time when using tenecteplase in comparison to alteplase. Since the sample size of the study is small due to the timeline of the implementation of tenecteplase, more data would need to be collected in order to strengthen any conclusions made from this study.

5:00pm – 5:15pm G **Frequency and Risk Factors for Overcorrection of Serum Sodium in Severe Hyponatremia**

Presenters: Austin Saderup Magnolia B

Evaluators: Monique Bonhomme

Evaluators 3: Ansue Koshy

Evaluators 2: Jaclyn Seiple

TITLE: Frequency and risk factors for overcorrection of serum sodium in severe hyponatremia

AUTHORS: Austin Saderup PharmD1, Elizabeth Tencza, PharmD, BCCCP1, Kerry Mohrien, PharmD1, Nicholas Ferraro, PharmD1, Christina Rose, PharmD, BCCCP, FCCM2

OBJECTIVE: The primary objective was to identify the rate of sodium overcorrection. Secondary objectives were to determine the frequency of osmotic demyelination syndrome, describe treatment strategies utilized, and assess risk factors for overcorrection.

METHODS: This study was a retrospective chart review of hyponatremic patients admitted to Temple University Hospital from August 2016 to December 2021. Patients were identified by serum sodium levels of

5:00pm – 5:15pm | **Are third generation cephalosporins adequate for the definitive treatment of infections due to Serratia marcescens?** Magnolia D

Presenters: Mina Michael
Evaluators: Michael Fox
Evaluators 2: Kimberly Allison

TITLE: Are third generation cephalosporins adequate for the definitive treatment of infections due to Serratia marcescens?

AUTHORS: Michael M, Pharm.D; Hale C Pharm.D., BCPS, BCIDP

OBJECTIVE: According to recent IDSA guidance, Serratia marcescens is not at risk for clinically significant ampC production. The aim of this study was to compare ceftriaxone to alternatives for the definitive treatment of infections due to S. marcescens.

METHODS: Medical records of adult inpatients at the Penn State Health Milton S. Hershey Medical Center who had at least one positive culture for ceftriaxone-susceptible Serratia marcescens between January 2017 and August 2022 were retrospectively reviewed for inclusion. Patients were included if they received definitive treatment with either ceftriaxone (CRO) or a non-CRO alternative (cefepime, fluoroquinolone or carbapenem) within 24 hours of culture sensitivities and for at least 72 hours. Patients with polymicrobial infections, pregnant, breastfeeding or received double coverage for definitive treatment were excluded. The primary outcome was treatment failure, defined as clinical failure (abnormal WBC or temperature on day 14 or need for therapy extension or escalation) and/or microbiological failure (regrowth of the same organism until 7 days after end of treatment). Secondary outcomes included 30-day mortality, hospital length of stay, and 30-day re-admission for the same infection.

RESULTS: Of 520 patients reviewed, 77 were included (CRO: n=22, non-CRO: n=55). Polymicrobial infection was the primary reason for exclusion (n=194, 44.4%). The most common infection site was tissue (n=22, 28.6%), followed by lower respiratory tract (n=19, 24.7%) and blood (n=18, 23.4%). Preliminary data for the primary outcome of treatment failure occurred in 13.6% of CRO patients vs. 40.6% of non-CRO patients. No CRO patients experienced microbiological failure compared to 9 non-CRO patients (16.4%). Additionally, fewer patients in the CRO group had clinical failure (n=3, 13.6%) than in the non-CRO group (n=17, 30.1%). Mortality was similar between CRO (n=3, 13.6%) and non-CRO (n=7, 12.7%). Final results to be presented.

CONCLUSIONS: As suggested by the recent IDSA guidance, ceftriaxone is a reasonable treatment option for infections due to ceftriaxone-susceptible Serratia marcescens. Surprisingly, treatment failure was much lower with ceftriaxone than with alternative agents in this study, which requires further investigation in larger, prospective studies.

5:00pm – 5:15pm I **Clinical and economic impact of fidaxomicin versus oral vancomycin for the treatment of Clostridioides difficile infection following implementation of an institutional guideline** Magnolia C

Presenters: Sara Hudson
Evaluators: Sharon Blum
Evaluators 3: Kam Capoccia
Evaluators 2: Yosef Nissim

TITLE: Clinical and economic impact of fidaxomicin versus oral vancomycin for the treatment of Clostridioides difficile infection (CDI) following implementation of an institutional guideline

AUTHORS: Sara Hudson, PharmD, Amy Spigelmyer, PharmD, BCIDP, Drew Ward, PharmD

OBJECTIVE: The objective of this study is to determine the difference in cost of CDI treatment after implementation of an institutional guidance document for the treatment of CDI.

METHODS: This is an institutional review board (IRB) approved, retrospective, cost-analysis. This analysis was conducted from the perspective of the institution. The population included adult patients with a documented diagnosis of CDI and subsequent appropriate treatment. The primary objective of this analysis was to determine the difference in cost (defined as medication acquisition, admission, and recurrence cost) of CDI treatment after implementation of an institutional guidance document for the treatment of CDI. Secondary objectives included 30- and 60-day recurrence rates, 30-day all-cause mortality, 30-day all cause readmission, 30-day CDI-related readmission, and rate of adherence to the institutional CDI guideline. Patients were identified during a prespecified time frame and data variables were collected. Calculation of power is not necessary given the study design.

RESULTS: Results are in progress and will be finalized for report at the meeting.

CONCLUSIONS: The recommendation for fidaxomicin as the first-line agent in CDI treatment is based on literature demonstrating reduced rates of recurrence compared to oral vancomycin therapy. Fidaxomicin is considerably more expensive than oral vancomycin. Defining the relationship between the increased cost of fidaxomicin and the potential cost-savings afforded by reduced rates of CDI recurrence with fidaxomicin are of particular interest to health systems.

5:00pm – 5:15pm P **Supportive Care Medication Management Surrounding the Discontinuation of Life-Prolonging Measures in Critically Ill Patients** Crystal A

Presenters: Annie McArn
Evaluators: Suzanne Nesbit
Evaluators 3: Yogini Patel
Evaluators 2: Nicholas Sandoval

TITLE: Supportive care medication management surrounding the discontinuation of life-prolonging measures in critically ill patients

AUTHORS: A. McArn, A. Fokar, T. Grucz, S. Seto, J. Waldfogel

OBJECTIVE: There is no national consensus on the best approach to end-of-life care in the ICU. This study seeks to evaluate current practice and assess supportive care medication management in ICU patients after cessation of life prolonging measures.

METHODS: This retrospective chart review was conducted in adult and pediatric patients who were admitted to an academic medical center and either died in the intensive care unit (ICU) or were discharged to hospice from an ICU and had any life-prolonging measures discontinued. Patients were included if they met criteria from March 1 to September 30, 2019, or from March 1 to September 30, 2022 to assess for pre and post implementation of the ICU-focused order set. Patients were excluded if they died prior to discontinuation of life-prolonging measures or were full code at the time of death or discharge. Life-prolonging measures were defined as the utilization of respiratory support, mechanical circulatory support including extracorporeal membrane oxygenation, vasopressors, and/or dialysis. Data were collected on patient demographics as well as the use of opioids, benzodiazepines, and anticholinergics, including routes, indications, and order status related to the comfort care order set.

RESULTS: The results of this study will be presented at the meeting. Anticipated outcomes include baseline demographics, percentage of patients using supportive care medications after discontinuing life prolonging measures, as well as characterization of supportive care medication use including drug classes, specific drugs and routes used. We will also compare differences in supportive care medication use before and after the comfort care order set implementation.

CONCLUSIONS: It is anticipated that this study will highlight the impact of a comfort care order set on prescribing practices in the adult population and will aid in understanding if this practice would be translatable to the pediatric population.

5:20pm – 5:35pm A **Need for Antidiabetic Medication Adjustment in Patients Receiving Hepatitis C Virus Direct Acting Antiviral Therapy** Wild Rose B

Presenters: Ciara Walshe
Evaluators: Bradley Peterson
Evaluators 3: Kelcy Henrique
Evaluators 2: Ashley Street

TITLE: Need for Antidiabetic Medication Adjustment in Patients Receiving Hepatitis C Virus Direct Acting Antiviral Therapy

AUTHORS: Ciara Walshe, PharmD, Pallavi Chary, PharmD, Michelle Peahota, PharmD, BCPS, BCIDP

OBJECTIVE: The purpose of this study was to evaluate the need for adjustment of anti-diabetic medications in patients with diabetes and Hepatitis C Virus (HCV) who were treated with direct acting antivirals (DAA).

METHODS: This was a retrospective descriptive cohort, single arm, chart review study evaluating patients with HCV treated with HCV DAAs at the Penn Medicine Perelman Center for Advanced Medicineâ€™s Hepatology Clinic with concomitant type 2 diabetes mellitus (T2DM). Patients were included if they had co-diagnoses of T2DM and HCV and received both antidiabetic medications and completed course of HCV DAAs between January 1, 2021 and December 31, 2021. Patients who were initiated on or received dose titrations of medications that have a 10% or greater risk of hypoglycemia or hyperglycemia were excluded. The study period included the duration of HCV treatment and 6 months after HCV treatment completion. The primary outcome of this study was antidiabetic medication adjustments, including dose or regimen change. Secondary outcomes include the incidence of hypoglycemic events, changes in HgbA1C, and changes in total daily dose of insulin. Data were analyzed using descriptive statistics.

RESULTS: Of the 131 patients screened, 19 were included for analysis in the study. The average age was 64 years old and 68.4% of patients were male. Most subjects were HCV treatment naÃ¯ve (13/19), had HCV genotype 1a (10/19) and no history of cirrhosis (11/19). The most common HCV regimen was sofosbuvir/velpatasvir (11/19). Of the patients who obtained sustained virologic response (SVR) labs (14/19), all achieved SVR. Four patients had antidiabetic medication dose de-escalation, and two patients had antidiabetic medication dose escalation. The average change in blood glucose and HgbA1C from baseline was -25.3 mg/dL (95% CI [-52.6, 2.0]) and -0.9% (95% CI [-1.5%, -0.3%]), respectively. Three patients reported hypoglycemia, one led to hospitalization.

CONCLUSIONS: Antidiabetic medication adjustments occurred in 31.6% of patients with de-escalations and escalations accounting for 21.1% and 10.5% of the adjustments, respectively. The most common medications requiring de-escalation were insulin, sulfonylureas or metformin. All adjustments occurred between 3-6 months following HCV treatment. This indicates that following HCV treatment, antidiabetic medication management may be required for patients receiving concomitant insulin, sulfonylureas, or metformin.

5:20pm – 5:35pm A **Standardizing a Patient Disenrollment Process from the Pharmacist Run Diabetes Service at Dartmouth Health Clinics** Empire A

Presenters: Alexandria Smith
Evaluators: Cathy Walker
Evaluators 3: Sarah Dombrowski
Evaluators 2: Matthew Lengel

TITLE: Standardizing a patient disenrollment process from the pharmacist run diabetes service at Dartmouth Health clinics

AUTHORS: Alexandria Smith, PharmD; Marilyn Hill, PharmD, MHA; Elizabeth Morrow, PharmD, BCACP; Lauren Foss, PharmD, BCGP

OBJECTIVE: Create a standardized disenrollment process for primary care pharmacists to efficiently maintain their patient panel capacity.

METHODS: A qualitative, retrospective chart review of 380 patients who have been disenrolled from pharmacist services was performed to identify the reason for disenrollment. The population included patients who had been disenrolled from one of the four primary care pharmacist panels between 2018 and 2022. Results were analyzed to identify common reasons patients had been disenrolled. Based on the common reasons for disenrollment, a standardized disenrollment and graduation procedure was created and implemented into the pharmacist workflow in February 2023 for a 2 month pilot. In April 2023, data will be analyzed to assess the utilization of the two procedures and to make any adjustments prior to permanent implementation into the pharmacistâ€™s workflow.

RESULTS: The two most commonly documented reasons for disenrollment from pharmacist services were goal A1c achieved (12.1%) and lost to follow-up (12.9%). Other reasons for disenrollment included: referral to endocrinology (5%), care transferred outside of the health system (3.4%), no showed appointments (4.2%), and requiring only as needed follow-up (11.1%). A majority of the patient population did not have a clear disenrollment reason (37.4%). The results confirmed a need for a standardized disenrollment procedure as well as a separate graduation procedure for patients achieving clinical outcomes who no longer require regular follow-up with the pharmacist.

CONCLUSIONS: There is a finite amount of care each pharmacist can provide safely and effectively. To maximize utility of each pharmacist, patient panel sizes must be regulated. The disenrollment and graduation procedures provide the necessary outflow of patients who no longer require pharmacist care which in turn allows for an inflow of patients who do. The graduation procedure encourages the achievement of clinical goals while also empowering the patient by providing education and resources.

5:20pm – 5:35pm C **Assessment of Clinical Effectiveness of Andexanet alfa vs 4-Factor PCC vs 3-Factor PCC in ICH associated with apixaban and rivaroxaban** Empire C

Presenters: Margo Graybill
Evaluators: John Papadopoulos
Evaluators 3: Bryna Delman Ewachiw, Courtney Skriptshak
Evaluators 2: Ashley Quintili

TITLE: Our Long Term Experience: Assessment of the clinical safety and effectiveness of andexanet alfa vs three vs four -factor prothrombin complex concentrate (PCC) in the management of direct factor Xa - associated intracranial hemorrhage

AUTHORS: Graybill M, Thomson L; Thomas Jefferson University Hospital, Philadelphia, PA

OBJECTIVE: Hypothesis: There is no difference in efficacy or safety of andexanet alfa vs three- vs four-factor PCC for management of nontraumatic apixaban or rivaroxaban â€“ associated intracranial hemorrhage (ICH).

METHODS: This single center, retrospective, chart review will evaluate the level of hemostasis achieved with utilization ofspecific vs general anticoagulant reversal agents for patients with nontraumatic ICH - associated with apixaban or rivaroxaban from January 1, 2017 to December 31, 2022 based on serial computerized tomography scans. Patients will be grouped based upon the anticoagulation reversal agent they received (andxanet alfa vs three-factor PCC vs four-factor PCC) and then stratified based on time from last administered anticoagulant dose to time to administration of anticoagulant reversal agent from symptom onset. Secondary outcomes will include: percent changes in hemorrhage volume, change in modified Rankin Score from initial presentation to discharge, 30-day mortality, incidence of additional interventions performed, use of other pharmacologic agents to attain hemostasis, time to administration of reversal agent from order placement, and rate of thromboembolic events.

RESULTS: The level of hemostasis efficacy and subsequent safety profiles of each anticoagulation reversal agent will be identified and preliminary results will be presented.

CONCLUSIONS: It is anticipated that there will be no difference in efficacy or safety between anticoagulation reversal agents.

5:20pm – 5:35pm C **Characterization of Rapidly Titrating Angiotensin Receptor Neprilysin Inhibitors Among Hospitalized Heart Failure Patients** Empire B

Presenters: Serena Mang
Evaluators: Jenny Shah
Evaluators 3: Semie Durrani
Evaluators 2: Michelle Kohute

TITLE: Rapid titration of angiotensin receptor neprilysin inhibitors among hospitalized patients with heart failure

AUTHORS: Serena Mang, PharmD; Andy Hui, PharmD, BCPS; Matthew Hinton, PharmD, BCPS; Stela Papa, PharmD, BCPS

OBJECTIVE: Sacubitril/valsartan has been shown to be most beneficial for heart failure patients when prescribed at target dose. Our study describes patient outcomes associated with the rapid titration of sacubitril/valsartan in order to achieve target doses.

METHODS: A retrospective, observational cohort study was conducted at an academic medical center in Philadelphia, Pennsylvania. Heart failure patients 18 years or older who received at least one dose of sacubitril/valsartan and had their dose titrated in less than two weeks between July 1, 2020 and October 21, 2022 were eligible for inclusion. The primary outcome was the characterization of sacubitril/valsartan titration by examining the initiation dose, the time between dose titrations, and the time between final titration and hospital discharge. All data was collected through manual retrospective chart review and recorded into REDCap; all endpoints were assessed with descriptive statistics.

RESULTS: A total of 731 patients were identified through a review of 8,171 sacubitril/valsartan orders. Out of the initial group, there were 47 patients whose sacubitril/valsartan was rapidly titrated with the average time between dose titrations being 2 days. Among the 44 patients who were newly initiated on sacubitril/valsartan during their admission, 32 were discharged on 49/51 mg twice daily, and a total of 5 patients were discharged on target dose of 97/103 mg twice daily. Data further exploring tolerability and post-discharge continuation has been recorded and will be presented.

CONCLUSIONS: Our research suggests that among patients hospitalized with heart failure the initiation and rapid titration of sacubitril/valsartan may enable safe and efficient progression toward the target dose, enabling patients to yield the most long-term benefit.

5:20pm – 5:35pm D **The Effects of Interprofessional Clinic on Hemoglobin A1c in Patients with Diabetes Mellitus**

Empire D

Presenters: Rachel Yan
Evaluators: Annie Poon
Evaluators 3: Leila Forouzan
Evaluators 2: Wafaa Abou-Zeineddine

TITLE: Effects of interprofessional clinic on hemoglobin A1c in patients with diabetes mellitus
AUTHORS: Rachel Yan, PharmD, Brianna Guite PharmD, Marie Meckel PA-C, Jennifer Glisson PharmD, â€‹ Brian Perl PharmD, and Nina Devine PharmD
OBJECTIVE: To evaluate the outcomes of interprofessional care provided to patients with diabetes mellites located at Mason Square Neighborhood Health Center (MSNHC) and to determine the impact in achieving patient-centered goals.
METHODS: For the purpose of this study, this quality improvement project will take place at Mason Square Neighborhood Health Center located in Springfield, MA from August 11, 2022 to February 28, 2023. Patients will be screened for inclusion using an existing database of patient information. Those whose hemoglobin A1c is more than 9% qualify to be seen by the Clinical Pharmacists and Physicianâ€™s Assistant within the Interprofessional Clinic. Referral from a Baystate Provider is not required. The Physicianâ€™s Assistant will be responsible for prescription new recommended therapy for patients and ordering and reviewing labs. The Interprofessional Team will optimize pharmacotherapy including initiation, modification, and discontinuation of medications related to their diabetes regimen, in addition to completing require prior authorization to expedite medication access.
RESULTS: Preliminary results will be included in the presentation.
CONCLUSIONS: It is anticipated that the results of this project will allow for the assessment of the impact of pharmacist intervention in relation to hypertension and diabetes management. This data may demonstrate the effects that pharmacists have in an ambulatory care setting and may indicate a need for expansion of pharmacist services within Baystate Medical Center.

5:20pm – 5:35pm Y **Empty**

Magnolia A

Evaluators: Justin Miller
Evaluators 3: Riya Patel
Evaluators 2: Laura Koons

5:20pm – 5:35pm G **Utilization of Patient Interview and Interprofessional Education to de-Label Beta-Lactam Allergies and Increase Appropriate Antibiotic Use** Magnolia B

Presenters: Connor Aldridge
Evaluators: Monique Bonhomme
Evaluators 3: Ansue Koshy
Evaluators 2: Jaclyn Seiple

TITLE: Utilization of patient interview and interprofessional education to de-label beta-lactam allergies and increase appropriate antibiotic use

AUTHORS: Connor Aldridge, PharmD; Maggie Montgomery, PharmD, BCPS; Olga Mironova, PharmD, BCPS

OBJECTIVE: Providing education to nursing staff emphasizing correct allergy assessment procedures and documentation will improve completeness of patient allergy assessment documentation and appropriate antibiotic use.

METHODS: Retrospective chart reviews were conducted to evaluate the rate completeness of allergy assessments. Exposure to and duration of therapy per 1,000 patient days (DOT) for select first- and second- line antibiotics were also evaluated. Patients 18 years and older admitted to the inpatient care areas from January to March, 2022 with a beta-lactam allergy and who received systemic antibiotics were included in the study. The intervention included nursing education regarding complete allergy assessments and documentation techniques. Additionally, real-time tracking of all newly admitted patients with any medication allergy was conducted daily. Complete allergy assessment compliance rates were monitored and sent to nursing management for real-time education and reinforcement with the documenting nurse. Pre- and post-intervention data will be compared to assess for improvements in the completeness of allergy assessments and appropriate antibiotic use.

RESULTS: Pre-intervention completeness of allergy assessments was 37%. Expected results include an increase in completeness of allergy assessments, increase in exposure and DOT of penicillins and cephalosporins, and a decrease in exposure to and DOT for aztreonam, carbapenems, clindamycin, fluoroquinolones, and vancomycin. The pre-and post-intervention data will be compared and presented.

CONCLUSIONS: Implementation of an interprofessional education initiative to improve the completeness of allergy assessments is anticipated to improve antibiotic use by increasing the utilization of first-line antibiotics.

5:20pm – 5:35pm I **Empty** Magnolia D

Evaluators: Michael Fox
Evaluators 2: Kimberly Allison

5:20pm – 5:35pm | **Evaluation of Oral Step Down Therapies for Enterobacterales Bacteremia** | Magnolia C

Presenters: Jennifer Shif
Evaluators: Sharon Blum
Evaluators 3: Kam Capoccia
Evaluators 2: Yosef Nissim

TITLE: Evaluation of oral step down therapies for Enterobacterales bacteremia
AUTHORS: Jennifer Shif, PharmD; Adrienne Terico, PharmD, BCPS, BCIDP
OBJECTIVE: The purpose of this study was to measure treatment outcomes in patients with Enterobacterales bacteremia who were transitioned from initial IV therapy to either an oral fluoroquinolone (FQ)/trimethoprim-sulfamethoxazole (TMP-SMX) or a beta lactam.
METHODS: This was a retrospective chart review assessing adult patients who were admitted from July 1st, 2019 through June 30th, 2020 to Pennsylvania Hospital with Enterobacterales bacteremia. Patients were eligible for inclusion if they had monomicrobial bacteremia due to Escherichia coli, Klebsiella pneumoniae, Klebsiella oxytoca, or Proteus spp and received at least one dose of IV antibiotics with transition to oral step down therapy. The isolated organism must have been susceptible to beta lactams, and/or FQs, and/or TMP-SMX. Patients were excluded if bacteremia was secondary to osteomyelitis, endocarditis, prosthetic joint infection, or epidural abscess. If patients had more than one instance of bacteremia, only the first episode of bacteremia during the study period was included. The primary outcome of treatment failure was analyzed using a Fisherâ€™s exact test. Demographic data and secondary outcomes were analyzed using a Mann-Whitney U test as appropriate.
RESULTS: A total of 140 patients were screened, and 82 patients met the exclusion criteria. The majority of patients (n=49) met exclusion criteria because their antibiotic course was completed intravenously without transitioning to oral therapy. In the 58 patients remaining for analysis, 35 (60%) received an oral beta lactam and 23 (40%) received an oral FQ or TMP-SMX as step down therapy. The primary outcome of treatment failure occurred in 4 patients (17.4%) who received FQs or TMP-SMX and 0 patients (0%) who received a beta lactam (p=0.02). Total treatment durations were similar between groups (12.8 Â± 2.6 days in beta lactam group vs 13.2 Â± 4.4 days in FQ/TMP-SMX group; p=0.59). Most cases of bacteremia (77.6%) were secondary to a urinary source.
CONCLUSIONS: In this cohort study of 58 adults with Enterobacterales bacteremia primarily from a urinary source, the incidence of treatment failure was higher in patients taking FQs or TMP-SMX compared with beta lactams. Oral beta lactam antibiotics may be a reasonable step down treatment option for Enterobacterales bacteremia. Prospective data in a larger, more diverse patient population is necessary to validate these results.

5:20pm – 5:35pm V **Implementation of a One-Hour Infliximab Infusion Protocol: Creating a New Standard** Wild Rose A

Presenters: Robert Koziol
Evaluators: Janet Mighty
Evaluators 3: Jacqueline Saunders
Evaluators 2: Amy Nathanson

TITLE: Implementation of a one-hour infliximab infusion protocol: creating a new standard

AUTHORS: Robert Koziol, PharmD, Brienne Costigan, PharmD, BCPPS, Johnson Ching, PharmD, CSP; Tufts Medical Center, Boston, MA

OBJECTIVE: At our institution, adult infliximab infusions are given over two hours. Studies demonstrate that a one hour infusion is safe and effective. We anticipate our results to show decreased chair times and increased patient and nursing satisfaction.

METHODS: This study included adult patients receiving infliximab or its biosimilar for all indications. To be eligible, patients needed to have at least three induction and one maintenance infusions over two hours without an infusion reaction. The one hour infusion protocol had a starting infusion rate of 100 mL/hr for 15 minutes that up titrated to 300 mL/hr for the final 45 minutes. Retrospective and prospective chart reviews were conducted to collect information on patients who received two or one hour infusions. The same data was collected for both cohorts which included baseline characteristics and chair time. Patient satisfaction surveys were distributed to patients while they received their first and second one hour infusions. Nursing satisfaction surveys were disseminated to nursing staff following conclusion of the study. A Likert scale was used to assess satisfaction based on the information collected by these surveys.

RESULTS: The primary outcome of this quality improvement initiative was to measure the change in the amount of time patients spend in the infusion center when receiving their infliximab infusions. The secondary outcomes were to assess patient and nursing satisfaction via surveys. Finalized results will be available upon completion of the study.

CONCLUSIONS: It is expected that appointment times will be reduced by one hour and there will be positive patient and nursing satisfaction with the one hour infusion.

5:20pm – 5:35pm P **Implementation of a novel workflow allowing for the dispensing of a short supply of methadone for opioid use disorder following a new DEA exemption** Crystal A

Presenters: Eva Alexandra Barany
Evaluators: Suzanne Nesbit
Evaluators 3: Yogini Patel
Evaluators 2: Nicholas Sandoval

TITLE: Implementation of a novel workflow allowing for the dispensing of a short supply of methadone for opioid use disorder following a new Drug Enforcement Agency (DEA) exemption

AUTHORS: E.A. Barany, L. Bowman, O. Berger, M. Buresh, R. Stewart, S. Nesbit; The Johns Hopkins Hospital and Johns Hopkins Bayview Medical Center, Baltimore, Maryland

OBJECTIVE: This study will assess patient characteristics and novel workflow fidelity for methadone dispensing for opioid use disorder upon acute care discharge secondary to a new DEA exemption.

METHODS: A multi-site, single center, retrospective post-implementation study was conducted for adult emergency department (ED) or hospitalized patients for whom the novel workflow was utilized between December 1, 2022, and April 30, 2023. Patients were included if an order was placed within the electronic health record (HER) for dispensing methadone for OUD upon acute care discharge. Data related to demographics, substance use history, methadone supply request and approval, and methadone dispensing was collected via bulk query of the EHR. Fidelity to the established workflow was analyzed, and discrepancies were reviewed manually.

RESULTS: Among 60 patients for whom methadone was requested (19 Black [31.7%] and 38 White [63.3%]; mean [SD] age, 45.8 (11.6) years; 34 males [56.7%]), 85% were approved. Majority (83.3%) of requests came from the inpatient setting with the remaining 16.7% coming from the ED. This workflow was most used to bridge patients when coordination with OTPs proved challenging over the weekend or during holidays. Additional patient demographics, workflow fidelity and order panel measures will be characterized using descriptive statistics.

CONCLUSIONS: We anticipate that this study will highlight opportunities to increase adherence to this novel workflow and optimize institutional processes for dispensing methadone at discharge for OUD.

2023 Eastern States Conference

Program Book

MAY 10 • WEDNESDAY

7:00am – 7:50am	S	**Breakfast**	White Room
8:00am – 8:15am	A	**Ambulatory care pharmacist participation in comprehensive medication reviews within an integrated delivery network** *Presenters: Sarah Tucker* *Evaluators: Andrew Rubio* *Evaluators 3: Maureen Krajeski* *Evaluators 2: Keturah Weaver* TITLE: Outcomes of a pharmacist led comprehensive medication review program within an integrated care delivery network AUTHORS: S. Tucker, D. Longyhore, A. Zook; Geisinger, Pennsylvania OBJECTIVE: To quantify the activities of pharmacists in telehealth and ambulatory care roles on patient care needs following Medicare Part D comprehensive medication reviews (CMR) for members of an integrated care delivery network (IDN). METHODS: This retrospective chart review included patients insured by Geisinger Health Planâ€™s (GHP) Medicare Part D plan with a Geisinger primary care provider and who completed a CMR with a Geisinger clinical pharmacist. A list of eligible patients was generated by GHP, and patients were separated into one of three groups based on relationship with Geisingerâ€™s ambulatory pharmacy team prior to and following CMR. The primary outcome analyzed in this study was number of resolved care gaps (preventative care and monitoring recommendations identified by the electronic health record). Secondary outcomes included number and type of identified medication problems, acceptance rate of pharmacist recommendations, number of patients converted to Geisingerâ€™s mail order pharmacy, and number of referrals to ambulatory clinical pharmacist team. Results will be assessed through analysis or variance for continuous variables, chi-squared test for nominal data, and studentâ€™s t-test for one-to-one comparisons. RESULTS: We anticipate identifying 150 records for each of the three predetermined groups to review approximately 10% of eligible patient charts. Change in number of unresolved care gaps from time of CMR to the end of the calendar year will be reported. CONCLUSIONS: Data collection is ongoing, but we expect to demonstrate a benefit to both patient care and the health system following CMR completion with a pharmacist employed by an IDN.	Empire A

8:00am – 8:15am C **Empagliflozin and Dapagliflozin in Heart Failure with Preserved Ejection Fraction (HFpEF)**

Crystal A

Presenters: Michael Do

Evaluators: Gabrielle Grossman

Evaluators 2: Cindy Zheng

TITLE: The impact of pharmacy-driven recommendation of sodium-glucose cotransporter-2 (SGLT2) inhibitors on prescribing patterns in the setting of heart failure with preserved ejection fraction (HFpEF)

AUTHORS: Michael Do, Jim Helms; Reading Hospital Tower Health, West Reading, PA

OBJECTIVE: This project intends to further advance SGLT2i prescribing through pharmacy-driven initiative and education. The primary outcome was to evaluate the change in prescribing patterns in accordance with the guidelines pre- and post- intervention.

METHODS: Patients admitted with heart failure are initiated on the heart failure protocol. The pharmacy team reviews these patients for study eligibility to receive empagliflozin or dapagliflozin followed by pharmacy-driven recommendation to prescribers to initiate an SGLT2 inhibitor. An infographic, which contains general information regarding SGLT2 inhibitors, itâ€™s proposed mechanism of action and a prescribing algorithm, was provided to prescribers to guide in the decision-making process. Data evaluated to determine eligibility includes but is not limited to: ejection fraction â‰¥50%, current heart failure pharmacotherapy, renal function, age, blood glucose and A1C, adverse events related to SGLT2 inhibitors such as volume depletion, nephrotoxicity, and genitourinary infections, and exclusion criterion and contraindications such as dialysis, hypersensitivity, and history of diabetic ketoacidosis.

RESULTS: Pre- and post-intervention prescribing rates of empagliflozin in HFpEF, total number of SGLT2 inhibitor eligible patients, number of successful interventions made, total number of interventions made.

CONCLUSIONS: With the introduction of SGLT2 inhibitors in the setting of heart failure with preserved ejection, this research project aims to evaluate the impact of pharmacy-driven prescribing recommendations on prescribing patterns in accordance with the 2022 AHA/ACC/HFSA heart failure guidelines and demonstrates the benefit of a pharmacist in an era of rapidly evolving health care delivery.

8:00am – 8:15am C **Safety and Efficacy of Ticagrelor use in Patients ICH history after Neuroendovascular Procedures**

Empire B

Presenters: Brandon Rinehimer

Evaluators: Arfa Rehman

Evaluators 3: Danielle Williams

Evaluators 2: Jason Laskosky

TITLE: Safety and efficacy of ticagrelor use in patients with intracranial hemorrhage history after neuroendovascular procedures

AUTHORS: Anna Baughman, PharmD, BCPS, BCCCP; Brandon Rinehimer, PharmD; Laura Andrick, PharmD, BCCCP; Geisinger Medical Center, Danville PA

OBJECTIVE: This study aims to evaluate the safety and efficacy of ticagrelor use compared to clopidogrel in patients with a history of intracranial hemorrhage (ICH) after undergoing neuroendovascular procedures

METHODS: This retrospective cohort study examined patients from 1/1/2016 to 1/1/2022 using data from electronic health records at a rural medical center. Patients were included if greater than 18 years of age, underwent neuroendovascular procedures, and had a history of ICH. Patients were identified using ICD-10 codes for ICH and CPT codes for intracranial stenting, coil embolization and flow diversions. Patients were excluded if they had documented use of prasugrel, warfarin, rivaroxaban, apixaban, or dabigatran within 1 year post-procedure, or if they were pregnant. Patients were followed for 1 year from the procedure date. The primary outcome was recurrent ICH. Secondary outcomes included ischemic stroke and other documented bleeding events. Outcomes were assessed using a Chi-squared test.

RESULTS: The number and percentage of recurrent ICH, ischemic stroke, and documented bleeding events will be presented.

CONCLUSIONS: It is anticipated ticagrelor use in patients undergoing neuroendovascular procedures with a history of ICH have no difference of recurrent ICH compared to patients treated with clopidogrel.

8:00am – 8:15am G **Efficacy of Tolvaptan vs. 3% Sodium Chloride in the Treatment of Moderate to Severe Euvolemic and Hypervolemic Hyponatremia** Empire D

Presenters: Zachary Powers
Evaluators: Donna Grant
Evaluators 3: Dannielle Brown
Evaluators 2: Jen Donato

TITLE: Efficacy of Tolvaptan vs. 3% Sodium Chloride in the Treatment of Moderate to Severe Euvolemic and Hypervolemic Hyponatremia

AUTHORS: Zachary Powers PharmD, Biniyam Eyasu PharmD

OBJECTIVE: The current evidence is conflicted on whether tolvaptan or 3% NaCl is more effective in the correction of hypervolemic and euvolemic hyponatremia. Analyzing these treatments in patients at MRMC will provide insight into their effectiveness.

METHODS: Medical records were reviewed for hyponatremic patients admitted to MRMC from 2017 to 2022. Patients were included if they were 18 years of age or older and received either tolvaptan or 3% NaCl during treatment for moderate to severe chronic hyponatremia. Exclusion criteria included missing labs during hyponatremia treatment, comorbid syndrome of inappropriate antidiuretic hormone, hypovolemic hyponatremia, anuria (< 100 mL of urine/day), creatinine clearance < 10 mL/min, receiving hemodialysis, and mortality within 72 hours of treatment initiation. The primary efficacy outcome was total serum sodium (Na) correction measured in mmol/L at 48 hours and 72 hours. Secondary efficacy outcomes included length of stay and time to resolution of hyponatremia. Secondary safety outcomes included overcorrection of serum Na, use of a reversal agent, deterioration in neurologic function, potassium derangements, development of an AKI, and symptomatic hemodynamic changes.

RESULTS: The averages of the primary and secondary efficacy outcomes, as well as the occurrences of the secondary safety outcomes will be recorded for each group and presented for analysis.

CONCLUSIONS: The outcomes of this study will provide additional guidance on the use of tolvaptan and 3% NaCl in the treatment of moderate to severe euvolemic and hypervolemic hyponatremia at BSMH MRMC.

8:00am – 8:15am I **Assessment of mortality in patients with Candida infective endocarditis treated with caspofungin 150 mg IV daily** Magnolia A

Presenters: Jessica Clancy
Evaluators: Karen Gradoni McCann
Evaluators 3: Shereef Ali
Evaluators 2: Marissa Palm

TITLE: Evaluation of daily high-dose intravenous caspofungin for Candida infective endocarditis

AUTHORS: J. Clancy, M. Ruggero; Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania

OBJECTIVE: The purpose of this study is to better characterize mortality outcomes in patients with infective Candida endocarditis treated with daily high-dose intravenous caspofungin.

METHODS: This is a retrospective, single-center, observational cohort study of patients at the Hospital of the University of Pennsylvania from 2017-2022. Data was sourced from PennChart, the siteâ€™s electronic health record. Mortality at 30 days, 90 days, and 1 year was assessed in patients treated for Candida infective endocarditis with caspofungin 150 mg intravenously daily. Secondary outcomes included incidence of salvage therapy with amphotericin B, length of stay after therapy initiation, and time to blood culture clearance. Patient demographics, clinical variables, and all endpoints are described as means and standard deviations for continuous data and proportions for categorical data.

RESULTS: Of 15 patients treated with caspofungin 150 mg intravenously daily as primary therapy for Candida infective endocarditis, 5 patients (33.34%) experienced mortality within the first year. Three of these patients expired during their admission. Only 1 of 16 patients who received daily treatment with caspofungin 150 mg intravenously required salvage therapy with amphotericin B. Length of stay after antifungal therapy initiation varied from 17 to 119 days, with the median length of stay being 34.5 days. Caspofungin 150 mg intravenously daily failed to clear cultures in only 1 out of 16 patients.

CONCLUSIONS: These results support the use of caspofungin 150 mg intravenously daily as a potential treatment option for Candida infective endocarditis. Due to the limitations associated with a retrospective data review, further investigation via a randomized controlled trial is warranted.

8:00am – 8:15am L **Assessing Medication Error Prevention and Cost Effectiveness of Pharmacy Intervention on Medication Reconciliation in the Emergency Department** Magnolia B

Presenters: Madison Leap
Evaluators: Wen Song
Evaluators 3: Greg Shaeffer
Evaluators 2: Ricky DiPasquale

TITLE: Assessing Medication Error Prevention and Cost Effectiveness of Pharmacy Intervention on Medication Reconciliation in the Emergency Department

AUTHORS: Madison Leap, PharmD; Brian Austin, PharmD; Amro Assaidi, PharmD Candidate; Menaka Suri, PharmD Candidate; Shirley Bonanni, PharmD, BCPS

OBJECTIVE: The objective of this project is to assess the impact of a pharmacy-directed medication reconciliation program on reducing medication errors and determine cost-savings for our institution if pharmacy technicians were to be employed for this purpose.

METHODS: This retrospective chart review was approved by the Institutional Review Board and involved patients admitted through the Thomas Jefferson University Hospital emergency department between August 23, 2022 and February 15, 2023. Patients were included if their medication histories were completed by pharmacy students and they were 18 years of age or older. Patients were excluded if the current admission occurred within 30 days of a previous admission or if the medication history was completed by a non-pharmacy provider. The primary endpoint is the average number of medication errors identified per patient. Secondary outcomes include cost-savings per year, frequency of medication errors by subtype, and percent of patients with a subtype of error. Nominal data will be analyzed and presented with frequencies and percentages while continuous data will be presented as averages with standard deviations. A cost analysis will be performed to determine total yearly net savings of the program.

RESULTS: The total number of medication errors will be recorded and analyzed to determine the average number of medication errors per patient that were identified during medication reconciliation. The frequencies of medication errors by subtype will also be analyzed to determine the most common types of errors found on patient medication lists. The subtypes that will be assessed include omission, commission, and duplication in addition to incorrect medication, strength, dose, frequency or formulation. A cost analysis will determine total estimated yearly net savings of the program and take into account cost of intervention per patient in addition to average cost of an inpatient adverse drug event.

CONCLUSIONS: It is anticipated that this study will demonstrate that a pharmacy-directed medication reconciliation program implemented in the emergency department will result in decreased medication errors and provide meaningful cost-savings for the institution.

8:00am – 8:15am O **Real-world challenges of using TPMT testing in adult acute lymphoblastic leukemia** Magnolia C

Presenters: Chao Chen

Evaluators: Marina Reed

Evaluators 2: Erin Corica

TITLE: Real-world challenges of using TPMT testing in adult acute lymphoblastic leukemia

AUTHORS: C. Chen, M. Newman, J. Webster, J.M. Stevenson; The Johns Hopkins Hospital, Baltimore, MD

OBJECTIVE: TPMT metabolizes mercaptopurine (6-MP). Reduced TPMT function increases risk for 6-MP toxicity. Here we describe the use and appropriateness of TPMT enzymatic and genetic testing in adult acute lymphoblastic leukemia (ALL) patients receiving 6-MP.

METHODS: We identified adult ALL patients on a chemotherapy treatment plan containing 6-MP between June 2016 and August 2022. Within this population, we characterized the use of TPMT enzymatic and genetic testing and calculated test turnaround time. The TPMT enzyme activity assay is not appropriate if the patient has had a blood transfusion within 90 days and the TPMT genetic assay is not appropriate in patients with a history of bone marrow transplantation. We reviewed electronic health record data to evaluate the appropriateness of testing and whether prescribers held 6-MP or reduced dosage in patients with decreased TPMT function. We compared appropriateness of testing in the two testing modalities using Fisherâ€™s exact test.

RESULTS: In preliminary analysis, 16 patients underwent TPMT enzyme activity testing and 5 underwent TPMT genotyping. 2/16 patients with enzyme activity testing and 0/5 patients with genotyping had reduced TPMT function. Testing was inappropriate in 11/16 patient that received enzyme activity testing and 0/5 patients with genotyping (due to blood transfusion and bone marrow transplantation, respectively). This difference in appropriateness was statistically significant (p=0.01). Both types of test were sent out to third party laboratories. Mean turnaround time was 6 and 11 days for the enzyme activity and genotype test, respectively. In 2 patients with decreased TPMT function, 2/2 had a dose reduction or dose held after results were returned.

CONCLUSIONS: Our study highlights frequent inappropriate use of TPMT enzyme activity testing for the adult acute lymphoblastic leukemia population at our institution. Despite the longer turnaround time for TPMT genotype testing, this method was ordered appropriately more often. This project illustrates opportunities to improve the appropriate use of TPMT testing at our institution. Providing a local genotyping test with faster turnaround time should be pursued.

8:00am – 8:15am 2 **Levetiracetam dosing based on Glasgow Coma Scale on pediatric traumatic brain injury patients** Magnolia D

Presenters: Victoria Miklus
Evaluators: Evan Ramsey
Evaluators 2: Catherine Rejrat

TITLE: Levetiracetam dosing based on Glasgow Coma Score (GCS) in pediatric traumatic brain injury (TBI) patients

AUTHORS: Victoria Miklus, PharmD, Lindsay Trout, PharmD, BCPPS, Ashley Quintili, PharmD, BCPS, BCCCP, Katelyn Even, MD

OBJECTIVE: TBIs increase the risk of early post-traumatic seizures. Some guidelines suggest the use of prophylactic agents, including levetiracetam. This study aims to determine efficacy and safety of levetiracetam dosing based on GCS.

METHODS: Medical records of pediatric patients greater than 6 months of age admitted to Penn State Hershey Medical Center (PSHMC) Children's Hospital were reviewed. Patients with a TBI who received levetiracetam for early seizure prophylaxis with a documented GCS score were included. Patients were excluded if they had a known seizure disorder or if they had prior use of anti-epileptic medications. Baseline demographics, injury classification, initial GCS reported by EMS, in the ED and in the admitting service, seizure occurrence, rescue seizure medications, time to first dose of levetiracetam from arrival, highest and lowest sodium levels and occurrence of adverse events from levetiracetam were collected. Patients were divided into two groups before and after initiation of the pediatric TBI order set standardizing levetiracetam dosing based on GCS. The primary outcome was to determine seizure occurrence in each group.

RESULTS: Medical records of 96 patients were reviewed. 42 patients were included in the pre order set group and 43 patients were included in the post order set group. The median age was 10.5 years and 7 years in the pre and post order set group, respectively. The majority of injuries included subdural, subarachnoid and epidural hematomas/hemorrhages and skull fractures. A total of 44 patients were dosed appropriately based on the current PSHMC guidelines including 14 patients in the pre order set group and 30 patients in the post order set group. Three patients in each group experienced a seizure while on levetiracetam. Two patients experienced adverse reactions that were attributed to levetiracetam which included agitation and somnolence.

CONCLUSIONS: Based on preliminary results, there is no difference numerically in the primary outcome of seizure occurrence between the two groups. Further results of this study are anticipated to clarify optimal dosing of levetiracetam and determine which GCS should be utilized to guide dosing. This study will also provide information regarding appropriate utilization of the order sets and look at differences in outcomes if utilized incorrectly.

8:00am – 8:15am Q **A Quality Review of COVID-19's Effect on Long-Acting Injectable Antipsychotic Use** Wild Rose A

Presenters: Julia Kiss
Evaluators: Carolyn Orendorff
Evaluators 3: Maya Tatum
Evaluators 2: Albert Celidonio

TITLE: Long-acting injectable antipsychotic utilization during the coronavirus disease 2019 pandemic â€“ a quality review

AUTHORS: Julia Kiss, PharmD. & Jennifer Dress, PharmD, BCPP.

OBJECTIVE: This project identifies areas of deviation from long-acting injectable antipsychotic (LAI ATP) medication package inserts and standards of care related to patient management during the coronavirus disease 2019 (COVID-19) pandemic.

METHODS: Patients that received LAI ATP medications from April 2020-Septemeber 2022 at the Wilkes-Barre Veteran Affairs (WBVA) outpatient mental health clinics (MHC) were identified and their charts were reviewed. Pertinent information including dosing, administration, and monitoring was collected in a Microsoft Excelâ„¢ spreadsheet. Patients prescribed the following LAI ATP medications were included: risperidone (Risperdal Constaâ„¢), paliperidone palminate (Invega Sustennaâ„¢ and Invega Trinzaâ„¢), aripiprazole monohydrate (Abilify Maintenaâ„¢), aripiprazole lauroxil (Aristadaâ„¢), haloperidol decanoate (Haldolâ„¢), and fluphenazine decanoate (Prolixinâ„¢). The primary outcome assesses providerâ€™s adherence to appropriate outpatient LAI ATP prescribing as indicated in medication package inserts and standards of care. Secondary outcomes evaluate the frequency and significance of each specific area of deviation including dosing, monitoring, and side effect management throughout LAI ATP treatment.

RESULTS: The study included 126 active LAI ATP prescriptions. The patients experienced 608 overall deviations from package insert and standards of care recommendations. Majority were missed laboratory monitoring (i.e., HgbA1c, TSH, CBC, CMP) (n=257) within recommended frequency intervals. This was followed by absence of vital signs monitoring (n=198) at each injection visit. Oral ATP overlap therapy was noted in 68 patients and continued indefinitely in 33% throughout the study period. Discontinuation of therapy occurred for a variety of reasons, including transfer of care (n=16). There were 83 occurrences of missed doses, in which 54% were due to missed appointments and 22% were not addressed. Lastly, weight gain was not addressed in 18 patients.

CONCLUSIONS: The observed data suggests that there is an opportunity to improve appropriate LAI ATP utilization at the WBVA MHC, regarding deviations from medication package inserts and standards of care. Of note, barriers to patient care during COVID-19 may have contributed to discrepancies identified throughout the study period. Psychiatric pharmacists have extensive training and expertise with managing LAI ATP therapy and may be able to improve patient-oriented outcomes and lower facility costs.

8:00am – 8:15am 6 **Evaluation of Non-Bisphosphonate Use for the Prevention and Treatment of Osteopenia/Osteoporosis in Cardiothoracic Transplant Recipients** Empire C

Presenters: Alicia Nordberg-Payne
Evaluators: Megan Sterner
Evaluators 3: Jessica Pinchinat
Evaluators 2: Katherine Martin

TITLE: Evaluation of non-bisphosphonate use for the prevention and treatment of osteopenia/osteoporosis in cardiothoracic transplant recipients

AUTHORS: Alicia Nordberg-Payne, PharmD, Linh Nguyen, PharmD, Stephanie Witek, PharmD, BCTXP, Tamara Claridge, PharmD, BCPS, Maxwell Norris, PharmD, BCTXP

OBJECTIVE: The aims of this study were to assess tolerability of non-bisphosphonate agents in cardiothoracic solid organ transplant recipients (CTR) by evaluating adverse events and to characterize the use of non-bisphosphonate agents in CTR within our program.

METHODS: This was a single-center, retrospective, cohort study utilizing chart review including HIV-negative adult CTR, transplanted between July 1, 1990 and July 1, 2019, and prescribed a non-bisphosphonate agent. Patients were excluded 1) if they expired prior to discharge of index admission or 2) if less than 2 years of follow-up data was available following initiation of non-bisphosphonate therapy. Non-bisphosphonate agents of interest included abaloparatide, calcitonin, denosumab, raloxifene, romosozumab, and teriparatide. The primary outcome was the tolerability of non-bisphosphonate therapy based on adverse effects of interest: hypocalcemia (serum calcium

8:00am – 8:15am

6 **Intravenous Immunoglobulin Use in Kidney Transplant Recipients with Severe Hypogammaglobulinemia** Wild Rose B

Presenters: Kobi Griffith

Evaluators: Jennifer Lihach

Evaluators 2: Kate Perez

TITLE: Evaluation of Intravenous Immunoglobulin in the Treatment of Severe Hypogammaglobulinemia in Kidney Transplant Recipients

AUTHORS: Kobi Griffith, PharmD; Christopher Hartley, PharmD; John Vella, MD; Marizela Savic, PharmD, BCPS

OBJECTIVE: This study aims to evaluate the effectiveness of intravenous immunoglobulin (IVIG) in the treatment of severe hypogammaglobinemia in kidney transplant recipients while also investigating safety events associated with IVIG administration.

METHODS: This case series, conducted at Maine Medical Center, evaluated the use of IVIG in adult kidney transplant recipients diagnosed with severe hypogammaglobinemia (IgG < 400 mg/dL) following at least two hospitalizations due to infections between June 2014 and June of 2022. IVIG use in this population was based on an institutional guideline. Chart reviews were conducted to determine changes in IgG levels following at least 3 doses of 300 mg/kg IVIG treatment compared to baseline at the time of IgG deficiency diagnosis. Additional outcomes evaluated included hospitalizations due to infections pre and post IVIG treatment, change in allograft function during treatment, incidence of infusion reactions with IVIG administration, 1-year all-cause mortality, acute allograft rejection, allograft survival at 1-year post third IVIG dose, and total duration of IVIG therapy.

RESULTS: IgG levels increased with the administration of IVIG. Average IgG levels increased after each additional IVIG dose with most patients achieving IgG normalization (IgG > 700 mg/dL) after at least four doses. The number of doses prior to rechecking IgG levels varied substantially with all but one patient having their level monitored by at least the sixth dose. Only three patients were monitored following the third dose. Frequency of infections decreased on average in the year following initiation of IVIG in kidney transplant recipients with hypogammaglobulinemia. Only one patient had a notable infusion reaction with associated back pain. Allograft function, represented by creatinine levels, remained stable throughout the treatment period.

CONCLUSIONS: Kidney transplant recipients with severe IgG deficiency benefitted from treatment with IVIG. Although our institutionâ€™s clinical guidance indicates that IgG levels should be measured after 3 doses and treatments stopped if IgG levels have normalized, it appears that most patients required further treatment and that there may be a benefit in continuing IVIG past 3 doses as reflected by the higher IgG levels. IVIG use was well tolerated in our patients.

8:20am – 8:35am

A **Evaluating the Incidence of Acute InfliximabÂ Infusion Reactions between Different Administration Methods**

Empire A

Presenters: Tyler Achuff
Evaluators: Andrew Rubio
Evaluators 3: Maureen Krajeski
Evaluators 2: Keturah Weaver

TITLE: Evaluating the incidence of acute infliximab infusion reactions between different administration methods
AUTHORS: Tyler Achuff, Rachael DiMeo, Amy Breeding, Brian McAuliffe; ChristianaCare, Newark, DE
OBJECTIVE: The aim of this study is to determine if there is a difference in the incidence of acute infusion-related reactions between a titrated or a fixed administration rate for infliximab and its biosimilars.
METHODS: A retrospective, pseudo-experimental chart review was conducted in adult patients in which infliximab or biosimilar was being infused using a rate titration between 08/16/2021 and 02/16/2022 and a fixed rate between 02/22/2022 and 08/22/2022. Patients were excluded if they had a prior anaphylaxis reaction to infliximab or its biosimilars or were pregnant. Patients were determined to have an infusion-related reaction (IRR) if they were documented to have a mild/moderate or severe IRR. The reaction, treatment, and outcome of the infusion were also documented. The primary endpoint was the composite endpoint of the occurrence of any acute IRR, both mild/moderate and severe. Secondary endpoints were time to acute IRR, severity of acute IRR, outcome of acute IRR, medications given to treat the acute IRR, and patient disposition after the acute IRR.
RESULTS: Of the 100 patients reviewed, 50 in rate titration group and 50 in the fixed group, one patient in the titration group had an IRR. This patient had a mild IRR, presenting as pruritis. The infusion was stopped, 50 mg of diphenhydramine IV administered, and the infusion continued at the same rate. The patient subsequently experienced pruritis again, the infusion stopped, an additional 50 mg of IV diphenhydramine administered, and the infusion continued at the same rate. The patient was discharged home. Age, race, history of anaphylaxis to medications, premedications administered, dose of infliximab and biosimilars, and first or subsequent infliximab infusion, were all statistically similar between the two groups.
CONCLUSIONS: There was no impact on the incidence of IRRs when comparing rate titration administration and fixed rate administration of infliximab and biosimilars.

8:20am – 8:35am C **Project Delirium: Reducing Overnight Medication Administrations in the Intensive Care Unit** Empire B

Presenters: Jacob Peace
Evaluators: Arfa Rehman
Evaluators 3: Danielle Williams
Evaluators 2: Jason Laskosky

TITLE: Project Delirium: Reducing Overnight Medication Administrations in the Intensive Care Unit
AUTHORS: Jacob T. Peace, Danielle E. Famularo, Megan E. Feeney, Kimberly A. Ackerbauer Ava E. Cascone
OBJECTIVE: The aim of this quality improvement initiative is to reduce overnight administration of targeted medications in intensive care unit (ICU) patients to account for less than 5% of total medication administrations per one week period by May 2023.
METHODS: This initiative is ongoing in adult ICUs at an academic medical center. Current targeted medications are metoprolol tartrate, prophylactic enoxaparin, albuterol and ipratropium nebulizers. Three interventions have been implemented thus far. The first intervention began in November 2022 and included manual changes to medication administration times. The second and third interventions included modification of default administration times for enoxaparin and metoprolol, and similar interventions are being implemented for other target medications. The primary outcome metric is the percentage of overnight (22:00 to 04:00) administrations relative to total administrations of all targeted medications throughout a one-week period in the ICU. The process metric examines the outcome metric for each individual targeted medication. The balancing metric is the number of rescue doses administered over a one-week period for metoprolol and targeted nebulizers.
RESULTS: Baseline data collection displayed 8.4% to 22.6% of targeted medications were administered overnight in a one-week period. After the first intervention of provider manual changes to medication administration times, the proportion of metoprolol overnight administrations decreased from 15.5% to 14.4%, albuterol decreased from 22.3% to 20.3%, and ipratropium decreased from 22.6% to 20.5%. The proportion of enoxaparin administrations given overnight increased from 8.4% to 19.5%. After the second and third interventions occurred, the proportion of overnight administrations of enoxaparin and metoprolol decreased from 19.5% to 2.3% and 14.4% to 8.6%, respectively. Data collection is ongoing.
CONCLUSIONS: After the first intervention, the proportion of overnight administrations of all targeted medications decreased with the exception of enoxaparin. Results from subsequent interventions for enoxaparin and oral metoprolol tartrate demonstrated a decrease in the proportion of overnight administrations. Future interventions will focus on adjusting default administration times for all targeted medications. Data collection continues to determine whether interventions are sustained.

8:20am – 8:35am C **Successful Transitions from High-Dose Propofol to Dexmedetomidine** Crystal A

Presenters: Peter Yakoub
Evaluators: Gabrielle Grossman
Evaluators 2: Cindy Zheng

TITLE: Successful transitions from high dose propofol to dexmedetomidine
AUTHORS: P.Yakoub, J.Laskosky, K.Shaak
OBJECTIVE: In our institution, prescribers commonly transition patients from propofol to dexmedetomidine, prior to extubation. The purpose of this research is to assess if successful transitions to dexmedetomidine are affected by the dose of propofol.
METHODS: For the period 6/1/2019 to 6/30/2022, electronic medical records were used to identify mechanically ventilated trauma intensive care unit patients over 18 years of age and receiving propofol sedation for at least 24 hours prior to transition attempt to dexmedetomidine. The primary objective of the study was to assess successful transitions from propofol to dexmedetomidine defined as continuation of dexmedetomidine for at least 48 hours without reinstitution of propofol or otherwise extubated on dexmedetomidine. Successful transitions were compared between the high-dose and low-dose propofol patient cohorts using chi square analysis. High dose propofol was defined as >30 mcg/kg/min.
RESULTS: A total of 106 patients, 76 in the high dose cohort and 33 in the low dose cohort, were included in the study. The median ICU length of stay was 16.5 days and 12.0 days [respectively]. The highest dose of propofol within 6 hours of dexmedetomidine infusion was 17.5 mcg/kg/min in the low dose cohort and 50.6 mcg/kg/min in the high dose cohort. The highest dose of dexmedetomidine within 48 hours off propofol was 0.63 mcg/kg/hour in the low dose cohort and 1.05 mcg/kg/hour in the high dose cohort, p

8:20am – 8:35am D **Impact of beta blocker therapy on chronic obstructive pulmonary disease control in veterans with coexisting heart failure** Empire C

Presenters: Hindy Taubenfeld
Evaluators: Megan Sterner
Evaluators 3: Jessica Pinchinat
Evaluators 2: Katherine Martin

TITLE: Impact of Beta Blocker Therapy on Chronic Obstructive Pulmonary Disease Control in Veterans with Coexisting Heart Failure

AUTHORS: H. Taubenfeld, K. Vest, T. Kish; Veterans Affairs Medical Center (VAMC), Bronx, New York

OBJECTIVE: To evaluate the association between beta blocker use and chronic obstructive pulmonary disease (COPD) control in veteran patients with comorbid heart failure.

METHODS: A retrospective chart review will be performed on veterans with a past medical history of both COPD and heart failure, and who received treatment with a guideline-directed medical therapy (GDMT) beta blocker between December 2020 and December 2022 utilizing the Department of Veteran Affairsâ€™ Computerized Patient Record System (CPRS). Patients will be excluded if treatment with a GDMT beta blocker did not coincide with the duration of both diagnoses. Data collection will include choice of beta blocker, inpatient admission history, and outpatient corticosteroid prescriptions for COPD exacerbation.

RESULTS: The frequency of COPD exacerbation over time in veterans with comorbid HF will be compiled, including COPD exacerbations managed in the inpatient and outpatient settings. The incidences will be further stratified by type of beta blocker prescribed . All results will be recorded and presented.

CONCLUSIONS: It is anticipated that this project will provide more insight on the relationship between beta blocker use and COPD control in patients with comorbid COPD and heart failure.

8:20am – 8:35am G **Is anticoagulation reversal necessary prior to surgical intervention in patients presenting with hip fractures?** Empire D

Presenters: Nicolas Jozefczyk
Evaluators: Donna Grant
Evaluators 3: Dannielle Brown
Evaluators 2: Jen Donato

TITLE: Is anticoagulation reversal necessary prior to surgery in patients presenting with acute hip fractures?

AUTHORS: N. Jozefczyk, S. Livings, A. Quintili; Penn State Health Milton S. Hershey Medical Center, Hershey, Pennsylvania

OBJECTIVE: There is controversy surrounding anticoagulation reversal in hip fracture patients on oral anticoagulants. The aim of this study is to help guide further practice in patients on anticoagulants that require hip fracture corrective surgery acutely.

METHODS: Medical records of patients that had a current procedural terminology (CPT) code charge related to hip fracture surgery over the timeframe of January 1, 2020 to August 31, 2022 were reviewed. Patients were excluded if they were less than 18-years old, had a planned hip-related surgery, did not take warfarin nor an anti-Xa inhibitor, were transferred from an outside hospital, had surgery at an outside facility, had multiple fractures post-trauma, were non-operatively managed, had hemophilia, an international normalized ratio (INR) < 1.8, or were anticoagulated on dabigatran. Data collection of patient information was completed through the utilization of RedCapÂ®. The primary outcome of this study is the difference in blood loss between the two study groups. Secondary outcomes include pre-surgery INR, transfusion of blood products during and after surgery, clotting events from admission to 3-months post-discharge, inpatient mortality, and disposition on discharge.

RESULTS: There were 664 unique patient records that were screened for inclusion. A total of 585 patients were excluded. Within the 79 included patients, 20 were reversed prior to surgery and 59 did not get a reversal agent. Baseline characteristics were similar between the two groups. There was no difference in the primary outcome of blood loss between the two groups with a median loss of 150 mL in both groups (p=0.717). For secondary outcomes, there was only one significant difference between the groups with a median pre-surgery INR of 1.5 in the reversed group and 2.2 in the not reversed group (p=0.006).

CONCLUSIONS: This retrospective chart review joins the mounting evidence that anticoagulation reversal may not be necessary prior to hip fracture surgery. This study is limited by only having 20 patients within the reversal group, so results should be interpreted with caution as they could have been due to chance.

8:20am – 8:35am L **Implementation and evaluation of standardized drug expiration processes across non-automated areas** Magnolia B

Presenters: Nate Oblizajek
Evaluators: Wen Song
Evaluators 3: Greg Shaeffer
Evaluators 2: Ricky DiPasquale

TITLE: Implementation and evaluation of standardized drug expiration processes across non-automated areas
AUTHORS: Nate Oblizajek, PharmD; Marc Phillips, PharmD, CPHQ, 340B ACE; Dave Cecere, PharmD, MBA, FACHE; MJ Braham, PharmD
OBJECTIVE: This quality improvement project is being completed to determine if implementation of a standardized process for proactively relocating medications before their expiration dates will decrease quantity and cost of non-returnable expired medications.
METHODS: The components of the quality improvement project were to first implement a standardized expiring medication workflow process across two satellite pharmacy areas, then determine the impact of implemented changes on the quantity and dollar amount of expired medications by comparing pre-implementation and post-implementation data. Baseline information was collected from available expired medication data since April 2021. The new expired medication workflow process was implemented in December of 2022 and data points are being collected through the duration of the study period. Process implementation included creation of workflow protocols education to pharmacy personnel. Data points include medication name, NDC, expiration date, date medication returned to the main pharmacy, and location within the hospital where each medication expired. Included medications for relocation are all soon to expire (within 60 days) medications returned from the two designated pharmacy satellites.
RESULTS: The quantity and estimated cost of expired medications during the study period after standardized process implementation will be compared to pre-implementation expired medication data. Data collection is ongoing and will be presented further at Eastern States.
CONCLUSIONS: It is anticipated that this quality improvement project may demonstrate some benefit from a standardized process to proactively relocate medications before their expiration date to be used in other hospital areas. If implemented changes are successful in the satellite pharmacy areas identified within the study, then future efforts could be made to focus on implementing similar workflows across other hospital locations.

8:20am – 8:35am O **Anticoagulant Prescribing Patterns in Patients with Brain Tumors and Central Nervous System Metastases** Magnolia C

Presenters: Emily Abdelmessih
Evaluators: Marina Reed
Evaluators 2: Erin Corica

TITLE: Anticoagulant prescribing patterns in patients with brain tumors and central nervous system metastases
AUTHORS: Emily Abdelmessih, PharmD, Tania Ahuja, PharmD, FACC, BCCP, BCPS, CACP, Stephanie Wo, PharmD, BCOP, Aaron Sango, PharmD, John Papadopoulos, BS, PharmD, BCCCP, FCCM, Elaine Xiang, PharmD, BCOP
OBJECTIVE: The objective of this study is to evaluate the safety of direct oral anticoagulants (DOACs) versus low-molecular weight heparin (LMWH) in patients with primary brain tumors or central nervous system (CNS) metastases.
METHODS: This is a retrospective cohort study of all adult patients â‰¥18 years old with primary brain tumors or CNS metastases who were treated with full-dose anticoagulation with a DOAC or LMWH for any indication from December 1st, 2018 to August 19th, 2022 at NYU Langone Health. Electronic health records were reviewed for baseline characteristics, cancer characteristics, anticoagulation characteristics, pertinent laboratory data and concomitant medications. The primary outcome was the incidence of any intracranial hemorrhage (ICH) after anticoagulation initiation. Secondary outcomes included types of ICH, other bleeding events as defined by the International Society on Thrombosis and Haemostasis (ISTH), incidence of thromboembolic events, or any changes in anticoagulant therapy during study period, including anticoagulant switches, dose adjustments or any discontinuations. Research Electronic Data Capture was used for data collection and SPSS Statistics Software was used for data analysis.
RESULTS: Results are pending. After data analysis we will report the incidence of ICH, incidence of other bleeding events, incidence of thromboembolic events, and describe anticoagulant therapy changes.
CONCLUSIONS: It is anticipated that this research will demonstrate the safety of DOACs over LMWH in patients with primary brain tumors or CNS metastases.

8:20am – 8:35am 2 **Determining Risk Factors of Pediatric Urinary Tract Infections Caused by Extended Spectrum Beta-lactamase producing organisms at a Northeast Acute Care Institution: A Case Control Study** Magnolia D

Presenters: Nicole Cernaro
Evaluators: Evan Ramsey
Evaluators 2: Catherine Rejrat

TITLE: Determining risk factors of pediatric urinary tract infections caused by extended spectrum beta-lactamase producing organisms at a northeast acute care institution: a case control study
AUTHORS: Nicole Cernaro, PharmD; Catherine Vu, PharmD, BCIDP; Emily McGrath, PharmD, BCPPS; Maria Boxwala, MD; Kristina Feja, MD, MPH
OBJECTIVE: The purpose is to identify clinically significant risk factors for urinary tract infections (UTIs) caused by extended spectrum beta-lactamase (ESBL) producing Escherichia coli (E.coli) organisms which can aid in earlier detection and treatment.
METHODS: This is an Institutional Review Board-approved retrospective case-control study that was matched 1:2, respectively, on year of hospitalization, age, and gender and compares pediatric patients aged 21 years or younger with ESBL-producing E. coli UTIs and ESBL-negative E. coli UTIs admitted to inpatient pediatric units in the time frame of October 2016 to October 2021. Cases were identified through medication usage reports; they had to have at least one positive urine culture for an ESBL-positive E. coli organism and received at least one dose of meropenem. Controls were identified through urine culture reports for positive urine cultures of an ESBL-negative E. coli organism.
RESULTS: The primary outcome is determining the risk factors associated with pediatric UTIs caused by ESBL producing E. coli organisms. Secondary outcomes include length of stay, time to effective antibiotic therapy, and concomitant susceptibility to ESBL-active oral agents, including fluoroquinolones, trimethoprim/sulfamethoxazole, and nitrofurantoin.
CONCLUSIONS: It is anticipated that this case control study will allow for the determination of clinically significant risk factors for UTIs secondary to ESBL positive E. coli organisms. The goal of this study is to utilize the observed risk factors to develop an institution-specific UTI guideline to assist in identifying children at risk for ESBL infections sooner, which can improve patient outcomes.

8:20am – 8:35am Q **Assessment of Sleep Medication Prescribing Patterns in Hospitalized Medicine Patients** Wild Rose A

Presenters: Jenna Green
Evaluators: Carolyn Orendorff
Evaluators 3: Maya Tatum
Evaluators 2: Albert Celidonio

TITLE: Assessment of sleep medication prescribing patterns in hospitalized medicine patients
AUTHORS: Jenna K. Green, PharmD, Angie M. Smith, PharmD, BCPS, Ashley N. Fay, PharmD, BCPS
OBJECTIVE: The purpose of this study is to identify the most prevalent sleep medications utilized for hospitalized medicine patients and evaluate areas for quality improvement in ordering safe and effective medications for sleep.
METHODS: This project was a single-center study designed to evaluate the usage of various sleep medications via retrospective chart review. The patient population included adults on a hospital medicine service who received at least one dose of a sleep medication between August 31, 2021 and August 31, 2022 and had a diagnosis of insomnia during or after admission. Exclusion criteria included any patient not on a hospital medicine service or unit, not prescribed sleep medications, or with a diagnosis of insomnia prior to admission. The primary outcome was the proportion of enrolled patients prescribed each class of sleep medication. Secondary outcomes included the median number of sleep medication doses administered across each patientâ€™s hospital stay and the proportion of patients over the age of 65 prescribed zolpidem, benzodiazepines, diphenhydramine, or hydroxyzine for sleep. The incidence of falls and delirium were also collected.
RESULTS: Final results pending completion of data analysis. Results to include an analysis of prescribing patterns of melatonin, trazodone, zolpidem, benzodiazepines, diphenhydramine, and hydroxyzine for sleep. Indicators of potential adverse events for patients prescribed studied medications will also be reported, including fall events or the initiation of a nursing-based altered mental status or geriatric delirium order set protocol.
CONCLUSIONS: Sleep disturbances are an issue for hospitalized patients due to a variety of factors. Currently, no society guidelines specify treatment for acute insomnia for hospitalized patients with floor-level status. This study will identify the most prevalent sleep medications utilized at Dartmouth-Hitchcock Medical Center among adult patients admitted to a hospital medicine service and will utilize this data for quality improvement.

8:20am – 8:35am

6 **High-dose intravenous (IV) thiamine to reduce post-operative delirium in liver transplant recipients with alcohol-related liver disease** Wild Rose B

Presenters: Stephanie Cadley

Evaluators: Jennifer Lihach

Evaluators 2: Kate Perez

TITLE: High-dose intravenous (IV) thiamine to reduce post-operative delirium in liver transplant recipients with alcohol-related liver disease

AUTHORS: Stephanie M. Cadley, PharmD, Radi F. Zaki, MD, John P. Knorr, PharmD, BCPS, BCTXP

OBJECTIVE: Delirium can occur in liver transplant recipients (LTR) with alcohol-related liver disease in the early post-operative period. This study aimed to determine if high-dose IV thiamine reduces post-operative delirium after liver transplantation (LT).

METHODS: This was a retrospective, pre/post cohort study. Patients were included if they were adults with alcohol-related liver disease requiring LT from 2014-2022; excluded if they had: a prior LT, history of schizophrenia or bipolar disorder, primary non-function after LT or were re-transplanted within 30 days. Patients were split into no thiamine and thiamine groups. Thiamine was dosed at 500mg IV 3 times daily for 6 doses, followed by 100mg oral daily. The primary outcome was the incidence of post-operative delirium defined as: use of anti-delirium medications, physical restraints, 1:1 observation, or psychiatric consult ordered within 7 days of LT. For 80% power, 149 subjects were needed in each group to detect a 50% reduction in delirium. P-values were obtained using Fisher's exact and students t-tests for continuous parametric data; Mann-Whitney U tests for non-parametric data. Multiple logistic regression was performed to evaluate possible confounders associated with delirium.

RESULTS: A total of 306 patients were enrolled (no thiamine n=150 vs. thiamine n=156). Baseline demographics were similar between groups, although patients in the thiamine group had higher MELD scores and were more likely to be hospitalized or receiving low-dose thiamine supplementation prior to LT. Post-operative delirium occurred in 41(27.3%) patients in the no thiamine group and 72(46.2%) patients in the thiamine group[p=0.001]. The use of antipsychotics and the need for psychiatric evaluations drove the incidence of delirium and were statistically significant between groups. Results from the multiple logistic regression demonstrated that ICU length of stay, but not high-dose thiamine, was independently associated with post-operative delirium.

CONCLUSIONS: In this powered, pre/post cohort study, high-dose intravenous thiamine did not reduce the incidence of post-operative delirium in LTR with alcohol-related liver disease. However, an increased ICU length of stay after LT was associated with delirium development, and is a known risk factor. A prospective, randomized controlled trial is needed to determine the benefit of high-dose thiamine to prevent post-operative delirium.

8:40am – 8:55am A **Impact of Continuous Glucose Monitoring (CGM) in Patients with Type 2 Diabetes** Empire A

Presenters: Momoko Tokuo
Evaluators: Andrew Rubio
Evaluators 3: Maureen Krajeski
Evaluators 2: Keturah Weaver

TITLE: Impact of continuous glucose monitoring in patients with type 2 diabetes who are not on multiple daily insulin injections

AUTHORS: Momoko Tokuo, Alexandra Polito, Emily Zouzas; Cambridge Health Alliance, Cambridge, MA

OBJECTIVE: The impact of continuous glucose monitoring (CGM) in patients with type 2 diabetes who are not on short-acting insulin or an insulin pump will be assessed.

METHODS: CGM reports and medical records of patients who visited outpatient clinics at Cambridge Health Alliance were reviewed. Patients at least 18 years old with a diagnosis of type 2 diabetes, using personal CGM (FreeStyle LibreTM or Dexcom G6Â®), and sharing data with providers through cloud-based online portals (LibreViewTM or ClarityÂ®) were included. Patients on multiple daily insulin injections were excluded. For each patient, CGM metrics that provide insight into diabetes management were collected and compared across three time points: CGM initiation, after 3 months of CGM use, and after 6 months of CGM use. The primary outcome is the change in time in range (TIR) from CGM initiation to after 3 months of CGM use. Secondary outcomes include changes in additional CGM metrics including CGM active time, average interstitial glucose, glucose management indicator, glucose variability, and time spent with glucose less than 70 mg/dL. A1c and weight were also collected.

RESULTS: Time in range (TIR) is defined as the percentage of time that the patient spent in target blood glucose range, between 70 - 180 mg/dL, over a 2-week time period. Preliminary data shows that the average TIR from the first report after CGM initiation was 57.6%. After 3 months of CGM use, the average time in range increased to 64.5%, a 6.9% increase from the initial report. Changes in additional CGM metrics including CGM active time, average interstitial glucose, glucose management indicator, glucose variability, and time spent with glucose less than 70 mg/dL will also be presented, along with changes in A1c and weight.

CONCLUSIONS: It is anticipated that this project will demonstrate a role for continuous glucose monitoring in a specific population of patients with type 2 diabetes not on multiple daily insulin injections to increase time in range and improve diabetes-related outcomes. Based on the results, the authors plan to apply for patient assistance to supply CGM technology to uninsured or underinsured patients.

8:40am – 8:55am C **Comparison of Epinephrine and Norepinephrine in In-Hospital Cardiac Arrest Patients** Crystal A

Presenters: Sawyer Foyle
Evaluators: Gabrielle Grossman
Evaluators 2: Cindy Zheng

TITLE: Comparison of epinephrine and norepinephrine in in-hospital cardiac arrest patients

AUTHORS: Foyle S, Baughman A, Schneider L; Geisinger Community Medical Center, Scranton, Pennsylvania; Geisinger Medical Center, Danville, Pennsylvania

OBJECTIVE: To characterize the rate of all-cause mortality during the hospital stay in in-hospital cardiac arrest patients requiring continuous intravenous (IV) epinephrine or norepinephrine for management of post-resuscitation cardiogenic shock.

METHODS: This multi-site, single-center retrospective cohort study investigated patients aged 18 years or older who experienced a cardiac arrest documented via electronic health record at a Geisinger facility from July 1, 2017, to July 1, 2022. Patients were included if they required continuous IV epinephrine/norepinephrine support for more than 6 hours, starting within 24 hours after the arrest. Patients were excluded if they were in cardiac arrest at the time of presentation to the hospital, if return of spontaneous circulation was never achieved during the index cardiac arrest, or if patients received invasive mechanical circulatory support during the arrest. The primary outcome was overall mortality during the hospital stay, and the secondary outcome was cardiovascular mortality, each of which was assessed via a Fisherâ€™s Exact test due to the small size of the epinephrine group.

RESULTS: The rate of in-hospital mortality for the epinephrine group was 23.1% compared to 28% in the norepinephrine group, for a relative risk ratio of 0.77 (95% CI 0.20 - 2.91). The rate of cardiovascular mortality (as defined by recurrent cardiac arrest or shock refractory to vasopressor use was 7.7% in the epinephrine group compared to 7.7% in the norepinephrine group, for a relative risk ratio of 0.86 (95% CI 0.11 - 7.03). The average duration of epinephrine infusion was 30.6 hours, and the average duration of norepinephrine infusion was 44.4 hours.

CONCLUSIONS: In contrast to recent literature on out-of-hospital cardiac arrests that found increased overall and cardiovascular mortality with use of continuous IV epinephrine compared to norepinephrine, this study found no difference between the two vasopressor groups. However, statistical conclusions cannot be drawn due to the limited sample size in the epinephrine group. Future studies may benefit from inclusion of multiple study centers and a wider range of demographics.

8:40am – 8:55am C **Efficacy and safety of warfarin compared to direct oral anticoagulants following bioprosthetic valve replacement** Empire B

Presenters: Caitlin Benkart
Evaluators: Arfa Rehman
Evaluators 3: Danielle Williams
Evaluators 2: Jason Laskosky

TITLE: Efficacy and safety of warfarin compared to direct oral anticoagulants following bioprosthetic valve replacement

AUTHORS: Caitlin Benkart, PharmD; Victoria Ly, PharmD, BCCP; Wafaa Abou-Zeineddine, PharmD, BCPS

OBJECTIVE: The purpose of this study is to compare the efficacy and safety of warfarin compared to direct oral anticoagulants in patients following surgical bioprosthetic valve replacement.

METHODS: Medical records of patients who received a surgical bioprosthetic aortic and/or mitral valve replacement from January 1, 2019 to April 4, 2022 were reviewed. Participants were at least 18 years of age and received either warfarin or a direct oral anticoagulant (DOAC) following valve replacement. The primary outcome was a composite of the incidence of thromboembolic events and the incidence of major bleeding in the year following bioprosthetic valve replacement.

RESULTS: A total of 174 patients were included; 118 patients received warfarin and 56 patients received a DOAC (apixaban n = 46, rivaroxaban n = 9, dabigatran n = 1). Seven patients in the warfarin group had a thrombotic or major bleeding event compared to one in the DOAC group (5.9% vs 1.7%, p = 0.22). Two patients had a thromboembolic event, both in the warfarin group. Six patients had a major bleed, five patients in the warfarin group and one patient in the DOAC group.

CONCLUSIONS: This study found similar rates of thromboembolic and bleeding events in patients on warfarin compared to a DOAC. Larger, randomized control trials are needed to compare the efficacy and safety of warfarin compared to DOACs following surgical bioprosthetic valve replacement.

8:40am – 8:55am

D **Evaluation of the Effect of Voxelotor and Darbepoetin Alfa on Hemoglobin Levels in Patients with Sickle Cell Disease** Empire C

Presenters: Helen Akinwale
Evaluators: Megan Sterner
Evaluators 3: Jessica Pinchinat
Evaluators 2: Katherine Martin

TITLE: Evaluation of the Effect of Voxelotor and Darbepoetin Alfa on Hemoglobin Levels in Patients with Sickle Cell Disease

AUTHORS: Helen Akinwale, PharmD; Salome Weaver, PharmD, BCGP, FASCP; Nkem P. Nonyel, PharmD, MPH, BCPS; La'Marcus T. Wingate, PharmD, PhD

OBJECTIVE: The primary objective of this study was to determine the percentage change in hemoglobin levels from baseline while on voxelotor and to compare the difference in percent change of hemoglobin between administration of voxelotor and darbepoetin alfa.

METHODS: This was a retrospective chart review study that was conducted using the electronic medical records from an ambulatory care clinic in an urban setting. From January 1st 2020 to August 31st 2022 the institutionâ€™s electronic health records was used to identify patients 18 years of age and above with sickle cell disease who had been on voxelotor or darbepoetin alfa for a minimum of 3 months. Patients under the age of 18 and those who were on darbepoetin alfa without a sickle cell diagnosis were excluded from the study. The following data was collected: patient age, gender, genotype, concurrent medications, hemoglobin levels, and transfusion dates. This study was approved by the Institutional Review Board in October of 2022. The researchers assessed and analyzed each of patientâ€™s hemoglobin levels both at 1- month prior and 2-months following initiation of either of the medications.

RESULTS: A total of 23 patients were included in this study. All of the included patients were African American, majority were males (58%) with a median age of 47 years (SD:12.65). 26 patients were originally included in the study, with 3 patients excluded. When compared to the use of darbepoetin alfa alone, the addition of voxelotor did not result in an increase in hemoglobin levels. 10 patients were on voxelotor alone and a -2.95% difference in hemoglobin level was observed from baseline to 2 months. 9 patients received concurrent administration of voxelotor and darbepoetin alfa, and a -0.47% difference in hemoglobin levels was observed. 4 patients on darbepoetin alfa alone experienced a 0.58% difference in baseline hemoglobin levels.

CONCLUSIONS: In patients with Sickle Cell Disease, the data from this retrospective study suggests that the addition of voxelotor to standard therapy did not result in a clinically significant difference in the percent change of hemoglobin from baseline to 2 months. There was, however, a notable increase in GI adverse events in patients taking voxelotor that lead to discontinuation of the medication in 42% of total patients.

8:40am – 8:55am

G **Exploring the impact of pharmacist prospective review of anti-Xa level monitoring for enoxaparin in hospitalized patients** Empire D

Presenters: Erin Persico
Evaluators: Donna Grant
Evaluators 3: Dannielle Brown
Evaluators 2: Jen Donato

TITLE: Exploring the impact of pharmacist prospective review of anti-Xa level monitoring for enoxaparin in hospitalized patients

AUTHORS: Erin Persico, PharmD, Scott May, PharmD, BCPS, BCCCP, Hannah Ritchie, PharmD, BCCCP

OBJECTIVE: To assess current drug level monitoring practices for enoxaparin and to evaluate the impact of prospective pharmacist review on the rate of appropriate anti-Xa levels ordered at Baystate Medical Center (BMC).

METHODS: We conducted a pre-post implementation study. In the pre-implementation phase, all LMWH anti-Xa levels collected within a 12-month period were evaluated retrospectively. UFH anti-Xa assays, DOACs, or levels drawn in patients under the age of 18 years old were excluded. Data was analyzed to determine the percent of LMWH anti-Xa levels collected appropriately with regard to timing and indication. High risk populations appropriate for drug level monitoring include renal insufficiency, extremes of body weight, trauma or surgical intensive care unit patients, pregnancy, or patients with SARS-CoV-2. Patients with anti-Xa levels assessed in the primary analysis were further evaluated for occurrence of venous thromboembolism and clinically significant bleeds. Using data collected from the pre-implementation phase, an institution-specific practice guideline was developed and utilized in a 1-month pilot to guide pharmacist prospective intervention on anti-Xa levels ordered for LMWH at BMC.

RESULTS: In the pre-implementation phase, 254 anti-Xa levels were ordered for LMWH from October 1, 2021, to October 31, 2022. After screening, 96 levels met inclusion criteria for analysis. Of the 96 levels, 41 (42.7%) were ordered appropriately without pharmacist prospective review. Post-implementation data for the percentage of appropriate anti-Xa levels obtained after implementing an institution-specific practice guideline for pharmacist prospective review will be recorded and results will be presented.

CONCLUSIONS: Pre-implementation analysis identified that drug level monitoring for enoxaparin is commonly obtained inaccurately at BMC without prospective pharmacist review. Therefore, it is anticipated that this project will demonstrate that an institution-specific practice guideline to implement pharmacist prospective review will increase the rate of appropriate anti-Xa drug level monitoring for the institution.

8:40am – 8:55am | **Evaluation of Antimicrobial Prescriptions from a Dental Clinic after Implementation of a Dental Antibiotic Stewardship Initiative** Magnolia A

Presenters: Noor Njeim
Evaluators: Karen Gradoni McCann
Evaluators 3: Shereef Ali
Evaluators 2: Marissa Palm

TITLE: Evaluation of antimicrobial prescriptions from a dental clinic after implementation of a dental antimicrobial stewardship initiativeâ€¯

AUTHORS: Noor M. Njeim, PharmD; Allison Stilwell, PharmD, BCIDP; Harold Horowitz, MD; Aaron Brandwein, DDS; James Sconzo, DMD

OBJECTIVE: The purpose of this study is to compare outpatient antimicrobial prescribing trends pre- and post-implementation of a clinical practice guideline jointly issued by the Antimicrobial Stewardship Program and Division of Dental Medicine.

METHODS: A retrospective chart review will be conducted on all patients presenting to NewYork-Presbyterian Brooklyn Methodist dental clinic for an emergent indication and prescribed an antimicrobial from January-April of 2019-2021 (pre) and January-April of 2022 (post). Data will be collected via chart review of patient encounters as well as an electronic outpatient prescription ordering report. Antimicrobial prescriptions will be evaluated for appropriateness according to the clinical practice guideline and adjudicated by members of an outcome adjudication committee. The primary endpoint will include evaluation of dental diagnosis and whether antimicrobial therapy was indicated (e.g. appropriate vs inappropriate). Secondary endpoints will include a comparison of antibiotic selection, dosing and duration of therapy. A subgroup analysis will be conducted to compare alternative agents prescribed in patients with reported penicillin allergies. Descriptive statistics will be used for all endpoints.

RESULTS: The percentage of patients appropriately prescribed antibiotics will be reported as well as a description of antibiotic selection, indication, and duration of therapy.

CONCLUSIONS: It is anticipated that this project should demonstrate the impact of antimicrobial stewardship in dentistry, identify areas for future improvement, and further define the role of antimicrobial stewardship in dentistry.

8:40am – 8:55am L **Implementation of a Harmonized Medication History Program Across the Johns Hopkins Healthcare System** Magnolia B

Presenters: Erin Ballentine
Evaluators: Wen Song
Evaluators 3: Greg Shaeffer
Evaluators 2: Ricky DiPasquale

TITLE: Implementation of a harmonized medication history program across the Johns Hopkins Healthcare System (JHHS)

AUTHORS: Erin Ballentine, PharmD, MBA; Emily Pherson, PharmD, BCPS; Renee Demski, MSW, MBA; Allison Drees, MS; Yushi Yang, PhD, MS; Ian Watt, PharmD

OBJECTIVE: To understand the current medication history collection practices in the JHHS and to create a harmonized medication history workflow in order to optimize medication reconciliation and promote a system-level pharmacy program.

METHODS: In order to understand the current medication history collection practices within the JHHS, pre-existing data was assessed to identify current trends across the network. In addition, standard operating procedures and training materials were collected from all six hospitals. Lastly, interviews were conducted with medication history technicians employed at each institution to better understand current practices. Collected information was summarized and presented to a committee of stakeholders consisting of medication history technicians and pharmacy leadership from each institution. An idealized workflow that could be implemented at the health-system level was outlined including the need for a shared Epic worklist for all hospitals that would incorporate a prioritization scoring tool to identify the most critical patients in need of medication reconciliation. Efforts were taken to identify the necessary components and their associated weight within this prioritization score.

RESULTS: The shared Epic worklist with a prioritization scoring tool will be implemented within the JHHS. A post-assessment of this toolâ€™s impact will be conducted and compared to pre-assessment data. Efforts to harmonize additional components of an idealized medication history workflow will be explored and optimized through the existing stakeholder committee for future implementation.

CONCLUSIONS: It is anticipated that this project will assist medication history technicians in prioritizing patients for medication histories, optimizing and harmonizing the process in which medication reconciliations are performed within the health-system. Additionally, it is anticipated that this will provide opportunity for virtual assistance with the collection of medication histories in the future.

8:40am – 8:55am O **Evaluation of venous thromboembolism risk in a small community cancer center** Magnolia C

Presenters: Alexis Batjiaka
Evaluators: Marina Reed
Evaluators 2: Erin Corica

TITLE: Evaluation of venous thromboembolism risk in a Small Community Cancer Center

AUTHORS: Alexis Batjiaka, PharmD.

OBJECTIVE: Venous thromboembolism (VTE) is a common complication of cancer. This study utilizes a risk assessment tool to identify patients in the South County Hospital Cancer Center who are at risk of VTE and may benefit from addition of primary prophylaxis.

METHODS: This study is a retrospective analysis of ambulatory cancer patients pre-implementation of VTE risk assessment to assess the need for primary thromboprophylaxis protocol. Patients will be reviewed retrospectively from January 1, 2022 through December 31, 2022. Exclusion criteria include history of VTE, any comorbid condition that would increase risk for clinically significant bleeding, or prior use of continuous anticoagulation. Pertinent data will be collected from the Electronic Medical Record. The primary outcome of this study is the percentage of patients in each risk category. Secondary outcomes include incidence of VTE, performance of the Khorana Risk Score, and and identification of any additional VTE risk factors.

RESULTS: Data will be collected, analyzed, and presented upon study completion. Study outcomes will be analyzed utilizing descriptive statistics.

CONCLUSIONS: It is anticipated this research will demonstrate an increased risk of VTE in ambulatory cancer patients, thereby supporting the need for a primary thromboprophylaxis protocol.

8:40am – 8:55am 2 **Pediatric stress ulcer prophylactic therapy: review and education (PSTRESS-Version 2)** Magnolia D

Presenters: Olivia Smutek
Evaluators: Evan Ramsey
Evaluators 2: Catherine Rejrat

TITLE: Pediatric stress ulcer prophylactic therapy: review and education (PSTRESS-Version 2)

AUTHORS: Olivia Smutek, PharmD, Joanna Stanton, PharmD, BCPS, Mina Yacoub, PharmD, BCPS, Anita Siu, PharmD, BCPPS

OBJECTIVE: The primary objective of this study is to evaluate facility use of stress ulcer prophylaxis (SUP) in the pediatric population. Appropriateness of SUP initiation will be compared among patients before and after providing education.

METHODS: This is a single-center retrospective chart review analyzing outcomes pre- and post-pharmacist education. A pharmacist provided education to pediatric medical residents on risk factors for appropriate use of stress ulcer prophylaxis medications as well as dosing. Data was captured through monthly review of electronic health record reports. The outcome measures include risk factors and criteria for stress ulcer prophylaxis. Patients included in the study were aged 18 years and younger, admitted to general pediatric units and pediatric intensive care unit, and received at least 1 acid suppressive medication (esomeprazole, omeprazole, pantoprazole, famotidine). Exclusion criteria included patients admitted to the neonatal intensive care unit and use of acid suppressive medication for an indication other than SUP.

RESULTS: For the pre-intervention time frame, 191 patients were identified and 50 patients met the inclusion criteria. Out of 50 patients, 34 patients (68%) were appropriately initiated on SUP. Sixteen patients (32%) were inappropriately initiated on stress ulcer prophylaxis, as they did not meet one of the defined criteria for SUP. Stress ulcer prophylaxis dosing was incorrect in 14 patients (28%). The most frequent risk factors included pneumonia (22/50, 44%), mechanical ventilation (14/50, 28%), and shock (5/50, 10%). A total of 13 patients (26%) were continued on SUP at discharge, with the most common reason for being discharged on a steroid medication. Post-intervention data collection is currently in progress.

CONCLUSIONS: The authors hypothesize that clinician education will promote increased appropriateness in SUP. The pre-intervention data results are similar to the data seen in the prior study conducted at our institution.

8:40am – 8:55am Q **Percentage of patients who require an insulin or sulfonylurea dose reduction or discontinuation when initiating a glucagon-like peptide-1 agonist** Wild Rose A

Presenters: James Matis
Evaluators: Carolyn Orendorff
Evaluators 3: Maya Tatum
Evaluators 2: Albert Celidonio

TITLE: Percentage of patients who require an insulin or sulfonylurea dose reduction or discontinuation when initiating a glucagon-like peptide-1 agonist

AUTHORS: James Matis Pharm.D, Emily Herron, Pharm.D, Joseph Cencetti, Pharm.D, BCACP, CLS

OBJECTIVE: Determine the percentage of patients who require dose reduction/discontinuations of insulin and sulfonylureas with the addition of a glucagon-like peptide-1 (GLP-1) agonist to assist pharmacists with medication adjustments and prevent hypoglycemia.

METHODS: The primary study outcome was to determine the percentage of patients with a dose reduction of insulin, a dose reduction of a sulfonylurea, discontinued insulin, and discontinued a sulfonylurea at intervals of 0 (baseline), 3 months, 6 months, and 1 year. Secondary outcomes include change in A1C and body weight measured at the same intervals above. This study was a single center (Wilkes-Barre VA Medical Center) retrospective chart review of patients who started a GLP-1 agonist between January 2019 to September 2022 while on insulin or a sulfonylurea in a pharmacist run patient aligned care team (PACT) clinic.

RESULTS: The study included 136 patients with 96 patients on insulin and 54 patients on a sulfonylurea. Fifty-five (57.29%) patients had a dose reduction of insulin at any interval. Sixteen (29.63%) patients had a dose reduction of a sulfonylurea at any interval. Fourteen (14.58%) patients discontinued insulin at any interval. Twenty-one (38.89%) patients discontinued a sulfonylurea at any interval. A1C decreased from an average of 8.63% to 7.51% as well as weight decreased from an average of 238.15 lbs. to 224.26 lbs. over the duration of the study.

CONCLUSIONS: This study demonstrated a dose reduction and possibly discontinuation of insulin and sulfonylureas with the addition of a GLP-1 agonist are potentially needed. Dose reductions or discontinuations of these agents can promote positive patient outcomes including preventing hypoglycemia, minimizing weight gain, increasing weight loss, and reducing A1C.

8:40am – 8:55am | 6 | **Evaluation of the effect of potassium binders on extended-release tacrolimus** | Wild Rose B

Presenters: Keesha Predestin
Evaluators: Jennifer Lihach
Evaluators 2: Kate Perez

TITLE: Evaluation of the effect of potassium binders on extended release tacrolimus

AUTHORS: K. Predestin, S. Yeager, A. Yadav, P. Singh, J. Schulte

OBJECTIVE: Hyperkalemia is a common complication in abdominal transplant (Abd Txp) recipients. This study aims to determine the effect of sodium zirconium cyclosilicate (SZC) and patiromer on extended release (XR) tacrolimus (TAC) levels in Abd Txp recipients.

METHODS: This is a single-center, retrospective cohort study. Patients were identified using an electronic medical record report. Patients were included if they received a liver, kidney, or pancreas transplant and were on XR TAC and were initiated and maintained on either SCZ or patiromer for at least seven days. Patients were excluded if they were stable on a potassium (K+) binder prior to initiating XR TAC, received a K+ binder for less than seven days, and those that did not have a tacrolimus level prior to initiation of K+ binders. The same patient cohort was compared pre- and post- K+ binder initiation. The primary objective was to determine the mean change in tacrolimus concentration seven days after the initiation of a K+ binder. Secondary outcomes include change in coefficient of variation of tacrolimus before and after K+ binder initiation, number of dose changes required, and change in sodium, bicarbonate, and magnesium.

RESULTS: 14 recipients met inclusion criteria. Recipients were mostly black (79%) and male (57%), with a mean age of 52 Â± 9 years. Most were kidney transplants from deceased donors (64%). Median time to K+ binder initiation was 181 days (IQR 71-326). Most recipients were on SZC (77%) and 2 had heart failure (14%). Mean change in TAC level after 7 days was -1.0 Â± 3.6ng/ml. Mean TAC level prior to K+ binder was 7.5 Â± 2.5 ng/mL. At 7 days post K+ binder initiation, mean TAC level was 6.5 Â± 3.2ng/mL. 4 levels after K+ binder initiation, mean TAC level was 8.7 Â± 2.2ng/mL. Mean change in TAC dose 7 days post K+ binder was -0.4 Â±4mg/day. TAC dosing changed 3 Â± 2 times in 4 weeks. The CV-IPV prior was 22%. CV-IPV after was 28%. Electrolytes remained stable.

CONCLUSIONS: This retrospective study of 14 patients showed a mean reduction in TAC level of 1.0 Â± 3.6 ng/mL at 7 days after initiation of a K+ binder in patients on XR TAC. Dose changes may be expected given multiple adjustments noted within 4 weeks. Based on this study, a preemptive dose increase may be considered, however change of dose may be minimal and varied. Larger studies are needed to explore this further, but SZC and patiromer appear to be safe and efficacious with XR TAC in Abd Txp recipients.

9:00am – 9:15am | | **Empty** | Magnolia D

Evaluators: Evan Ramsey
Evaluators 2: Catherine Rejrat

9:00am – 9:15am | A | **Observing the clinical effects of GLP-1 agonist in our community Clinic** | Empire A

Presenters: Gloria Paulino
Evaluators: Andrew Rubio
Evaluators 3: Maureen Krajeski
Evaluators 2: Keturah Weaver

TITLE: Observing the clinical effects of glucagon like peptide 1 agonist in our community clinic

AUTHORS: Gloria M. Paulino, PharmD, Shana Wolfstein PharmD, BCPS, Amanda Rampersaud, PharmD, BCPS, Ruth Cassidy PharmD, MBA, FACHE, Renata Marques-Jones M.D., Yoselli Ventura M.D., Aneree Desai M.D.

OBJECTIVE: 1.Observe the clinical effects of GLP-1 in patients who were started on GLP-1 in (dulaglutide, semaglutide and liraglutide in the community setting. 2.Evaluate the effectiveness of different GLP-1 on lowering A1c and promoting weight loss.

METHODS: Perform a retrospective chart review on patients who were prescribed GLP-1 (dulaglutide, semaglutide, liraglutide) from January to June 2022. We would be obtaining information on patients' diagnosis of Diabetes, demographics, baseline A1C, other diabetes medications, GLP1 initiation date with an average follow up of 6-8 months,

RESULTS: We aim to see a significant decrease in A1c and weight loss in our patient population with improved patient outcomes.

CONCLUSIONS: From our expected positive outcomes we aim to use this data to utilize more glucagon like peptides in our patient population

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9:00am – 9:15am C **Characterization of Pre-Filter Heparin in Continuous Renal Replacement Therapy** Empire B

Presenters: Jessica Phung
Evaluators: Arfa Rehman
Evaluators 3: Danielle Williams
Evaluators 2: Jason Laskosky

TITLE: Characterization of pre-filter heparin in continuous renal replacement therapy

AUTHORS: Jessica L. Phung, Julia Weiner, Michael A. DiCesare, Shannon Lawson

OBJECTIVE: Pre-filter heparin is often used to prevent filter clotting in continuous renal replacement therapy (CRRT). Associated concerns include variability in guidance for use and bleeding risk. This study seeks to characterize heparin utilization in CRRT.

METHODS: A retrospective, single-arm, single-center cohort study was conducted among patients admitted to intensive care units (ICUs) at an academic medical center in Philadelphia between January 1, 2020 and August 1, 2022. Patients were included if they received pre-filter heparin at a fixed rate. Patients receiving systemic therapeutic anticoagulation, those on prolonged intermittent renal replacement therapy (PIRRT), and those with mechanical circulatory support devices requiring anticoagulation were excluded. The primary aim was to define the median infusion rate and duration of pre-filter heparin. Secondary aims included: quantifying clotting events, adverse events such as bleeding and heparin-induced thrombocytopenia (HIT), to describe CRRT prescriptions, interventions to improve line viability, and utilization of systemic anticoagulation. Data were collected via electronic health record report and manual chart review, aggregated through REDCap, and analyzed using descriptive statistics.

RESULTS: Of 187 patients screened, 150 met criteria for inclusion and were included for analysis. Patients were stratified according to the ICU to which they were admitted. The median infusion rate was 500 units/hour and median duration was 52.36 hours. Following pre-filter heparin initiation, there was a significant decrease in mean number of clotting events from 3.39 to 2.63 ($p = 0.015$) but no significant difference in time to first clotting event ($p = 0.978$). There was a statistically significant increase in patientsâ€™ baseline PTT and maximum PTT on pre-filter heparin ($p < 0.001$). Patients who experienced bleeding events showed greater increases in PTT compared to those who did not; however, this was not statistically significant ($p = 0.082$).

CONCLUSIONS: This study characterized the utilization of pre-filter heparin for ICU patients on CRRT at one institution. Administration of heparin decreased filter clotting events but did not increase the time to first clotting event. Additionally, this came at the cost of significantly elevated PTT levels, which may contribute to an increased risk of bleed. Future studies focused on balancing the risk of bleeding with dose optimization are warranted.

9:00am – 9:15am D **Impact of the Coronavirus (COVID-19) pandemic on enrollee adherence to statin therapy in the CareFirst Community Health Planâ€™s Medicaid population** Empire C

Presenters: Brian Sistani
Evaluators: Megan Sterner
Evaluators 3: Jessica Pinchinat
Evaluators 2: Katherine Martin

TITLE: Impact of the Coronavirus (COVID-19) pandemic on enrollee adherence to statin therapy in the CareFirst Community Health Planâ€™s Medicaid population

AUTHORS: Brian Sistani, PharmD. La'Marcus Wingate, PharmD, PhD. Kin-Sang (Jason) Lam, PharmD. Jose Diaz-Luna, PharmD

OBJECTIVE: The objective of this retrospective study was to assess the impact of the COVID-19 pandemic on statin adherence in a medicaid population by comparing a pre-pandemic period to the first year after COVID-19 was officially declared in March 2020.

METHODS: In this retrospective prescription claims review, enrollees within CareFirst's Medicaid Managed Care Organization receiving services from March 2019 through February 2021 will have their statin adherence evaluated. Proportions of Days Covered (PDC) will be the outcome of interest to see the impact of COVID-19 on statin use in a Medicaid population. A paired samples t-test was utilized to evaluate any differences between the PDC of each observational period. Inclusion criteria for this study includes: (1) Member is enrolled in health plan by March 1st, 2019 and maintained active status in the health plan through February 2021, (2) Member has paid claims for any statin therapy starting in March 2019 through the observational study periods of: March 2019 â€“ February 2020 and March 2020 â€“ February 2021. Exclusion criteria includes: (1) Members who enrolled in the health plan after March 1st, 2019, (2) Members who disenrolled from the health plan before February 28th, 2021

RESULTS: Overall statin adherence decreased from 61.6% to 49.9% and was statistically significant with a p-value

9:00am – 9:15am Y **Developing and Implementing an Intravenous Nitroglycerin Protocol for Boston Emergency Medical Services** Crystal A

Presenters: Monaz Engineer
Evaluators: Gabrielle Grossman
Evaluators 2: Cindy Zheng

TITLE: Developing and Implementing an Intravenous Nitroglycerin Protocol for Boston Emergency Medical Services

AUTHORS: Monaz Engineer, PharmD, Natalija Farrell, PharmD, BCPS, DABAT, FAACT, Sophia Dyer, MD, FACEP, FAEMS

OBJECTIVE: To collaborate with the largest provider of prehospital care in Boston to develop a protocol to safely and effectively implement IV nitroglycerin into the Boston Emergency Medical Services (EMS) protocol for acute pulmonary edema (APE).

METHODS: Prehospital and emergency department (ED)-based literature suggests intravenous (IV) nitroglycerin bolus or continuous infusion is beneficial in the management of APE as it demonstrates rapid reductions in blood pressure and improvements in oxygenation. This will be a retrospective chart review of all EMS and ED patient care records of subjects treated for presumed APE with IV nitroglycerin in the prehospital setting. Patients were eligible to receive IV nitroglycerin if they had a history of congestive heart failure (CHF) or end stage renal disease (ESRD) on dialysis, systolic blood pressure (SBP) of â‰¥ 160 mmHg, O2 saturation < 94% on room air, and other physical exam findings upon EMS presentation. Treatment consists of a 400 mcg IV nitroglycerin bolus and/or 100 mcg/min IV nitroglycerin infusion titrated every 3-5 minutes to dyspnea resolution as blood pressure allows.

RESULTS: The protocol was approved by the Massachusetts Department of Public Health in December 2022 and will be evaluated using the Model for Improvement framework from the Institute of Healthcare Improvement. Multiple Plan-Do-Study-Act (PDSA) cycles built on one another will be conducted between August 2022 and May 2023. The first two PDSA cycles involved developing the protocol, obtaining approval, and educating paramedics on use of protocol. Additional PDSA cycles aim to include surveying paramedics on ease of protocol application and developing criteria for continuing prehospital IV nitroglycerin for ED patients with APE from CHF. Run and control charts will be created and analyzed using QIMacros.

CONCLUSIONS: Data specific post-protocol implementation compliance and adverse effects is forthcoming. This quality improvement project will be among the first to describe pharmacy-EMS collaboration on prehospital protocols and will describe the feasibility and safety of prehospital IV nitroglycerin.

9:00am – 9:15am G **Effect of enoxaparin on drug levels when transitioning to unfractionated heparin infusion** Empire D

Presenters: Miranda Graham
Evaluators: Donna Grant
Evaluators 3: Dannielle Brown
Evaluators 2: Jen Donato

TITLE: Effect of enoxaparin on drug levels when transitioning to unfractionated heparin infusion
AUTHORS: Miranda Graham, Pharm.D., BCPS Amber Linkhorst, Pharm.D., BCPS Laura Andrick, Pharm.D., BCCCP
OBJECTIVE: To determine the impact of enoxaparin on anti-Xa levels for UFH infusions.
METHODS: This retrospective cohort study reviewed data for patients at all Geisinger hospitals from 07/01/2017 to 07/01/2022 who received at least one dose of enoxaparin and were transitioned to a therapeutic UFH infusion (cardiac or venous thromboembolism nomogram) within 24 hours of the last enoxaparin dose. Patients were excluded if they had a diagnosis of cirrhosis, were on direct oral anticoagulants prior to UFH, or weighed > 150 kg. The primary outcome was the number of patients with supratherapeutic anti-Xa levels (> 0.7 IU/mL) drawn 5-7 hours after starting UFH. Secondary outcomes included supratherapeutic baseline anti-Xa levels and the time to reach therapeutic goal anti-Xa (0.3 to 0.7 IU/mL) in patients who were on heparin for at least 72 hours. Chi-square or Fisher's exact test was used to compare categorical data and significant results (P < .05) are reported using odd ratios (OR) with 95% CI. A T-test was used to assess time to therapeutic anti-Xa levels.
RESULTS: 104 and 233 patients received therapeutic and prophylactic enoxaparin, respectively. For patients with data to assess the primary outcome (n = 82), 10/27 on therapeutic and 15/55 patients on prophylactic enoxaparin had supratherapeutic anti-Xa levels (37% vs. 27.3%; P = .37). Baseline anti-Xa levels were available in 221 patients; 16/68 (23.5%) and 10/153 (6.5%) of these were supratherapeutic (OR, 4.4; 95% CI, 1.89 to 10.31; P < .001). The time to therapeutic anti-Xa level was assessed in 88 patients, of whom 85 reached the goal. There was a statistically significant difference in mean time to therapeutic anti-Xa level for patients who received therapeutic and prophylactic enoxaparin (11.34 ± 23.74 vs 25.73 ± 19.4 hours; P = .012).
CONCLUSIONS: There was no statistically significant difference for supratherapeutic anti-Xa levels obtained on UFH. More baseline anti-Xa levels obtained prior to UFH were supratherapeutic in patients on therapeutic compared to prophylactic enoxaparin regimens.

9:00am – 9:15am I **Evaluation of the impact of the BioFire Blood Culture Identification 2 panel on time to appropriate antibiotic therapy in patients with Gram-negative bacteremia** Magnolia A

Presenters: Kimberly O'Neil
Evaluators: Karen Gradoni McCann
Evaluators 3: Shereef Ali
Evaluators 2: Marissa Palm

TITLE: Evaluation of the impact of a rapid multiplex polymerase chain reaction analysis on the time to appropriate antibiotic therapy in patients with gram-negative bacteremia
AUTHORS: Kimberly Oâ€™Neil, PharmD; Emily Hand, PharmD, BCPS; Stacy Zolas, PharmD, BCPS
OBJECTIVE: Determine if use of the Rapid BioFire Blood Culture Identification 2 (BCID2) Panel reduces time to antibiotic optimization when compared to traditional blood culture identification and susceptibility testing.
METHODS: This was a retrospective chart review of patients 18 years of age and older treated for gram-negative bacteremia prior to and following implementation of the BCID2 Panel. The primary outcome was the time to effective antimicrobial therapy with traditional methods of organism identification and susceptibility compared to the BCID2 Panel. Secondary outcomes included the proportion of patients with any de-escalation of antibiotic therapy within 96 hours of initiation, time to first appropriate antibiotic de-escalation for eligible patients, duration of antipseudomonal antibiotics following positive Gram stain result, and length of stay following positive Gram stain.
RESULTS: The difference in time to antimicrobial optimization before and after implementation of the BCID2 Panel will be presented.
CONCLUSIONS: It is expected that this project will show a reduction in time to effective, more narrow-spectrum antimicrobial therapy after implementation of BCID2.

9:00am – 9:15am F **Creating a Standardized & Sustainable Review Process to Manage Excessive Medication Order Alerts** Magnolia B

Presenters: Hai Pham
Evaluators: Wen Song
Evaluators 3: Greg Shaeffer
Evaluators 2: Ricky DiPasquale

TITLE: Creating a standardized and sustainable review process to manage excessive medication order alerts
AUTHORS: Hai Pham, Michael Wisner, Rosemary Duncan
OBJECTIVE: The purpose of this project is to create a sustainable continuous review process that evaluates medication order alerts that are overridden and determine if the alerts should be suppressed, refined, or unchanged.
METHODS: A standard operating procedure (SOP) will be developed that describes how to review medication order alert overrides. Creating a sustainable continuous review process begins with identification of reports that detail medication order alert overrides. Once reports are identified, medication order alerts will be quantified. Next, a retrospective chart analysis for the context of the override will be conducted. Upon exploration, a standardized workflow will be extracted to identify the contexts for override which will be documented. This streamlined method will aid in determining if medication order alerts should be suppressed, refined, or changed. To assess the SOPâ€™s robustness, assessment of the number of recommended modifications identified and accepted will be conducted.
RESULTS: The SOP has been drafted and is under committee review. Currently, results are not available to determine the robustness of the SOP. Our team expects that several medication order alerts may be modified once the SOP is implemented, including suppression of alerts and changing maximum dose allowances. It is anticipated that at least one change request will be fully assessed by an internal committee prior to the conference.
CONCLUSIONS: Creation of a continuous review process will lead to identification of medication order alerts that can be modified. Streamlining the process will ensure that alerts are assessed frequently. While not all medication order alerts will be modified, it is expected that some will. Several modifications (e.g., suppression) would lead to a decrease in alert triggering and subsequently alert fatigue. Future direction for the project will be to assess medication order alert rates after modifications.

9:00am – 9:15am O **Evaluation of titer-proven response rates of pediatric hepatitis B-combination vaccines in adult hematopoietic cell transplant recipients** Magnolia C

Presenters: Charles Gallagher
Evaluators: Marina Reed
Evaluators 2: Erin Corica

TITLE: Evaluation of titer-proven response rates of pediatric hepatitis B-combination vaccines in adult hematopoietic cell transplant recipients
AUTHORS: Charles Micheal Gallagher, PharmD; Kelsea Seago, PharmD, BCOP; Spencer Yingling, PharmD, BCOP; Aaron Cumpston, PharmD, BCOP
OBJECTIVE: The primary objective was to determine the rate of response to the DTaP-HepB-IPV vaccine series by measuring vaccine titers. Secondary objectives include response to booster vaccination and reporting factors associated with poor vaccination response.
METHODS: This study was approved by the institutional review board (IRB), and included patients greater than or equal to 18 years of age who received a pediatric hepatitis-B combination vaccine post hematopoietic transplant and had subsequent serologic titers drawn. Patients transplanted from December 2018 to August 2020 were included in the analysis. The primary objective was to determine rate of response to the DTaP-HepB-IPV vaccine series by measuring vaccine titers. Secondary objectives included response to booster vaccination, as well as reporting risk factors associated with poor vaccination response. Descriptive statistics were used for data analysis.
RESULTS: Results are in progress and will be finalized and reported out at the meeting.
CONCLUSIONS: It is anticipated that this project will demonstrate a relationship of poor vaccine response, necessitating a change in practice back to the adult hepatitis B vaccination doses.

9:00am – 9:15am

Q **Optimization of Maintenance Inhalation Therapy at Hospital Discharge in Patients with COPD**

Wild Rose A

Presenters: Patrick Kohn
Evaluators: Carolyn Orendorff
Evaluators 3: Maya Tatum
Evaluators 2: Albert Celidonio

TITLE: Optimization of Maintenance Inhalation Therapy at Hospital Discharge in Patients with COPD

AUTHORS: Kohn P, Dipalo K, Morgan-Joseph T, Cheng-Lai A

OBJECTIVE: The primary objective of this project is to increase the rate of optimal maintenance inhaler therapy prescribed at discharge for patients hospitalized for COPD from 56.7% to 90% by June 1, 2023.

METHODS: The first several Plan-Do-Study-Act (PDSA) cycles involved implementation of a pharmacy resident- and student-driven e-consult note to identify patients currently admitted with AECOPD and opportunities for therapy escalation. Patients admitted for AECOPD were identified using a census generated by the electronic health record.

RESULTS: At the culmination of the first PDSA cycle, an increase of 5.8 - 30.8% in optimal inhaler therapy prescribed at discharge was observed. Additional results will be presented.

CONCLUSIONS: Anticipated conclusion: a pharmacist-led quality improvement initiative effectively increased the rate of optimal inhaler therapy prescribed at discharge. This may serve as a model for future initiatives.

9:00am – 9:15am

6 **Low-dose Valganciclovir Prophylaxis Against Cytomegalovirus in Intermediate-risk Abdominal Transplant Recipients**

Wild Rose B

Presenters: Yihan Li
Evaluators: Jennifer Lihach
Evaluators 2: Kate Perez

TITLE: Low-dose valganciclovir prophylaxis against cytomegalovirus in intermediate-risk abdominal transplant recipients

AUTHORS: Yihan Li, PharmD; Dawn Pluckrose, PharmD, BCTXP; Roshani Patolia, PharmD, BCPS, BCTXP; Serena Arnouk, PharmD, BCCCP; Yanina Dubrovskaya, PharmD, BCPS, BCIDP, AAHIVP; John Papadopoulos, BS, PharmD, FCCM, BCCCP; Srijana Jonchhe, PharmD, BCPS, BCTXP

OBJECTIVE: To assess the incidence of cytomegalovirus (CMV) infection and disease associated with low-dose valganciclovir (VGC) prophylaxis in CMV intermediate-risk liver transplant and dual abdominal organ transplant recipients.

METHODS: This is a retrospective chart review of adult liver and dual abdominal (simultaneous liver kidney, simultaneous pancreas kidney) transplant recipients at NYU Langone Health transplanted between January 2018 and June 2022. Patients who were intermediate-risk for CMV (recipient serostatus positive), had a creatinine clearance > 60 mL/min, and began VGC 450 mg daily for prophylaxis within 10 days of transplant were included. Patient demographics, transplant and immunosuppression, VGC dosing and duration, and CMV-related outcomes were collected. The primary outcome was incidence of CMV infection or disease within 6 months post-transplant. Secondary outcomes included incidence of CMV infection or disease within 1-year post-transplant, rates of recurrent CMV, development of ganciclovir-resistant CMV, and incidence of leukopenia, thrombocytopenia, or anemia during VGC prophylaxis. Predictors of CMV infection will also be evaluated. SPSS statistics software will be used for data analysis.

RESULTS: Results are pending. The effectiveness and safety of low-dose VGC in liver and dual abdominal transplant patients, including incidence of CMV infection and disease, recurrence, and cytopenias will be assessed and presented.

CONCLUSIONS: It is anticipated that this project will help assess the appropriateness of low-dose VGC prophylaxis in liver and dual abdominal transplant patients with normal renal function.

9:20am – 9:35am A **Inhaled Corticosteroid Use in Chronic Obstructive Pulmonary Disease Patients at a Veterans Affairs Medical Center** Empire A

Presenters: Mikayla Panton
Evaluators: Andrew Rubio
Evaluators 3: Maureen Krajeski
Evaluators 2: Keturah Weaver

TITLE: Inhaled Corticosteroid Prescribing Practices at a Veterans Affairs Medical Center
AUTHORS: Mikayla Panton, PharmD; Henry Poon, PharmD; Troy Kish, PharmD, BCPS
OBJECTIVE: The objective is to characterize ICS use at our institution and identify patients who may be candidates for therapy modification according to the guidelines.
METHODS: A retrospective chart review will be conducted utilizing the computerized patient record system to assess objectives among veterans on inhaler therapy for COPD. The study period is from January 1, 2022, through December 31, 2022.Â Patients will be included if they were 40 years of age or older, have COPD, and are prescribed an ICS. Patients will be excluded if they did not meet inclusion criteria. The data collection items are patient age, race, sex, smoking status, Body Mass Index classification, allergies/adverse drug reactions, eosinophil count, asthma history, episode(s) of exacerbations within the last year, and episode(s) of pneumonia within the last year. Electronically collected de-identified data will be documented in a password-protected Excel spreadsheet and stored in the computer system at the James J. Peters VA Medical Center. Patient demographics, patient characteristics, and treatment-specific parameters will be characterized with descriptive statistics.
RESULTS: The number and percentage of treatments that deviated from the guidelines will be recorded and results will be presented.
CONCLUSIONS: It is anticipated that this project will demonstrate a role for pharmacist-based patient assessment and intervention in order to increase compliance with adherence to evidenced-based guidelines in the treatment of Chronic Obstructive Pulmonary Disease.

9:20am – 9:35am C **Evaluating the efficacy of seizure prophylaxis in adult patients with aneurysmal subarachnoid hemorrhage within an intensive care unit at a community hospital** Empire B

Presenters: Daniel Abate
Evaluators: Arfa Rehman
Evaluators 3: Danielle Williams
Evaluators 2: Jason Laskosky

TITLE: Evaluating the efficacy of seizure prophylaxis in adult patients with aneurysmal subarachnoid hemorrhage within an intensive care unit at a community hospital
AUTHORS: Daniel Abate, PharmD; Umair Ansari , PharmD, BCPS, BCCCP, MBA
OBJECTIVE: The main goal of this study is to evaluate the utilization and efficacy of seizure prophylaxis at Suburban Hospital â€“ Johns Hopkins Medicine
METHODS: This is a retrospective electronic chart review of patients admitted into our intensive care unit at Suburban Hospital â€“ Johns Hopkins Medicine that received seizure prophylaxis for aneurysmal subarachnoid hemorrhage. Patients 18 years and older receiving seizure prophylaxis medications including phenytoin, fosphenytoin, and levetiracetam from February 2020 to February 2022 will be included in this study. Patients with a past medical history of seizures, on anti-seizure medications prior to admission, and nonaneurysmal SAH will be excluded from this study. The primary outcome of this study is to assess the duration and dosing of seizure prophylaxis agents. The secondary outcome will look at the incidence of seizure in adult patients with aSAH. Baseline characteristics including, age, gender, past medical history, renal/hepatic dysfunction, concomitant drugs of abuse including alcohol, cocaine, and opiates will be collected from the electronic health record.
RESULTS: Data collection from February 2020 to February 2022 has been initiated upon IRB approval in October.
CONCLUSIONS: Results from this study will assess whether seizure prophylaxis was effective and appropriate in adult patients admitted into an intensive care unit with aneurysmal subarachnoid hemorrhage. Findings will be shared with institution committees to ensure effective seizure prophylaxis is provided when appropriate

9:20am – 9:35am D **Improving Medication Adherence Documentation for Specialty Pharmacy Patients at Dartmouth Health** Empire C

Presenters: Ryan Lackey
Evaluators: Megan Sterner
Evaluators 3: Jessica Pinchinat
Evaluators 2: Katherine Martin

TITLE: Improving Medication Adherence Documentation for Specialty Pharmacy Patients at Dartmouth Health

AUTHORS: Ryan H. Lackey, PharmD, Hayley Oâ€™Rourke, PharmD, CSP, Kaitlin Ciaramitaro, PharmD, CSP

OBJECTIVE: Medication adherence is associated with improvement in patient outcomes. By improving adherence, we aim to improve outcomes and decrease cost burden. This project focuses on improving adherence documentation and Medication Possession Ratio (MPR).

METHODS: In order to optimize and increase non-adherence documentation, the current non-adherence smartphrase was enhanced and implemented with a new pharmacist workflow to facilitate interdisciplinary communication. Percent increase in utilization of the non-adherence smartphrase and percent increase of the MPR were monitored for specialty pharmacy patients during this quality improvement project. Data was acquired from May 2022 through September 2022 for a baseline review, then data was collected from October 2022 through February 2023 for comparative analysis. Tracked outcomes from the implemented pharmacist workflow included: patients re-enrolled into specialty pharmacy services or discharged, non-adherence workflow and discharge procedure followed, did intervention from the clinic team occur, and if the patient was re-captured did the clinic team intervene.

RESULTS: Utilization of the non-adherence documentation workflow increased 87.69% from baseline. Medication possession ratio also increased by 0.49%; 92.66% at baseline vs. 93.15% at study completion. Patient outcome analysis showed that after use of the adherence documentation and workflow patients were re-enrolled in specialty services 58.49% of the time. The non-adherence workflow was correctly followed 95.9% of the time, whereas the discharge procedure was followed 72.31% of the time. The clinic team intervened in 77.05% of the non-adherence outreach attempts and re-established care with patients 76.42% of the time.

CONCLUSIONS: Improving adherence leads to favorable outcomes and long-term healthcare savings. Increase in patient follow-up was seen after standardizing the adherence documentation and workflow. The goal MPR of 95% was not reached likely due to the time restraints of the study. However, an MPR increase of 0.49% demonstrates positive impact this standardized practice has on adherence. Standardized adherence documentation and workflow will continue to facilitate patient follow-up for improved adherence.

9:20am – 9:35am Y **Evaluation of Events Related to the Drug Interaction between Phenobarbital for Alcohol Withdrawal and DOACs** Crystal A

Presenters: Kimberly Sharpe
Evaluators: Gabrielle Grossman
Evaluators 2: Cindy Zheng

TITLE: Evaluation of events related to the drug interaction between phenobarbital for alcohol withdrawal and direct oral anticoagulants (DOACs)

AUTHORS: K. Sharpe, K. Nesbitt, N. Ebeling-Koning, K. Jabbour, R. Surmaitis, L. Koons

OBJECTIVE: The purpose of this retrospective chart review is to describe the incidence of VTE (venous thromboembolism) or AIS (acute ischemic stroke) in patients on DOACs that are concomitantly treated with phenobarbital for alcohol withdrawal.

METHODS: Electronic medical records were utilized to identify adult patients (â‰¥ 18 years), treated with phenobarbital (PB) for alcohol withdrawal (AW) at a Lehigh Valley Health Network (LVHN) site between January 1, 2020 and December 31, 2021 and taking a DOAC prior to PB administration. Patients with multiple LVHN visits requiring PB administration during the study period were collected as separate encounters if there was a lapse of 30 days between administrations. Patients were excluded if they had not been on a DOAC for â‰¥ 24 hours prior to receiving PB, presented with a VTE or AIS within 24 hours of PB initiation, were initiated on a DOAC after PB administration during the same encounter, or active outpatient use of PB. The primary and secondary outcomes for this review were documentation of VTE or AIS within 30 days of last PB administration and all-cause mortality within 30 days of last PB administration, respectively. Descriptive statistics were utilized to evaluate the data.

RESULTS: 24 patients (35 encounters) were included in the study. Mean patient age was 62 years, 23 (96%) were male, and 13 (54%) had a history of atrial fibrillation with an average CHADS2VACS score of 2.4. Other indications for DOACs included coronary artery disease (1 [4%]) and VTE (10 [42%]). The majority of patients were on apixaban (83%) compared to rivaroxaban (17%). DOAC noncompliance was noted in 11 (46%) of the patient charts. Average milligrams (mg) of PB administered across all 34 encounters was 878 mg. Toxicology was consulted on 25 (74%) encounters. There were zero documented VTE or AIS events within 30 days of last PB administration. Rate of all-cause mortality was 12%; however, rate of mortality secondary to AIS or VTE was 0%.

CONCLUSIONS: Lack of events make it challenging to demonstrate the clinical relevance of this drug interaction within our small sample size. Conclusions are unable to be drawn to guide management of drug therapy based on this study. Based on the proposed interaction, DOACs are switched to therapeutic enoxaparin or heparin while inpatient at LVHN. Larger studies are required to draw definitive clinical conclusions.

9:20am – 9:35am G **Use of Continuous Ketamine Infusions for Sedation in Critically Ill Patients** Empire D

Presenters: Hannah Goddard
Evaluators: Donna Grant
Evaluators 3: Dannielle Brown
Evaluators 2: Jen Donato

TITLE: Use of continuous ketamine infusions for sedation in critically ill patients

AUTHORS: Hannah Goddard, PharmD; Philip Grgurich, PharmD, BCPS, BCCCP; Lahey Hospital and Medical Center, Burlington, MA

OBJECTIVE: The objective of this study is to determine if the use of continuous ketamine infusions for sedation in mechanically ventilated patients will significantly reduce requirements of other sedative medications within twelve hours of ketamine initiation.

METHODS: Medical records of patients receiving continuous ketamine infusions in the ICU were reviewed. Patients were included if they were mechanically ventilated and were receiving alternative sedation including benzodiazepines, opioids, propofol or dexmedetomidine prior to the initiation of ketamine. Patients on concomitant neuromuscular blockers at the time of ketamine initiation and those receiving ketamine for indications other than agitation were excluded. The percent change in sedative requirements during the twelve hours after continuous ketamine initiation was evaluated as the primary outcome. Secondary outcomes included average ketamine infusion rate, number of ketamine dose adjustments, average Sedation-Agitation Scale (SAS) score, percentage of time at goal SAS twelve hours after ketamine initiation, and adverse effects. Patients were evaluated for adverse effects including hypertension, tachycardia, arrhythmias, hypertonia, and agitation.

RESULTS: A total of 102 patients were included in the study and data analysis is ongoing at this time. The percent change of sedative requirements twelve before and twelve hours after ketamine initiation will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate the safety and efficacy of continuous ketamine for sedation in critically ill patients to support its use in the ICUs and guide the creation of titratable order sets.

9:20am – 9:35am I **â€‹Evaluation of Opportunities for Implementing OVIVA Criteria on Patients with Bone and Joint Infections (BJIs) in Outpatient Parenteral Antimicrobial Therapy (OPAT)** Magnolia A

Presenters: Garrett Crawford
Evaluators: Karen Gradoni McCann
Evaluators 3: Shereef Ali
Evaluators 2: Marissa Palm

TITLE: Evaluation of opportunities for implementing OVIVA criteria on patients with bone and joint infections (BJIs) in outpatient parenteral antimicrobial therapy (OPAT)

AUTHORS: M. Wasan, G. Crawford, J. Brenon, C. Soto, W. Wright, S. Keller

OBJECTIVE: The purpose of this study is to evaluate areas for improvement within Johns Hopkins Medicine (JHM) in utilizing oral antibiotics for the treatment of BJIs as outlined in the OVIVA trial.

METHODS: A multicenter, retrospective study was performed of adult patients with BJIs discharged from Johns Hopkins Hospital and Johns Hopkins Bayview Medical Center followed by the JHM OPAT Service between February 1, 2021 and February 1, 2022. The following information was collected on all patients: demographics, medical conditions, anatomical site of infection, OPAT-related adverse events, 30-day readmissions, emergency department visits, source control measures, microbiological data, antibiotic regimen, and treatment outcomes. The primary outcome is the proportion of patients treated for BJIs with OPAT who would have qualified for oral antibiotics according to OVIVA trial criteria. Secondary outcomes include the rate of OPAT-related adverse events and treatment outcomes (30-day readmission, ED visit, and 6-month treatment failure rates; early IV to PO transitions; durations of therapy). Descriptive statistics will be used to summarize demographic data and the primary and secondary outcomes.

RESULTS: A total of 221 patients met inclusion criteria. The findings of the primary and secondary outcomes are forthcoming.

CONCLUSIONS: It is anticipated that this study will identify areas of improvement to the current standard-of-care for patients being treated for BJIs within our health system.

9:20am – 9:35am I **Evaluation of Antimicrobial Surgical Prophylaxis in Orthopedic Procedures** Magnolia D

Presenters: Lina Park
Evaluators: Evan Ramsey
Evaluators 2: Catherine Rejrat

TITLE: Assessment of antimicrobial surgical prophylaxis in orthopedic surgeries
AUTHORS: S. Park, K. McCann, P. Parikh; MedStar Union Memorial Hospital, Baltimore, Maryland
OBJECTIVE: Antimicrobial prophylaxis is standard practice to prevent surgical infections. Overuse leads to adverse events, wasted resources, and antibiotic resistance. This study will identify rates of surgical infections and nonadherence to MedStar guidelines.
METHODS: This study is a retrospective chart review of patients who underwent total knee arthroplasty (TKA), total hip arthroplasty (THA), and any spinal surgeries at MedStar Union Memorial Hospital from October-December 2022. Patients were included if they were greater than 18 years old and received prophylactic antibiotics. Patients were excluded if there was evidence of active infection prior to surgery and/or if they were already receiving antibiotics for treatment. The data collected include patient demographics, procedure type, pre- and post-operative antibiotics, duration of peri-operative antibiotic use, evidence of surgical site infections, and allergies to beta-lactam agents. The study protocol was approved by the MedStar Health Institutional Review Board.
RESULTS: Preliminary results: A total of 150 patients were included, with 53.3% female patients and median age of 66.5 years. The rate of guideline adherence was 48%. Out of 150 patients, only 1 had evidence of a surgical site infection within the 45-day follow-up period. The number and percentage of patient cases within each procedure which deviated from the guideline, as well as reasons for nonadherence will be presented.
CONCLUSIONS: It is anticipated that this project may demonstrate suboptimal adherence to the MedStar Antimicrobial Surgical Prophylaxis guideline, including inappropriate post-procedural antibiotic therapy selection and extended duration of oral antibiotics at discharge. The results of this study may be utilized to implement provider education, institutional review of guideline adherence, and potential updates to the guideline.

9:20am – 9:35am F **Managing a Pharmaceutical Supply Chain During a Pandemic** Magnolia B

Presenters: Khoa Pham
Evaluators: Wen Song
Evaluators 3: Greg Shaeffer
Evaluators 2: Ricky DiPasquale

TITLE: Managing a enterprise Pharmaceutical Supply Chain During a Pandemic
AUTHORS: Khoa Pham, PharmD, Marc Phillips, PharmD, David Cecere, PharmD
OBJECTIVE: The purpose of this study is to investigate the initial response to the COVID-19 pandemic in terms of supply chain management, identify the gaps in our preparation, and create safety measures for future emergency responses.
METHODS: This retrospective, single-center, analysis quality improvement project used system level data regarding drug shortages from 2019 until July 2022. The study provides (1) descriptive analysis of drug inventory management employed by WVU Medicine to maintain the systemâ€™s drug supply chain before and during the pandemic, (2) a review of the national data on drug shortages from 2019 and 2022 compared to the same data at the system level, (3) an analysis of and the synthesis of preparation strategies to improve supply chain resilience
RESULTS: During the initial response to the COVID-19 pandemic, WVU relied on its large health system to maintain its pharmaceutical supply chain. Tracking use across the system, rotating inventory to accommodate for usage at different sites, and leveraging positive vendor relationships allowed WVU Medicine to ensure that its many sites had adequate drug supply to treat patients. As the pandemic deepened, strategies focused on staying ahead of the curve through further cultivation of vendor relationships, tracking new data and therapies with clinical pharmacy team, ordering many alternative products and involving higher level leaders to garner more support and increase transparency
CONCLUSIONS: Due to the pandemic the way that institutions has changed to a more proactive versus a reactive approach. Institutions are required to begin concentrating on specific areas of therapy, monitoring single sourced items, understanding where products are manufactured, and comprehending global API supplies. Additional management tactics include employing inventory specialists, utilizing electronic inventory monitoring, incorporating predictive analytics, and accumulating products to manage inventory.

9:20am – 9:35am P **The Effects of Implementation of Enhanced Recovery After Surgery (ERAS) Pathways for Hysterectomies, Colectomies, and Myomectomies** Magnolia C

Presenters: Melisa Read
Evaluators: Marina Reed
Evaluators 2: Erin Corica

TITLE: Effects of implementation of enhanced recovery after surgery (ERAS) pathways for hysterectomies, colectomies, and myomectomies

AUTHORS: Melisa Read, Xia Thai, Amanda Barner, Laurie Bausk, Roger Conant, Joseph Mackey, Nancy McCune, and Meredith Thomas

OBJECTIVE: The goal of this project is to assess the impact of ERAS order set implementation at the Cambridge Health Alliance (CHA) on total inpatient opioid use.

METHODS: This retrospective quality improvement (QI) project was conducted from March 21, 2019 to March 21, 2023 at the CHA Cambridge and Everett Hospital locations. A report including the type and date of surgery, postoperative opioid use measured in morphine milligram equivalents (MME), postoperative pain scores, length of hospital stay, and demographic data for adult patients who underwent elective hysterectomies, colectomies, or myomectomies was reviewed. Patients who underwent emergency surgery were excluded from final analysis. The primary outcome is total opioid use during postoperative hospital admission. Secondary outcomes include total postoperative opioid use at 24, 48, and 72 hours, average postoperative pain score at 24, 48, and 72 hours, and length of hospital stay. The Mann-Whitney U test was used to generate the test statistic for each outcome.

RESULTS: This QI project demonstrates a statistically significant difference in total opioid use between patients pre- and post-ERAS implementation ($p = 0.012$). Average pain score at 24 hours and total opioid use at 24 hours were also found to be significant ($p = 0.032$ and 0.023 respectively).

CONCLUSIONS: Our goal was to evaluate total opioid use after ERAS order set implementation. We found that patients who received multimodal pain management had lower total opioid use compared to patients who did not.

9:20am – 9:35am Q **Carvedilol Versus Metoprolol Succinate And Incidence of Heart Failure Hospitalizations In A Veteran Population** Wild Rose A

Presenters: Kiersten Wiedwald
Evaluators: Carolyn Orendorff
Evaluators 3: Maya Tatum
Evaluators 2: Albert Celidonio

TITLE: Carvedilol versus metoprolol succinate and incidence of heart failure hospitalizations in a veteran population

AUTHORS: Kiersten B Wiedwald PharmD, Daniel Brust PharmD, Heather Spoonhower PharmD

OBJECTIVE: The objective is to compare the incidence of heart failure exacerbations leading to emergency department visits or hospitalizations between carvedilol and metoprolol succinate in patients who have heart failure with reduced ejection fraction (HFrEF).

METHODS: In this single center, retrospective, chart-review, quality-improvement project, data was obtained from Computerized Patient Record System (CPRS) and the Veteran Affairs (VA) Academic Detailing Heart Failure Dashboard for male and female patients with HFrEF on carvedilol or metoprolol succinate from September 2020 â€“ September 2022. Patients excluded were those with mixed, improved, or preserved heart failure, HFrEF not objectively confirmed (echocardiogram), and patients who were switched to any other beta blocker during the study period. The primary outcome was the number of heart failure exacerbations that led to emergency department visits or hospitalizations.

RESULTS: A total number of 704 charts were reviewed and 118 patients were included in the analyses. 586 patients were excluded from the analysis due to one or more of the following: unknown ejection fraction, ejection fraction >40%, or change in beta blocker during the study period. The primary outcome showed 16% of patients in the carvedilol group had at least one exacerbation that led to an emergency department (ED) visit or hospitalization and 25% of patients in the metoprolol succinate group had at least one exacerbation that led to an ED visit or hospitalization. Of note, most baseline characteristics were similar between the two groups.

CONCLUSIONS: Based on the results of the QA-QI project, the carvedilol group had a lower percentage of patients that had ED visits and/or hospitalizations during the retrospective chart review time period. This could suggest that further studies are needed to investigate the quantitative impact carvedilol, in comparison to metoprolol succinate, may have on heart failure exacerbations, hospital expenses, and patientâ€™s quality of life.

9:20am – 9:35am

6 **Impact of a Dosing Change for CMV Prophylaxis on Rates of Leukopenia in Liver Transplant Recipients** Wild Rose B

Presenters: Gianna Emmett
Evaluators: Jennifer Lihach
Evaluators 2: Kate Perez

TITLE: Impact of a dosing change for cytomegalovirus prophylaxis on rates of leukopenia in liver transplant recipients

AUTHORS: G. Emmett, S. Yeager, J. Schulte, K. Belden, J. Glorioso

OBJECTIVE: This study aims to evaluate an institutional change, from reduced dose valganciclovir (VGCV) to guideline-driven 900mg/day or valacyclovir in low risk recipients, on rates of leukopenia after liver transplant.

METHODS: This is a retrospective study of adult liver transplant recipients. After 6/7/22, patients at high & moderate risk for cytomegalovirus (CMV) received VGCV 900mg/day while low risk patients received valacyclovir 500mg/twice daily. These patients were compared to those who received VGCV 450mg/day in all risk groups prior to protocol update. Doses were renally adjusted. Leukopenia, defined as WBC < 2000 IU/L (severe if WBC < 1600 IU/L), was evaluated at date of discharge & discontinuation/completion of prophylaxis, or most recent labs if still on therapy. Other outcomes to be evaluated: rate of neutropenia, anti-metabolite & PJP prophylaxis modification, granulocyte colony stimulating factor use, & incidence of CMV viremia/tissue invasive disease.

RESULTS: Seventy-five patients were included, being mostly white (85.3%), male (65.3%), with an average age 58 Â± 11 years. In the pre-protocol group, majority were D+/R- (46%), requiring 180 days of therapy at target dose 450mg/day. In the post-protocol group, 57.9% were D+/R+ or D-/R+, requiring 90 days at target dose 900mg/day. At the time of initial analysis, 23 of 38 (60.5%) patients in the post-protocol group completed CMV prophylaxis & were evaluated. Leukopenia was observed in a similar number of patients pre- (16/37, 43.2%) & post- (7/23, 30.4%) (p-value= 0.32) protocol change. Of those who completed the prophylaxis period, leukopenia was noted the reason for early discontinuation in 2 pre-protocol (5.4%) & 3 post-protocol patients (13.0%).

CONCLUSIONS: At time of initial evaluation, similar rates of leukopenia were seen between patients on VGCV 450mg/day for intended duration compared to VGCV 900mg/day at least 90 days. Additional outcomes to be evaluated will provide insight on rates of CMV & confounding influences on leukopenia. Outcomes will be assessed & compared at 6 months following completion of therapy.

9:40am – 9:55am

Empty Magnolia D

Evaluators: Evan Ramsey
Evaluators 2: Catherine Rejrat

9:40am – 9:55am

A **Evaluation of Fluticasone/Salmeterol Dry Powder Inhaler versus Budesonide/Formoterol Metered Dose Inhaler in the Management of Chronic Obstructive Pulmonary Disease Among Veterans**

Empire A

Presenters: Justin Furtado
Evaluators: Andrew Rubio
Evaluators 3: Maureen Krajeski
Evaluators 2: Keturah Weaver

TITLE: Evaluation of fluticasone/salmeterol dry powder inhaler versus budesonide/formoterol metered dose inhaler in the management of chronic obstructive pulmonary disease among Veterans

AUTHORS: Justin Furtado, PharmD, Christine Borowy, PharmD, BCPS, Megan Crete, PharmD

OBJECTIVE: The objective of this study is to compare fluticasone/salmeterol versus budesonide/formoterol in managing chronic obstructive pulmonary disease (COPD) exacerbations within the Providence Veteran Affairs (VA) Medical Center's Veteran population.

METHODS: A retrospective chart review will be conducted for Veterans diagnosed with COPD from August 1, 2020 to August 1, 2022 who converted from budesonide 160 mcg/formoterol 4.5 mcg metered dose inhalers, 2 inhalations twice daily, to fluticasone 500 mcg/salmeterol 50 mcg dry powder inhalers, 1 inhalation twice daily. Veterans who are 50 years or older and were diagnosed with moderate to very severe COPD based on GOLD guidelines were included. The primary endpoint will evaluate the proportion of Veterans who experienced respiratory exacerbations which led to hospitalizations. Secondary endpoints will evaluate the proportion of Veterans who experienced respiratory exacerbations which led to rehospitalization or Veterans who were converted to a non-formulary inhaler due to therapeutic failure. Primary and secondary endpoints will be analyzed through descriptive statistics.

RESULTS: Anticipated results found no statistical significance between budesonide/formoterol metered dose inhalers versus fluticasone/salmeterol dry powder inhalers in COPD exacerbations which led to hospitalizations. Final results will be presented for pharmacy residents and preceptors at the Eastern States Conference in May 2023.

CONCLUSIONS: This retrospective chart review may function as a pilot study to help identify an optimal approach in COPD inhaler selection within the VA Healthcare System. Final conclusions will be presented for pharmacy residents and preceptors at the Eastern States Conference in May 2023.

9:40am – 9:55am

C **Empty**

Empire B

Evaluators: Arfa Rehman
Evaluators 3: Danielle Williams
Evaluators 2: Jason Laskosky

TITLE: Discontinuing vasopressin or norepinephrine first in patients with septic shock

AUTHORS: Ioannis Serris, PharmD, MHS; Ilanit Zada, PharmD, BCCCP; Ricardo Velasquez, MD; David Chong MD, FCCM, FCCP, FACP

OBJECTIVE: The objective of this retrospective study is to determine if the discontinuing vasopressin or norepinephrine first is associated with hypotension within 24 hours in patients with septic shock.

METHODS: Data from the electronic medical record was extracted for patients over 18 years old admitted to the intensive care unit (ICU) who received at least 1 day of vasopressin and norepinephrine for septic shock. Patients were excluded if they expired before discontinuation of vasopressin or norepinephrine, if norepinephrine and vasopressin were discontinued at the same time, if an inotropic agent was administered, or if blood pressure documentation was not complete. The primary outcome was the incidence of hypotension (mean arterial pressure less than 65 mmHg) during first 24 hours after vasopressor discontinuation. Secondary outcomes included number of hypotensive events during the first 24 hours, time until first hypotensive value, incidence of restarting the discontinued vasopressor, ICU length of stay and mortality. Statistical significance of the outcomes and baseline characteristics were analyzed using Fisherâ€™s exact tests, Mann-Whitney U tests or unpaired t-tests as appropriate.

RESULTS: The results will be presented. It is anticipated that discontinuing vasopressin first will result in an increased risk for hypotension within 24 hours in patients with septic shock.

CONCLUSIONS: The conclusion will be presented. If discontinuation of vasopressin first is associated with increased risk for hypotension within 24 hours, the order of vasopressor discontinuation in patients with septic shock should be carefully considered along with other patient specific factors.

9:40am – 9:55am D **Pembrolizumab for Progressive Multifocal Leukoencephalopathy at an Academic Medical Center: A Case Series** Empire C

Presenters: Gyeong Min Kim
Evaluators: Megan Sterner
Evaluators 3: Jessica Pinchinat
Evaluators 2: Katherine Martin

TITLE: Pembrolizumab for Progressive Multifocal Leukoencephalopathy at an Academic Medical Center: A Case Series

AUTHORS: Gyeong Min Kim, PharmD, Donald Singh, PharmD, MBA, BCPS, Brendan Mangan, PharmD, BCOP, Andrew Genco, PharmD, Neerav Vaidya, PharmD, BCPS, Kyle Oâ€™Brien, PharmD, BCPS

OBJECTIVE: Progressive multifocal leukoencephalopathy (PML) is a rare viral brain infection that leads to a progressive demyelination. We aim to review the outcomes of patients treated with PD-1 blockade via pembrolizumab.

METHODS: This study is a single-center, retrospective chart review of adult patients with progressive multifocal leukoencephalopathy (PML) treated with pembrolizumab 2 mg/kg every 4 to 6 weeks between January 1, 2017 and September 30, 2022. All four patients received at least one dose but no more than three doses of pembrolizumab. Patients 18 years or older with either a disease caused by JC virus with MRI findings and pembrolizumab administration or PML diagnosis and pembrolizumab administration were included. Patients were excluded if they received care outside of Hospital of the University of Pennsylvania or received pembrolizumab for non-PML indications. The primary endpoint was to determine whether pembrolizumab for PML leads to regression of associated neurological symptoms and/or increases in CD4/CD8+. Secondary endpoints included mortality at 90 days and 180 days from the day of first administration, length of hospital stays, and level of care after hospital discharge.

RESULTS: A total of 4 patients were analyzed per inclusion criteria. Each patient had different underlying predisposing conditions. None of the four patients showed regression of neurological symptoms associated with PML. One patient was analyzed for a change in absolute CD4 count and showed a steady increase in counts. Three patients had mortality within the first 90 days post pembrolizumab administration. One patient surpassed the 180 day mortality endpoint and showed survival. Mean hospital stay of all four patients was 69.95 days, ranging from 12 to 119 days. Discharge dispositions were diverse, ranging from home care to acute rehabilitation facility and skilled nursing home.

CONCLUSIONS: Of these four patients with PML treated at the Hospital of the University of Pennsylvania with Pembrolizumab, one patient showed neurological stability. Three patients had mortality within the first 90 days after first administration of pembrolizumab. Further study is warranted to evaluate the efficacy of pembrolizumab. Our findings show real life cases of patients diagnosed with PML, treated with Pembrolizumab and post-discharge disposition and outcomes.

9:40am – 9:55am G **Determining optimal warfarin reinitiation strategy after phytonadione (vitamin K) administration for warfarin reversal** Empire D

Presenters: Cassie Oldt
Evaluators: Donna Grant
Evaluators 3: Dannielle Brown
Evaluators 2: Jen Donato

TITLE: Determining the optimal warfarin re-initiation strategy after phytonadione (vitamin K) administration for warfarin reversal

AUTHORS: Cassie Oldt, PharmD; Manuel Isherwood, PharmD; Kyle Sukanick, PharmD

OBJECTIVE: Current literature analyzing warfarin re-initiation often excludes patients who received phytonadione. This study will compare warfarin re-initiation strategies of varying intensities in patients on warfarin therapy reversed with phytonadione.

METHODS: This is an IRB approved-retrospective analysis of patients aged 18 and older who received phytonadione for warfarin reversal during hospitalization from January 1, 2018 to August 1, 2022 and were previously established on warfarin maintenance therapy prior to hospitalization. Patients also needed warfarin management documentation available in the Penn State Health EMR. Patients with unstable INR on warfarin maintenance dosing prior to hospitalization, a lack of warfarin dose and/or INR data post phytonadione administration, a therapeutic INR at the time of warfarin re-initiation, or receival of phytonadione within two weeks prior to hospitalization were excluded. The primary outcome is attainment of therapeutic INR by day 5 of warfarin re-initiation. Secondary efficacy outcomes include time to therapeutic INR and supratherapeutic INR within 10 days of warfarin re-initiation. Safety outcomes include bleeding events and thrombotic complications within 30 days of warfarin re-initiation.

RESULTS: At the time of this submission, results have not yet been finalized. 60 to 70 patients are expected to be enrolled.

CONCLUSIONS: This study will be the first to our knowledge to specifically observe different dosing strategies for warfarin re-initiation in the setting of patients who received phytonadione. There are currently no guideline recommendations or institution protocols on how to dose warfarin in this population. This study will provide novel information on the optimal dosing strategy for reinitiating warfarin after reversal with phytonadione.

9:40am – 9:55am I **Assessing reported penicillin allergies through protocol-driven beta-lactam challenges to limit aztreonam usage** Crystal A

Presenters: Jun Suh Hong
Evaluators: Gabrielle Grossman
Evaluators 2: Cindy Zheng

TITLE: Assessing reported penicillin allergies through protocol-driven beta-lactam challenges to limit aztreonam usage

AUTHORS: J. Hong, A. Koshy, R. Jamali, J. Shakil, A. Bakshi; Flushing Hospital Medical Center (FHMC), Flushing, New York

OBJECTIVE: The aim of this study is to evaluate the utility of a protocol-driven beta-lactam challenge in patients reporting a penicillin allergy in order to limit the inappropriate use of aztreonam and to provide optimal antimicrobial therapy.

METHODS: This is an IRB-approved single-center, retrospective chart review of adult patients with reported penicillin allergies at FHMC who received at least one dose of aztreonam between February 2021 to February 2023. Patients were excluded if they had a Type II, III, or IV allergic reaction under the Gell and Coombs classification. Data points including patient demographics, aztreonam use, diagnoses treated, culture information and the penicillin challenge were collected through manual chart review. The protocol-driven beta-lactam challenge was implemented in February 2022. The primary outcome was the proportion of patients on appropriate aztreonam therapy pre-implementation versus post-implementation of the challenge protocol. The secondary outcomes include proportion of patients who tolerated the challenge and continued therapy with a beta-lactam, changes in aztreonam resistance on the annual antibiogram, and difference in aztreonam cost after protocol implementation.

RESULTS: The results of this study are to be presented.

CONCLUSIONS: It is expected that aztreonam use would have decreased between the pre- and post-implementation of the beta-lactam challenge protocol. By conducting this challenge in patients with reported unknown or IgE-mediated reactions to penicillins, it is anticipated that the re-utilization of beta-lactams will ultimately reduce aztreonam resistance rates, lower costs and further optimize antimicrobial regimens.

9:40am – 9:55am I **Evaluation of Opportunities for Implementing OVIVA Criteria on Patients with Bone and Joint Infections (BJIs) in Outpatient Parenteral Antimicrobial Therapy (OPAT)â€‹** Magnolia A

Presenters: Michelle Ann Wasan
Evaluators: Karen Gradoni McCann
Evaluators 3: Shereef Ali
Evaluators 2: Marissa Palm
This presentation will only discuss results and conclusion of the study. Background and Methods will be discussed in the prior presentation with the same title led by Garrett Crawford, PharmD.

TITLE: Evaluation of opportunities for implementing OVIVA criteria on patients with bone and joint infections (BJIs) in outpatient parenteral antimicrobial therapy (OPAT)
AUTHORS: M. Wasan, G. Crawford, J. Brenon, C. Soto, W. Wright, S. Keller
OBJECTIVE: The purpose of this study is to evaluate areas for improvement within Johns Hopkins Medicine (JHM) in utilizing oral antibiotics for the treatment of BJIs as outlined in the OVIVA trial.
METHODS: A multicenter, retrospective study was performed of adult patients with BJIs discharged from Johns Hopkins Hospital and Johns Hopkins Bayview Medical Center followed by the JHM OPAT Service between February 1, 2021 and February 1, 2022. The following information was collected on all patients: demographics, medical conditions, anatomical site of infection, OPAT-related adverse events, 30-day readmissions, emergency department visits, source control measures, microbiological data, antibiotic regimen, and treatment outcomes. The primary outcome is the proportion of patients treated for BJIs with OPAT who would have qualified for oral antibiotics according to OVIVA trial criteria. Secondary outcomes include the rate of OPAT-related adverse events and treatment outcomes (30-day readmission, ED visit, and 6-month treatment failure rates; early IV to PO transitions; durations of therapy). Descriptive statistics will be used to summarize demographic data and the primary and secondary outcomes.
RESULTS: A total of 221 patients met inclusion criteria. The findings of the primary and secondary outcomes are forthcoming.
CONCLUSIONS: It is anticipated that this study will identify areas of improvement to the current standard-of-care for patients being treated for BJIs within our health system.

9:40am – 9:55am P **Evaluating Differences in Treatment Modalities for Patients with Substance Use Disorder and Fentanyl Withdrawal** Magnolia C

Presenters: Miranda Hetrick
Evaluators: Marina Reed
Evaluators 2: Erin Corica

TITLE: Evaluating Differences in Treatment Modalities for Patients with Substance Use Disorder and Fentanyl Withdrawal
AUTHORS: Miranda Hetrick, PharmD; Maria Budney, PharmD, BCPS; Leah Milton, PharmD, BCPS
OBJECTIVE: Patients presenting with opioid withdrawal may receive treatment with buprenorphine, methadone, opioid taper or naltrexone to mitigate withdrawal symptoms. Patient directed discharge (PDD), may occur because withdrawal symptoms are not controlled.
METHODS: A retrospective cohort study evaluated patients with active fentanyl withdrawal admitted to a general medicine floor or step-down unit from March 1, 2021 to September 1, 2021. Participants were divided into cohorts characterized by treatment modalities utilized including opioid taper, buprenorphine, methadone, or naltrexone. The primary objective was to describe the proportion of PDD in each treatment modality cohort. The primary outcome was measured by chart review of progress notes and discharge paperwork to determine if PDD occurred. Secondary outcomes included adjunctive therapies administered, highest daily Clinical Opioid Withdrawal Scale (COWS), average morphine milliequivalents (MME) used per day, proportion of patients with an addiction medicine consult, and number of patients who switched treatment modalities.
RESULTS: Of the 81 patients included in this study, the most common treatment modality utilized was opioid taper with 43 (53.1%) patients in the cohort. Treatment with methadone was used in 22 (27.2 %) patients. Buprenorphine micro-induction and traditional induction occurred in 14 (17.3%) and 2 patients (2.5%), respectively. No patients were treated with naltrexone. The PDD proportion for the total population was 44% (36 out of 81 patients). Opioid taper had the largest PDD proportion (65.1%, 28 out of 43 patients). Methadone had the smallest PDD proportion (13.6%, 3 out of 22 patients). Buprenorphine micro-induction had a PDD proportion of 28.6% (4 out of 14 patients) and traditional induction had a PDD proportion of 50% (1 out of 2 patients).
CONCLUSIONS: This study described the treatment pathways utilized at ChristianaCare for patients with substance use disorder experiencing fentanyl withdrawal. PDD proportion was described for each treatment modality showing a larger proportion of PDD in the opioid taper group.

9:40am – 9:55am Q **Evaluation of antithrombotic therapy in patients on anticoagulation following percutaneous coronary intervention** Wild Rose A

Presenters: Brooke Holmes
Evaluators: Carolyn Orendorff
Evaluators 3: Maya Tatum
Evaluators 2: Albert Celidonio

TITLE: Evaluation of antithrombotic therapy in patients on anticoagulation following percutaneous coronary intervention

AUTHORS: Brooke Holmes PharmD, MBA and Brian Lopez, PharmD, BCCP, BCCCP

OBJECTIVE: The American College of Cardiology provides expert consensus on management of triple antithrombotic therapy. The objective of this project was to evaluate the use of triple antithrombotic therapy at our institution based on the expert consensus.

METHODS: This was a retrospective chart review of patients with a past medical history of atrial fibrillation admitted to Dartmouth Hitchcock Medical Center for acute coronary syndrome between September 1st 2020 and September 1st 2022. Patients were included in the project if they underwent PCI with stent placement during the admission, and had a history of atrial fibrillation on oral anticoagulation. Patients under the age of 18, who were pregnant, or who were legally incapacitated were excluded. The primary outcome was the percentage of patients that had aspirin discontinued prior to or at discharge. Secondary outcomes included the percentage of patients with triple antithrombotic therapy continued for 30 days or longer, and the percentage of patients with an active order for a proton pump inhibitor during the admission.

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

CONCLUSIONS: It is expected that the results of this project will provide insight to the appropriateness of practice and adherence to expert consensus regarding triple antithrombotic therapy in patients.

9:40am – 9:55am 6 **Utilization of a Low Dose Methylprednisolone Induction Dosing Protocol After Kidney Transplantation** Wild Rose B

Presenters: Courtney Moshos
Evaluators: Jennifer Lihach
Evaluators 2: Kate Perez

TITLE: Utilization of a low dose methylprednisolone induction dosing protocol after kidney transplantation

AUTHORS: C. Moshos, J. Au, S. Karhadkar, C. Ruggia-Check, A. Diamond; Temple University Hospital, Philadelphia PA

OBJECTIVE: This study aims to evaluate the association between the cumulative dose of methylprednisolone used during induction immunosuppression therapy and the incidence of acute rejection in kidney transplant recipients.

METHODS: This is a retrospective, single center cohort study that includes adult kidney transplant recipients who received methylprednisolone as part of the induction immunosuppression regimen. Participants with positive crossmatch or history of multi-organ transplant were excluded. Participants will be stratified into one of two cohorts: the high-dose cohort (greater than 500mg cumulative dose of methylprednisolone) and the low-dose cohort (500mg or less cumulative dose of methylprednisolone). The primary outcome is acute rejection within 90 days of transplant. Secondary outcomes include estimated glomerular filtration rate at 30 and 90 days, incidence of hyperglycemia within 7 days of transplant, ICU length of stay, and hospital length of stay. Continuous data will be analyzed using studentâ€™s t-test for parametric data and Mann-Whitney U test for non-parametric data. Categorical data will be analyzed using chi-squared or Fisher's exact test.

RESULTS: Incidence of biopsy-proven acute rejection within 90 days of transplant will be compared between the two cohorts. Additionally, estimated glomerular filtration rate at 30 and 90 days, incidence of hyperglycemia within 7 days of transplant, ICU length of stay, and hospital length of stay will also be compared. Baseline patient characteristics and immunologic risk of rejection between both groups will be analyzed and results will be presented.

CONCLUSIONS: It is anticipated that the results of this study will provide the transplant team with more information regarding outcomes related to the dose of glucocorticoids used in induction immunosuppression regimens and the utility of using a low dose methylprednisolone induction protocol after kidney transplantation.

10:20am – 10:35am A **SGLT2 Inhibitor Associated Euglycemic Diabetic Ketoacidosis** Empire A

Presenters: Megan Sokol
Evaluators: Carol Botelho
Evaluators 3: Kelly Mullican
Evaluators 2: Kristen Fink

TITLE: Sodium-glucose co-transporter-2 inhibitor associated euglycemic diabetic ketoacidosis: a multi-hospital case-control study

AUTHORS: Megan Sokol, PharmD; Laurie Sherrick, PharmD, BCCCP; Jarret LeBeau, PharmD

OBJECTIVE: The objective of this project was to determine the association of euglycemic diabetic ketoacidosis (EDKA) in hospitalized patients with diabetes taking sodium-glucose co-transporter-2 (SGLT2) inhibitors compared to other therapies.

METHODS: This was a retrospective, multi-hospital case-control study of adult patients with type 2 diabetes mellitus (T2DM) who were admitted to a hospital between December 4, 2015, and September 4, 2021. Patients were included in the study if they were 18 years of age or older, were hospitalized at Geisinger, had a diagnosis of T2DM on their problem list, and had an encounter diagnosis for diabetic ketoacidosis (DKA). Patients were further categorized as having EDKA if they had a blood glucose less than 250 mg/dl at the time of admission. Patients were grouped into those with a diagnosis of EDKA and those without a diagnosis of EDKA, and then separated into those taking an SGLT2 inhibitor and those taking other anti-diabetic medications. Results were analyzed using Chi-square and odds ratio statistical tests.

RESULTS: A total of 1511 patients were included in the study. Baseline demographic and clinical characteristics were similar across both the case and control groups. The number and percentage of hospitalized patients diagnosed with EDKA while taking an SGLT2 inhibitor will be compared to those taking other anti-diabetic medications. Common characteristics of the case group will be described.

CONCLUSIONS: This project is anticipated to demonstrate an association of EDKA in hospitalized patients taking SGLT2 inhibitors compared to patients who are managed on other therapies. It is also expected that this study will help to describe the patient population affected to determine necessary considerations for prescribing alternative therapy for patients with risk factors.

10:20am – 10:35am C **Beta Blocker Management and Arrhythmias in Acute Decompensated Heart Failure** Empire B

Presenters: Ryan Bok
Evaluators: Jason Mordino
Evaluators 3: Trisha Patel
Evaluators 2: Laura Schneider

TITLE: Impact of beta blocker continuation on tachyarrhythmias in patients admitted with acute decompensated heart failure

AUTHORS: Ryan Bok, PharmD; Jordan Lacoste, PharmD, BCCP; Gillian Lutz, PharmD Candidate; Kazuhiko Kido, PharmD, MS, BCCP, BCPS

OBJECTIVE: The objective of this study was to determine whether holding prior-to-admission beta blocker therapy upon hospitalization for acute decompensated heart failure (ADHF) leads to a higher rate of in-hospital tachyarrhythmias.

METHODS: This was a retrospective study conducted at a single academic medical center. Patients were included if they were adults who had heart failure with reduced ejection fraction (â‰¤40%), were admitted with a diagnosis of ADHF between January 2017 and November 2022, and were taking bisoprolol, carvedilol, or metoprolol succinate prior to admission. Key exclusion criteria were admission to an intensive care unit, systolic blood pressure less than 90 mmHg or heart rate less than 60 bpm upon admission, vasopressor or inotrope initiation, and New York Heart Association Class IV heart failure. Patients were divided into two groups: one that had beta blocker therapy continued within 48 hours of admission and one that had it held. The primary endpoint was the composite of atrial fibrillation/flutter with rapid ventricular rate, non-sustained ventricular tachycardia, sustained ventricular tachycardia, and ventricular fibrillation that occurred at least 48 hours after admission.

RESULTS: Occurrence of any of the tachyarrhythmias included in the composite primary outcome will be recorded for each patient, and the results will be presented.

CONCLUSIONS: Current guidelines recommend resuming beta blocker therapy upon admission for ADHF unless contraindicated. Prior literature shows that continuing beta blockers is superior to holding therapy in terms of several efficacy endpoints. Despite this evidence, use of a negative inotrope in ADHF remains controversial, and beta blockers are frequently held on admission. This study will add to existing research by evaluating the safety of continuing versus holding beta blockers.

10:20am – 10:35am C **Impact of Dapagliflozin Versus Empagliflozin on Cardiovascular Outcomes in Patients with Heart Failure** Empire C

Presenters: Kelly Wen
Evaluators: Micheal Strein
Evaluators 3: Alyson Esteves
Evaluators 2: Brian Lopez

TITLE: Impact of dapagliflozin versus empagliflozin on cardiovascular outcomes in patients with heart failure
AUTHORS: K. Wen, C. Chun, M. Chan, E. Cheon, K. Ramasubbu
OBJECTIVE: SGLT-2 inhibitors have shown cardiovascular (CV) outcome benefits in heart failure (HF) patients, but there are no comparative studies. This study aims to compare the rates of CV-related events and HF readmission in HF patients on SGLT-2 inhibitors.
METHODS: This is a retrospective chart review conducted at an acute-care teaching hospital. Electronic medical records of hospitalized adult patients initiated on dapagliflozin or empagliflozin for the treatment of heart failure between April 2022 and June 2022 will be reviewed. The primary endpoint is hospitalization due to heart failure or cardiovascular death. The secondary endpoint is death by any cause. The follow-up period will be six months post-discharge for the primary and secondary endpoints. Safety endpoints will be incidence of hypotension, acute kidney injury, ketoacidosis, genitourinary fungal infection, or urinary tract infection. Statistical analyses will be conducted utilizing two-sample t-tests for continuous variables and chi-square tests for categorical variables.
RESULTS: The results of this study are in progress.
CONCLUSIONS: The conclusions of this study are in progress.

10:20am – 10:35am Y **Implementation and evaluation of a pharmacist-driven toxicology consult service** Empire D

Presenters: Cassidy Hadcock
Evaluators: Mychal Dworet
Evaluators 2: Rebecca Lucarelli

TITLE: Implementation of an emergency medicine pharmacist-driven toxicology consult service
AUTHORS: Cassidy D Hadcock, PharmD, MBA, Kristin L Medeiros, PharmD, BCPS
OBJECTIVE: To assess the value in implementing a pharmacy toxicology consult service by specifically evaluating time Poison Control is contacted to time of pharmacologic intervention, time to patient disposition, and length of emergency department stay.
METHODS: Adult and pediatric patients requiring Poison Control consultation were identified prior to the implementation of the pharmacist led toxicology consult service and enrolled for pre-analysis. These patients will be used for comparison against identified adult and pediatric patients meeting inclusion criteria, requiring Poison Control consultation and a formal pharmacy toxicology consult, for post-implementation analysis. These will be reported with 95% confidence intervals to determine statistical significance. Descriptive statistics will be reported as frequency (percent) for categorical variables and medians or means (interquartile ranges or standard deviation) for continuous variables. Patients were excluded if they presented with an acute ethanol overdose, an acute opioid overdose that was responsive to naloxone doses of less than or equal to 8 mg (regardless of route), and patients that did not require consultation with Poison Control.
RESULTS: Results are pending and will be concluded at the time of presentation.
CONCLUSIONS: We hypothesize that this service in which emergency medicine pharmacists will serve as the primary point of contact with Poison Control, time to first toxicologic intervention will be decreased, provider satisfaction will be improved, and time to patient disposition will be decreased.

10:20am – 10:35am | **Adherence of Single Pill Regimen Bictegravir, Emtricitabine, and Tenofovir versus Raltegravir and Emtricitabine/Tenofovir in a Community Teaching Hospital** Magnolia A

Presenters: Tara Dadashian
Evaluators: Eun Jin Park
Evaluators 2: Joseph Reilly

TITLE: Adherence of single pill regimen bictegravir, emtricitabine, and tenofovir versus raltegravir and emtricitabine/tenofovir in a community teaching hospital

AUTHORS: Tara Dadashian PharmD., MBA, Ralph J. Riello Pharm D., BCPS, Eileen Deptula RPh, Hani Hamid PharmD, MBA, Samuel Pan MD

OBJECTIVE: The purpose of this study is to evaluate patient adherence rates to Biktarvy compared with previously recommended antiviral regimens for PEP at a community teaching hospital.

METHODS: The study is pending IRB exemption on the basis of quality improvement. The pre-implementation study population will include patients at Waterbury Hospital (WH) who were prescribed an antiviral PEP regimen from January 2020 to September 2022. The following data will be collected for baseline demographics: patient age, gender, ethnicity, medication ordered, and length of stay. Additionally, post-implementation data collection will occur from when Biktarvy was added to the WH inpatient formulary in October 2022 to March. The primary endpoint will be the treatment adherence rate, measured by subtracting the days of missed therapy from the total days of therapy pre- and post-implementation for PEP. Lastly, successful treatment completion rates for PEP regimens will be measured in the pre-post Biktarvy era.

RESULTS: Adherence rates and completion rates of co-formulated Biktarvy versus Raltegravir and emtricitabine/tenofovir will be recorded and results will be presented.

CONCLUSIONS: It is anticipated that this study may further support single-pill, co-formulated Biktarvy as a viable alternative regimen for PEP to improve treatment completion rates and prevent HIV seroconversion.

10:20am – 10:35am | **Microbiology and Predictors of Gram-Negative Infections in Persons Who Inject Drugs (PWID) with Injection Drug Use Related Infections Requiring Hospitalization** Magnolia B

Presenters: Jessica Mulbah
Evaluators: Cory Hale
Evaluators 2: olga mironova

TITLE: Microbiology and predictors of gram-negative infections in persons who inject drugs with injection drug use-related infections requiring hospitalization

AUTHORS: Jessica L. Mulbah, PharmD; Kazumi Morita, PharmD, BCPS; Laura Mentzer, PharmD, BCPS, BCCCP; Sara Schultz, MD, FACP FIDSA FCPP

OBJECTIVE: This study aims to assess the microbiology of injection-related infections in persons who inject drugs (PWID) and evaluate risk factors that may predispose patients to infections caused by gram-negative organisms.

METHODS: This retrospective chart review of adult PWID hospitalized with an injection-related infection (skin & soft tissue infection, bacteremia, septic arthritis, endocarditis, epidural abscess, and osteomyelitis) included patients with bacterial growth on specimens collected within 72 hours of admission from September 1, 2021, to March 31, 2022. Patients with only coagulase-negative Staphylococcus spp. growth on cultures, pregnant, transferred from an outside institution or received antibiotics before admission were excluded. The primary objective was to determine microbiology of injection-related infections within this cohort. The secondary objectives were to determine any risk factors for gram-negative infections and evaluate the appropriateness of empiric antibiotic regimens received. Descriptive analysis and chi-square tests will be utilized for data analysis. In addition, multivariate analysis will be used if multiple significant risk factors are identified.

RESULTS: Primary endpoints include the percentage of gram-negative infections and the distribution of isolated organisms from cultures. Secondary endpoints to be reported include the percentage of unnecessary anti-pseudomonal agent administrations and the percentage of patients that had organisms that were resistant to any antibiotics administered within 48 hours of treatment. Lastly, any significant risk factors for gram-negative injection-related infections will be reported.

CONCLUSIONS: It is anticipated that the results of this project will provide Temple University Health System with more information regarding microbiology and any predictors for gram-negative infections in persons who inject drugs. Furthermore, understanding the microbiology within this population can aid prescribers in utilizing optimal empiric therapy for persons who inject drugs within the health system while preserving the core principles of antimicrobial stewardship.

10:20am – 10:35am O **Optimizing the Management of Oral Prostate Cancer Treatment-Related Hypertension in an Ambulatory Hematology/Oncology Clinic** Magnolia C

Presenters: Jessica Hodgen

Evaluators: Lindsay Gladysz

Evaluators 2: Christine Hancock, Mark Sinnett

TITLE: Optimizing the Management of Oral Prostate Cancer Treatment-Related Hypertension in an Ambulatory Hematology/Oncology Clinic

AUTHORS: Jessica D. Hodgen, Sita K. Bhatt, Meredith Halpin, Lynnette Henshaw, Jasmine V. Patel

OBJECTIVE: This quality improvement project (QIP) aims to optimize blood pressure management in patients on oral prostate cancer therapy and reduce the total time that patients are off therapy due to uncontrolled hypertension (HTN) by 50% by June 1, 2023.

METHODS: This study encompasses prostate cancer patients whose oral cancer treatment is managed by the outpatient clinic. Blood pressure readings are recorded at provider visits, and referrals to the pharmacist-led antihypertensive program are sent for patients with new or worsening HTN and no timely PCP availability. Clinical pharmacy specialists manage patients using a HTN management algorithm, derived from ACC/AHA guidelines, and document interventions in the electronic medical record. This QIP uses the Institute for Healthcare Improvement Model for Improvement. Interventions are assessed through Plan-Do-Study-Act (PDSA) cycles. The outcome metric evaluates the number of days off oral cancer therapy. Process metrics include number of dose reductions, number of antihypertensive agents added, and prostate-specific antigen levels. Balancing metrics include number of patient visits and incidence of hypotension. Metric data is collected in a password-protected data sheet and assessed monthly.

RESULTS: The antihypertensive program protocol was developed by the primary investigators, reviewed by an interdisciplinary team of pharmacists, nurse practitioners, and medical oncologists, and approved with a start date of February 1, 2023. Patients are currently being reviewed for appropriateness for referral to the pharmacy-driven protocol. Expected results include optimizing patient treatment by reducing treatment delays, expanding the pharmacistâ€™s role in the outpatient clinic, and improving patient outcomes.

CONCLUSIONS: Expected conclusion will address changes in clinic flow and practice, impact on patient outcomes, and future possibilities for implementation of this protocol.

10:20am – 10:35am P **Retrospective Review of Naloxone Prescribing and RIOSORD Risk Stratification in Patients Who Have Received Opioids at Discharge** Crystal A

Presenters: Allie McMillen
Evaluators: Nicole Genovese
Evaluators 3: Kyle O'Brien
Evaluators 2: Careen-Joan Franklin

TITLE: Retrospective Review of Naloxone Prescribing and RIOSORD Risk Stratification in Patients Who Have Received Opioids at Discharge

AUTHORS: Allie K McMillen, PharmD, Erica L Wegrzyn, PharmD

OBJECTIVE: The purpose is to evaluate the proportion of patients co-prescribed naloxone with an opioid at discharge from an inpatient stay and investigate if risk stratification influenced naloxone prescribing.

METHODS: This quality improvement initiative is a retrospective chart review of patients >18 years who were prescribed opioids at discharge from an inpatient stay from December 2021 to July 2022. Exclusion criteria included patients discharged on hospice, tramadol prescription, and buprenorphine prescription for Substance Use Disorder (SUD). Patient demographics, comorbidities, and discharge diagnosis were reviewed. Characteristics of opioid prescriptions were examined (dose, day supply, morphine milligram equivalent (MME)) and identifying if the prescription is a new start, continuation or modification of a chronic opioid. Chart review included a review of risk factors including past medical history, active prescriptions, and MME of active opioid(s). Data was collected on the date of the most recent naloxone prescription and the discipline(s) involved in prescribing. The Risk Index for Overdose or Serious Opioid-Induced Respiratory Depression (RIOSORD) score was calculated to stratify risk.

RESULTS: A total of 169 encounters were screened and 148 were included based on criteria. Post-operative pain represented 64.2% (n=95) of the opioid indications. Most opioids were newly initiated (82.4%, n=103), with 18.4% (n=19) supplemented to another opioid. Oxycodone was most commonly prescribed (85.2%, n=127). MMEs ranged from 7.5 to 192 (average 42.3 mg Â± 26.6 mg). The most common risk factor contributing to RIOSORD Score was oxycodone (90.5%, n=134), MME 20-50 mg (68.9%, n=102), and â‰¥1 emergency room visit within 6 months. Hospitalization for â‰¥1 day was a contributing factor for all. An OIRD probability â‰¥14% was seen in 98 encounters (66.2%). Ten (6.8%) patients received naloxone at discharge, while 19 (12.8%) received it prior to admission.

CONCLUSIONS: Co-prescribing naloxone with an opioid at discharge is not routinely being practiced. More than half of patients were identified as having an OIRD risk â‰¥14%. Oxycodone is considered a contributor to increased risk for OIRD and it was the most commonly prescribed opioid, accounting for >90% of encounters. Use of the RIOSORD score at discharge for patients being prescribed opioids could allow for increased naloxone prescribing by considering additional patient specific factors that increase risk.

10:20am – 10:35am 2 **Selexipag use in pediatric patients with pulmonary arterial hypertension** Wild Rose B

Presenters: Madeline Grossman

Evaluators: Toshiba Morgan-Joseph

Evaluators 2: Ken Bevenour

TITLE: Selexipag use in pediatric patients with pulmonary arterial hypertension

AUTHORS: Madeline Grossman, PharmD; E. Zachary Ramsey, PharmD, BCPPS; Stephen Walker, MS CRNP

OBJECTIVE: The purpose of this study is to describe selexipag dosing practices, impact to concomitant pulmonary arterial hypertension (PAH) therapies, and therapeutic benefit to pediatric patients.

METHODS: This was a retrospective chart review of patients less than 18 years old with diagnosed PAH who were prescribed selexipag between September 20, 2020 and October 21, 2022. Patients were identified using a database maintained by the institution's PAH team. The primary objectives were to describe selexipag dosing strategies used by the PAH team and any changes in concomitant PAH therapies (phosphodiesterase-5 inhibitors, endothelin receptor agonists, and prostacyclin derivatives) during the selexipag titration period. Secondary objectives were to describe the efficacy (changes in catheterization, echocardiogram, and/or 6-minute walk test (6MWT) results) and safety (reason for dose reductions or discontinuations) of selexipag. All results are descriptive in nature.

RESULTS: Twenty-seven patients aged 1 to 17 years, weighing 10.2 to 62.5 kg started a median dose of oral selexipag 100 mcg twice daily. Therapy was increased by a median of 100 mcg twice daily every 6 days to a maximally tolerated median dose of 800 mcg twice daily. All 24 patients on another prostacyclin derivative were able to discontinue therapy at their maximum tolerated selexipag dose; other concomitant PAH therapies did not change. No patients had catheterization data collected before and after selexipag initiation. Changes in echocardiogram data and 6-MWT results were variable. No patients discontinued selexipag; four patients received decreased doses due to flushing (n=1), drug interactions (n=2), or increased frequency of nose bleeds (n=1).

CONCLUSIONS: Selexipag use in pediatric patients appears to be safe and well tolerated. The titration regimen used at the institution resulted in patients being able to discontinue another prostacyclin derivative. No other PAH medication changes were made with selexipag therapy.

10:20am – 10:35am 3 **Characterization of Venous Thromboembolism in Patients with Immune Thrombotic Thrombocytopenic Purpura** Magnolia D

Presenters: Blair Yesko
Evaluators: Scott Shoop
Evaluators 3: Paul Ortiz
Evaluators 2: Pranati Kuchimanchi

TITLE: Characterization of venous thromboembolism in patients with immune thrombotic thrombocytopenic purpura

AUTHORS: Blair Yesko, PharmD, John Lindsley, PharmD, BCCP, Shruti Chaturvedi MBBS, MS, Rakhi Naik, MD, MHS, Michael B. Streiff, MD, Jennifer Yui, MD, MS, and Kathryn E. Dane, PharmD, BCPS

OBJECTIVE: The objective of this study was to characterize the rates of venous thromboembolism (VTE) and VTE prophylaxis prescribing patterns in patients with acute immune thrombotic thrombocytopenia at The Johns Hopkins Hospital.

METHODS: A single-center, retrospective, observational cohort study was conducted from July 1st, 2016 to October 31st, 2022 to determine VTE rates and VTE prophylaxis prescribing patterns in patients admitted for acute immune thrombotic thrombocytopenic purpura (iTTP) episodes. Adult patients with â‰¥ 1 acute iTTP episode requiring hospital admission at a single academic medical center were included. Patients were excluded if length of stay was less than 48 hours, did not receive plasma exchange (PEX), or had a pre-existing indication for therapeutic anticoagulation. Patient demographics, iTTP characteristics and treatment regimens, VTE prophylaxis prescribing and administration patterns, and VTE events were collected for the admission of interest. Descriptive statistics were utilized to analyze endpoints.

RESULTS: A total of 73 iTTP patient encounters were included. Of these encounters, 7 acute VTE events (9.6%, 3 pulmonary emboli, 4 deep vein thromboses) occurred during or within three months after the iTTP admission. Overall, out of patients with VTE events, more events occurred in initial episodes of iTTP (5 patients, 71.4%) than in recurrent events (2 patients, 28.6%). During these encounters, 98.4% of patients were treated with corticosteroids, 75.8% with rituximab, 12.9% with caplacizumab, and 3.2% with other treatment agents. The most commonly prescribed VTE prophylaxis treatment regimen was enoxaparin at 41.9%.

CONCLUSIONS: These results demonstrate the risk of VTE in patients admitted for iTTP episodes is higher than the general medically ill population. Future efforts will focus on standardizing the institutional approach to VTE prophylaxis prescribing in patients with iTTP and evaluation of baseline VTE risk factors present in the study population.

10:20am – 10:35am T **Implementation of a Remote Medication History Technician for a Healthcare System** Wild Rose A

Presenters: Anne Balogh
Evaluators: Andrew Wherly
Evaluators 3: Jennifer Walls
Evaluators 2: Joanne Heil

TITLE: Implementation of a Remote Medication History Technician for a Healthcare System
AUTHORS: Anne Balogh, Andrew Szkiladz, Erica Housman
OBJECTIVE: The objective of this quality improvement initiative is to develop and implement a structured remote medication history program to improve medication accuracy and minimize potential harm at three hospitals.
METHODS: This multi-center initiative included patients admitted through the emergency department identified by nurses, physicians, and pharmacists. BHConnect, a program embedded in the electronic health record was offered as an option to provide a secure link between the patient and technician. An initial two-week pilot was conducted at Baystate Wing Hospital followed by a second two-week pilot involving all three hospitals with a dedicated technician performing remote medication histories for patients. De-identified data was collected by the technician at the time of completing the medication history regarding the number of requests, medications, discrepancies, and forms of communication.
RESULTS: From November 7, 2022 to November 18, 2022, the initial pilot at Baystate Wing Hospital resulted in a total of five medication histories. After some workflow adjustments, the pilot was then expanded to all three hospitals from February 20, 2023 to March 3, 2023 resulting in ten medication histories. Six (40%) of the patient interviews were conducted using BHConnect with time averaging about 30 minutes per visit. During these time periods, 202 medications were reviewed by a remote technician with an average of 13.7 medications per patient. A total of 42 discrepancies were discovered with an average of 2.8 discrepancies per patient.
CONCLUSIONS: A total of fifteen medication histories were conducted during this two-phase pilot. Despite the low participation, an average of 2.8 discrepancies per patient indicates the importance of having a dedicated medication history technician to prevent patient harm. This project provided information regarding the workflow, time commitment, and reliability of technology; however, more information is needed to determine the feasibility of implementing this program in the future.

10:40am – 10:55am A **Reducing Doses of Full Opioid Agonists with the Use of Buprenorphine-Based Partial Opioid Agonists within the Geisinger MTDM Pain Program** Empire A

Presenters: Mallory Ellis
Evaluators: Carol Botelho
Evaluators 3: Kelly Mullican
Evaluators 2: Kristen Fink

TITLE: Reducing doses of full opioid agonists with the use of buprenorphine-based partial opioid agonists within the Geisinger MTDM Pain Program
AUTHORS: Mallory Ellis, PharmD; Samantha Kunkel, PharmD; Alison Walck, PharmD
OBJECTIVE: The purpose of this study is to assess the efficacy of partial opioid agonists for pain treatment.
METHODS: This is a retrospective cohort study assessing patients who were enrolled within the Geisinger MTDM Pain Management Program and transitioned from a full opioid agonist to a partial opioid agonist. Patients had to have been at least 18 years old to be included and could not have been prescribed the partial agonist for addiction.
RESULTS: Results are not yet available, but the outcomes assessed will include if the initiation of a partial opioid agonist reduces the milligrams of morphine equivalents (MMEs) of full opioid agonists needed when treating pain, as well as whether or not the use of a partial agonist resulted in decreased patient-reported pain scores. Results will be presented during the conference.
CONCLUSIONS: This study will help address the uncertainties of utilizing partial opioid agonists for management.

10:40am – 10:55am C **Adaptation and Expansion of FAST Program to Jefferson Enterprise Sites** Empire B

Presenters: Amanpreet Dulku

Evaluators: Jason Mordino

Evaluators 3: Trisha Patel

Evaluators 2: Laura Schneider

TITLE: Adaptation and expansion of our Facilitating Anticoagulation for Safer Transitions (FAST) acute venous thromboembolic disease (VTE) treatment program to additional health system sites

AUTHORS: Amanpreet Dulku, PharmD; Lynda Thomson, PharmD, CACP, Thomas Jefferson University Hospital, Philadelphia, PA

OBJECTIVE: Adapt the current FAST Discharge Program utilized in the emergency department to other health sites by optimizing current FAST process tools to accommodate site-specific structures and processes and then analyze the effectiveness post-implementation.

METHODS: This multi-center, prospective, quality improvement project will evaluate patients treated at our various ED sites across the health system from January-June 2023. Inclusion criteria: patients 18 years of age or older with direct ED discharge and primary acute VTE diagnosis. Exclusion criteria: hospital admission for VTE. Outcomes will be assessed for 2 time periods: (1) acute VTE patients discharged from the ED pre-FAST implementation; (2) acute VTE patients discharged from the ED post-FAST implementation. Primary outcomes: VTE â€“ related 30-day readmission rates. Secondary outcomes: anticoagulation associated - adverse effects within 30 days post-discharge, successful completion of a follow-up with the next level of care provider within 10 days after discharge, receipt of a two-day post-discharge outreach phone assessment, and procurement of anticoagulant medication at the time of discharge. Data will be collected for analysis from each respective Enterprise ED site for evaluation.

RESULTS: An overview of the optimized program and implementation process will be provided. The impact of the program on 30 day VTE â€“ related readmission rates and secondary outcomes will be presented.

CONCLUSIONS: Overall, the study findings will aim to reduce admission rates for treatment of VTE to increase hospital cost-savings by assessing for safety and efficacy of treatment post-discharge from the ED through the implementation of the FAST program. This program will also help facilitate safer transitions of care since anticoagulants are in the top ten list of medications associated with adverse events and medication related errors.

10:40am – 10:55am C **Evaluation of the addition of midodrine to vasopressor therapy to limit intravenous vasopressor use**

Empire C

Presenters: Michael Gilbert
Evaluators: Micheal Strein
Evaluators 3: Alyson Esteves
Evaluators 2: Brian Lopez

TITLE: Evaluation of the addition of midodrine to vasopressor therapy to limit intravenous (IV) vasopressor use
AUTHORS: Michael Gilbert, Pharm D; Haley Kavelak, Pharm D, BCCCP; Alyssa Kester, Pharm D, BCCCP; Helen Sutow, Pharm D, BCCCP
OBJECTIVE: The purpose of this study was to determine if the addition of midodrine in patients with hypotension requiring IV vasopressors for at least 24 hours led to a decrease in duration of IV vasopressor use.
METHODS: A retrospective chart review was conducted of adult patients admitted to an intensive care unit (ICU) at St. Luke's University Health Network between September 1, 2020 and August 30, 2022. Patients were included if they were 18 years or older and received at least one vasopressor agent (norepinephrine, vasopressin, or phenylephrine) for at least 24 hours. Patients were divided into those that received IV vasopressors only and those that received midodrine with an IV vasopressor. The primary outcome was the total duration of IV vasopressor use. Secondary outcomes included ICU and hospital length of stay, cumulative dose of norepinephrine equivalents, IV vasopressor re-initiation, and the incidence of bradycardia. Data containing continuous variables were analyzed with Student's t-test or Welch's t-test for parametric data and Mann-Whitney U test for non-parametric data. Categorical data were evaluated using Chi-square test or Fischer's exact test depending on the group size.
RESULTS: Of the 371 patients included for analysis, 308 patients received IV vasopressor only and 63 patients received midodrine with an IV vasopressor. Patients receiving IV vasopressor only had a shorter vasopressor duration (53.5 [36 – 83] vs. 75 [48.5 – 130.5] hours, p<0.01). Cumulative norepinephrine equivalents were greater in the IV vasopressor only group (0.13 [0.05 – 0.20] vs. 0.10 [0.04 – 0.14] mcg/kg/min, p<0.01). There were no differences between groups in ICU length of stay, hospital length of stay, or IV vasopressor re-initiation. On average, midodrine was initiated 44 hours after the start of IV vasopressors. The reported adverse effect of bradycardia was similar between groups.
CONCLUSION: Midodrine did not reduce the duration of IV vasopressors in ICU patients with hypotension, however, these findings are limited by delayed time to midodrine initiation.

10:40am – 10:55am Y **tPA bedside compounding by Emergency Medicine pharmacists â€" impact on door-to-needle times**

Empire D

Presenters: Lauren Bronson
Evaluators: Mychal Dworet
Evaluators 2: Rebecca Lucarelli

TITLE: tPA bedside compounding by Emergency Medicine pharmacists â€" impact on door-to-needle times
AUTHORS: Lauren Bronson PharmD, Eric Kalita PharmD, BCCCP, Corinne Bertolaccini PharmD, BCCCP, Edlyn Hwang PharmD, BCPS
OBJECTIVE: The primary objective of this study is to evaluate the impact of Emergency Medicine pharmacists compounding tPA at bedside on door-to-needle (DTN) times in patient receiving tPA for suspected acute ischemic stroke.
METHODS: A retrospective chart review of 150 patients was performed for patients who presented to the Emergency Department (ED) for suspected acute ischemic stroke, who received tPA between October 1, 2020 and October 31, 2022. Patients were grouped into two cohorts: patients who presented prior to the practice change were included in the cohort of tPA compounded outside of the Emergency Department, and patients who presented after the practice change were included in the cohort of Emergency Medicine pharmacists compounding tPA at bedside. Baseline characteristics collected included age, sex, race, and neurological and functional status using the National Institutes of Health Stroke Scale (NIHSS). The primary endpoint of DTN time was calculated by collecting admission time and tPA administration time. Secondary endpoints including in-hospital all-cause mortality, symptomatic ICH, length of hospital stay, and discharge disposition were recorded.
RESULTS: The average door-to-needle time for each cohort will be presented as well as an analysis of in-hospital all-cause mortality, symptomatic ICH, length of hospital stay, and discharge disposition.
CONCLUSIONS: It is anticipated that this project will provide insight into the Acute Ischemic Stroke Protocol at Lahey Hospital and Medical Center and serve as a resource to determine areas for improvement.

10:40am – 10:55am | **Analysis of clostridium difficile infection recurrence following treatment with oral fidaxomicin versus oral vancomycin in a small community hospital** Magnolia B

Presenters: Meredith McAfee

Evaluators: Cory Hale

Evaluators 2: olga mironova

TITLE: Analysis of clostridium difficile infection recurrence following treatment with oral fidaxomicin versus oral vancomycin in a small community hospital

AUTHORS: Meredith McAfee, PharmD; Michael Brocco, PharmD, BCPS; Richard Artymowicz, PharmD, MBA, FCCP, BCPS

OBJECTIVE: Infectious Disease Society of America recommends fidaxomicin over oral vancomycin as first-line management of initial and recurrent clostridium difficile episodes. Despite updated recommendations, our institution continues to favor oral vancomycin.

METHODS: A retrospective chart review was conducted from January 1, 2018 to April 30, 2023 of patients with confirmed Clostridium difficile infection (CDI) during their admission. Patients were excluded if age less than 18 years, allergy reported to CDI treatments, treatment initiated outside of our institution, laxatives within 48 hours of CDI test, or fulminant disease diagnosis. The primary objective is comparing the rates of recurrence following treatment with fidaxomicin or oral vancomycin. Recurrence is defined as a reappearance of symptoms within 2 to 8 weeks of completing appropriate treatment and resolution of symptoms. The secondary outcomes are to compare the development of fulminant CDI, escalation of treatment due to lack of symptom resolution, and number of recurrent infections within 12 months. Risk factors for CDI recurrence will be collected including acid-suppression use, antibiotic use, age greater than or equal to 65 years, and immunosuppression.

RESULTS: The results of this study are currently in progress.

CONCLUSIONS: The results of this study are currently in progress.

10:40am – 10:55am | **Efficacy of Doxycycline vs. Azithromycin in Community Acquired Pneumonia** Magnolia A

Presenters: Julie Mei

Evaluators: Eun Jin Park

Evaluators 2: Joseph Reilly

TITLE: Efficacy of doxycycline vs. azithromycin in community acquired pneumonia (CAP)

AUTHORS: Julie Mei, PharmD; Sharon Blum, PharmD, BCIDP; Michael Bosco, PharmD, BCIDP, AAHIVP; Meredith Akerman, MS; Andrew Fleming, MD

OBJECTIVE: To compare the efficacy of doxycycline vs. azithromycin when used in combination with ceftriaxone for the treatment of CAP.

METHODS: Individuals greater than the age of 18, admitted for greater than 48 hours at NYU Brooklyn, NYU Long Island, and NYU Tisch from January 1, 2019 to December 31, 2022 with clinical or radiographic evidence of pneumonia were included. Exclusion criteria included: receipt of any antibiotics for >24 hours or hospitalization for >48 hours within the last 90 days, pregnancy or breastfeeding, history of structural lung disease, active lung cancer, suspected tuberculosis, or bloodstream infections, immunocompromising condition, ventilated, or with non-infectious cause of pulmonary infiltrates. Descriptive statistics (mean Â± standard deviation or median [25th, 75th percentiles] for continuous variables; frequencies and percentages for categorical variables) were calculated separately by group. The two groups were compared using the chi-square test or Fisherâ€™s exact test, as deemed appropriate, for categorical variables and the two sample t-test or Mann-Whitney test for continuous data.

RESULTS: A total of 91 patients met inclusion criteria, 42 patients in the azithromycin group and 49 patients in the doxycycline group. Primary outcomes defined as treatment failure requiring broadening of antibiotics, all-cause mortality and time to clinical stability were similar between the groups. In the azithromycin group, 11.9% of patients required broadening antibiotics compared to 6.12% in the doxycycline group (p=0.46). Time to clinical stability was 3 in the azithromycin group versus 3.14 days (p=0.6) in the doxycycline group. Secondary outcomes including time to hospital discharge, time to stepdown to oral antibiotics and length of treatment had no difference between groups. There was no difference in safety outcomes between groups.

CONCLUSIONS: Azithromycin and doxycycline were comparable in terms of efficacy and safety when treating CAP. These findings can be added to the existing body of evidence supporting doxycycline as an attractive option for atypical CAP coverage. However, our sample size was smaller than anticipated. Next steps would be to include more patients to ensure a robust conclusion that doxycycline is equally efficacious as azithromycin.

10:40am – 10:55am O **Impact of antibiotics on response to immune checkpoint inhibitor (ICI) therapy** Magnolia C

Presenters: Sarah Bruzek

Evaluators: Lindsay Gladysz

Evaluators 2: Christine Hancock, Mark Sinnett

TITLE: Impact of antibiotics on response to immune checkpoint inhibitor (ICI) therapy

AUTHORS: Justine V. Cohen, Mark R. Attilio, Sarah E. Bruzek, Oliver Clark

OBJECTIVE: The objective was to evaluate the rate of ICI related gastrointestinal (GI) events and assess correlation/causation with survival. Our hypothesis is that GI events will be less frequent in antibiotic exposed arms, due to decreased immune response.â€¨

METHODS: This study was an IRB exempt, retrospective, single center, cohort review. Adult cancer patients who received at least one dose of ICI were included. Exclusion criteria included diagnosis of inflammatory bowel diseases or lupus. The primary outcome was time to event of all grade GI toxicities in patients with no exposure to antibiotics from -30 to 180 days of their first ICI dose versus patients with antibiotic exposure -30 to 0 days. Secondary outcomes included effect of antibiotic classes on time to event of GI toxicity and incidence of grade 1-2 versus 3-4 events. A Cox Regression was used to assess the primary outcome, with use of dual ICI therapy, primary GI cancers, and use of proton pump inhibitors in equation. Secondary analyses of antibiotic class were assessed via Cox Regression with the same variables in equation. Remaining demographics and secondary outcomes were calculated via chi-square, Fisher exact, and t-test as appropriate.

RESULTS: Of 6,575 available cases, 800 patients were included (339 antibiotic exposure vs. 461 non-exposure). Mean age was 64.6 years and most patients were Caucasian (66.8%). The most common ICI was pembrolizumab (52.9%), with 8.0% of patients receiving ipilimumab/ nivolumab. Only 5.5% of patients were diagnosed with GI cancer. In the antibiotic exposure arm, there was a greater incidence of GI toxicities [HR, 2.970 (95% CI, 1.737-5.078; p

10:40am – 10:55am P **Retrospective Review of Naloxone Prescribing and Risk Stratification in Patients Who Have Received Opioids Following Same Day Surgery** Crystal A

Presenters: Katrina Dean

Evaluators: Nicole Genovese

Evaluators 3: Kyle O'Brien

Evaluators 2: Careen-Joan Franklin

TITLE: Retrospective review of naloxone prescribing and risk stratification in patients who have received opioids following same day surgery

AUTHORS: Katrina M Dean, Erica L Wegrzyn

OBJECTIVE: The purpose of this quality improvement (QI) project is to examine patterns of naloxone and opioid co-prescribing in same-day surgery patients and to identify if individual patient risk parameters influenced prescribing.

METHODS: This project is a retrospective review of patients 18 years or older who underwent same-day surgery and who were prescribed an opioid upon discharge at Stratton VAMC from July 1, 2021 to December 31, 2021. Charts meeting inclusion criteria will be reviewed for age, gender, race, comorbidities, surgical type, characteristics of opioid prescriptions and naloxone prescribing. The patient will also be assessed for individual risk characteristics through stratification with the Risk Index for Overdose or Serious Opioid-Induced Respiratory Depression (RIOSORD) score, current medications prescribed (including concomitant central nervous system depressants not captured within the RIOSORD tool), preoperative (if applicable), and postoperative morphine milligram equivalents (MME) of opioid(s) prescribed. After data collection, analysis will be completed to determine if there is a correlation between RIOSORD score and naloxone prescribing at discharge from same-day surgery.

RESULTS: A total of 164 opioid prescriptions were dispensed. There was no naloxone co-prescribing present. The average MME dispensed was 39 mg. Only three patients had an active naloxone prescription (filled within past year) at the time of opioid dispensing. Out of the 164 encounters, 39 (24%) had an Opioid-Induced Respiratory Depression (OIRD) probability of 14% or greater. The most common risk factors for OIRD in this population included: antidepressant use (35%), at least one emergency room visit within six months prior to surgery date (32%), and sleep apnea (17%). Gabapentin, a central nervous system depressant not captured as part of RIOSORD, was also commonly co-prescribed (14%).

CONCLUSIONS: Co-prescribing naloxone with opioids prescribed after same-day surgery was absent in this single institution retrospective review. This could represent an opportunity for point of care risk mitigation to increase patient safety. Future opportunities include educating surgical teams on individual patient risk factors that increase OIRD probability, in addition to the importance of naloxone co-prescribing.

10:40am – 10:55am 2 **Antimicrobial therapy and duration of treatment following implementation of a pediatric appendicitis pathway** Wild Rose B

Presenters: Brianna Schafer

Evaluators: Toshiba Morgan-Joseph

Evaluators 2: Ken Bevenour

TITLE: Antimicrobial therapy and duration of treatment following implementation of a pediatric appendicitis pathway

AUTHORS: B. Schafer, H. Kincaid, T. Villalobos-Fry, K.H. Wheatley; Lehigh Valley Health Network Allentown, PA

OBJECTIVE: A pediatric post-appendectomy clinical pathway was implemented in February 2019. The goal of this study was to identify the proportion of patients who were managed as directed by the clinical pathway as well as their associated outcomes.

METHODS: A retrospective chart review of pediatric patients who underwent appendectomy by the pediatric surgery service at Lehigh Valley Reilly Childrenâ€™s Hospital was conducted between April 4, 2021 and August 31, 2022. Patients were excluded if they underwent interval appendectomies. The primary outcome was the percentage of patients who received post-operative pathway-directed empiric antimicrobial therapy. Secondary outcomes included pre-operative antimicrobial therapy, duration of intravenous antimicrobial therapy, total duration of antimicrobial therapy, percentage of patients with complicated appendicitis taken off pathway, and the occurrence of post-operative complications. Descriptive statistics were utilized to describe baseline characteristics as well as primary and secondary outcomes.

RESULTS: A total of 171 patients were included. Pathway-directed post-operative care was provided to 119 patients (70%), including 13 (37%) and 106 (78%) patients with complicated and uncomplicated appendicitis, respectively. Most patients received pre-operative ceftriaxone and metronidazole (132, 79%) with 97 (73%) dosed appropriately. Of the 62 patients who received post-operative antimicrobials, 59 (95%) received ceftriaxone and metronidazole and these were dosed appropriately in 55 patients (93%). The median inpatient post-operative intravenous antimicrobial duration was 4 days (IQR 4-6) for patients with complicated appendicitis vs. 1 day (IQR 1-2) for uncomplicated. Post-operative complications occurred in 12 patients (7%).

CONCLUSIONS: While most patients received pathway-directed care, this occurred more frequently in patients with a post-operative diagnosis of uncomplicated appendicitis. The pathway-directed antimicrobial combination of ceftriaxone and metronidazole was most frequently utilized though pre-operative dosing could be improved. The findings from this project will be shared with the pediatric surgery service to further improve management following the post-appendectomy clinical pathway.

10:40am – 10:55am 3 **Impact on the Implementation of a Best Practice Advisory on Antibiotic De-escalation in Community and Hospital-Acquired Pneumonia.** Magnolia D

Presenters: Shantal MacWhinnie
Evaluators: Scott Shoop
Evaluators 3: Paul Ortiz
Evaluators 2: Pranati Kuchimanchi

TITLE: Impact of best practice advisory implementation on antibiotic de-escalation in community and hospital-acquired pneumonia

AUTHORS: Shantal MacWhinnie, PharmD, Laura Truhlar, Pharm.D, BCCCP

OBJECTIVE: Determine the rate of vancomycin and piperacillin-tazobactam de-escalation at Elliot Hospital for patients diagnosed with pneumonia after the utilization of an antimicrobial best practice advisory.

METHODS: The Institutional Review Board determined this project to be exempt status. This study is a retrospective, randomized, intervention-controlled cohort study. Patients included were 18 years and older, admitted to Elliot Hospital with a diagnosis of pneumonia, and received vancomycin and/or piperacillin-tazobactam. Data was collected from April 3rd, 2021- October 10th, 2022 (pre-implementation). A best-practice advisory was implemented in the electronic medical record on October 11th, 2022. Post-implementation data was collected from October 11th, 2022 â€“ April 30th, 2023. A maximum of 200 patients will be included in this study. Patients who were pregnant, incarcerated, or Elliot Health System employees were excluded from this study.

RESULTS: It is anticipated the utilization of a best practice advisory will increase the rate of vancomycin and/or piperacillin-tazobactam de-escalation at Elliot Hospital for patients diagnosed with pneumonia. In addition, the utilization of the best practice advisory will decrease duration of antibiotic therapy and length of stay for these patients.

CONCLUSIONS: It is anticipated the utilization of the antimicrobial best practice advisory will improve antimicrobial stewardship efforts in de-escalating broad-spectrum antibiotics in patients diagnosed with pneumonia. This best practice advisory highlights the potential for antimicrobial de-escalation practices leading to fewer broad-spectrum antibiotics days.

10:40am – 10:55am T **Evaluation of 30 day readmission rates after the implementation of pharmacist led heart failure counseling** Wild Rose A

Presenters: JESUS ARRIAGA
Evaluators: Andrew Wherly
Evaluators 3: Jennifer Walls
Evaluators 2: Joanne Heil

OBJECTIVE: Ocean University Medical Center (OUMC) implemented pharmacist-led heart failure counseling to optimize pharmacotherapy and improve outcomes. The primary objective is to assess the impact of pharmacist counseling on 30-day readmission rates at OUMC.

METHODS: This study is a retrospective chart review of patients that received a new diagnosis of heart failure (HF) or HF exacerbation at OUMC between April 1, 2022 and December 31, 2022. Patients were excluded from the study if they were admitted from or discharged to facilities such as hospital transfers, long term care facilities, and subacute/acute rehab facilities, had expired during care, or were discharged to hospice care. Business intelligence reports and manual chart review in EPIC were utilized to collect information regarding rates of readmission within 30 days of discharge and documentation of pharmacist counseling and inventions. Information was collected to assess rates of readmission within 30 days of discharge. Readmission data was calculated using linear regression analysis.

RESULTS: A total of 182 patients met inclusion criteria and of those 117 were counseled by a pharmacist. The primary end point of 30 day readmission occurred in 12.8% of counseled patients vs 23% ($p = 0.0756$) of patients without counseling, for an absolute risk reduction of 10.2%, which corresponds to a NNT of 10 (95% CI, 0.2905 to 1.0624). For the secondary objective of assessing pharmacist interventions, there were 72 documented interventions varying from recommendations to guidelines recommended therapy to running test claims to ensure affordability.

CONCLUSIONS: This study supports previous literature that pharmacist counseling has a beneficial effect on readmission rates for HF. Although statistical significance was not demonstrated, likely due to small sample size, readmission rate was lower in the pharmacist-counseled group. Another limitation of this study was the inability to capture admissions to hospitals outside of our network. Larger studies are needed to further demonstrate the impact of pharmacist counseling on 30-day readmission rates.

11:00am – 11:15am A **Weight Management Medications for Chronic Use Medication Use Evaluation** Empire A

Presenters: Evan Cano
Evaluators: Carol Botelho
Evaluators 3: Kelly Mullican
Evaluators 2: Kristen Fink

TITLE: Weight management medications for chronic use medication use evaluation
AUTHORS: Evan Cano, PharmD, Carol Botelho, PharmD, BCACP, BCGP
OBJECTIVE: To assess efficacy, safety, and barriers to achieving therapeutic goals for the various weight management medications (WMM) available to Veterans.
METHODS: A retrospective database extraction was used to identify VA patients that were newly prescribed weight management medications between March 1, 2020 to March 31, 2022. The six WMM of interest included liraglutide (Saxenda), semaglutide (Wegovy and Ozempic), orlistat, naltrexone/bupropion, phentermine, and phentermine/topiramate. Patients were included if they were prescribed a WMM during the specified time period with an indication for weight loss, had a weight taken within 120 days before the index WMM prescription, and if they had a body mass index (BMI) > 27. Chart review was utilized to collect additional information on prescribing patterns, weight loss, adverse events, participation of lifestyle interventions, discontinuation, treatment barriers, bariatric surgery, procedures, and comorbid conditions. Patients with Type 2 diabetes mellitus and a BMI < 27 at the time of prescription were excluded.
RESULTS: Results of this project will be presented at Eastern States Conference in May of 2023.
CONCLUSIONS: It is anticipated that the results of this project will contribute to the evaluation of differences in weight loss and safety information between the WMM of interest.

11:00am – 11:15am C **Implementation of early, goal-directed management of pain, agitation, and delirium in mechanically ventilated patients** Empire C

Presenters: Margot Mercer
Evaluators: Micheal Strein
Evaluators 3: Alyson Esteves
Evaluators 2: Brian Lopez

TITLE: Implementation of Early, Goal-Directed Management of Pain, Agitation, and Delirium in Mechanically Ventilated Patients
AUTHORS: M. Mercer, T. Patel, T. Donald; Penn Medicine Chester County Hospital, West Chester, PA
OBJECTIVE: Implementation of analgesiaâ€“first sedation and protocol-based escalation to continuous infusions can reduce ICU complications including over-sedation, delirium, ICU acquired weakness, and prolonged mechanical ventilation (MV).
METHODS: Between April 1st, 2022, and November 3rd, 2022, patients over 18-years old who were admitted to the intensive care unit and mechanically ventilated (MV) were reviewed retrospectively. Patients with history of neurologic injury, drug overdose, acute liver failure, dementia, or psychiatric illness, need for continuous neuromuscular blockade, and pregnancy were excluded. A protocol for managing pain, agitation, and delirium was implemented in December after education was provided to nurses, providers, and respiratory therapists. Prospective data was then collected for 3 months (January-March). Retrospective and prospective data collected included analgesic and sedative agents, medication doses, nursing assessment scores (Richmond Agitation Assessment Scale (RASS), Behavioral Pain Scale (BPS), and Confusion Assessment Method for ICU (CAM-ICU), Spontaneous Breathing Trials (SBT) assessments, and documented level of early mobility.
RESULTS: From implementation of the protocol, we expect a reduction in use of continuous analgesia and sedative infusions resulting in RASS goals being achieved more frequently, reduction in duration of MV, a reduction in delirium, and patients advancing to higher stages of early mobility. Results will be presented upon completion of study.
CONCLUSIONS: It is anticipated that this project will demonstrate more patients achieving lighter sedation resulting in fewer ICU complications and increase in overall compliance with the Society of Critical Care Medicineâ€™s guidelines for management of pain, agitation, and delirium in MV.

11:00am – 11:15am C **Retrospective Safety Analysis Between Reduced Dosing versus Standard Dosing of Enoxaparin for Venous Thromboembolism Prophylaxis among Underweight Patients in a Community Hospital** Empire B

Presenters: Timothy Ramos
Evaluators: Jason Mordino
Evaluators 3: Trisha Patel
Evaluators 2: Laura Schneider

TITLE: Retrospective safety analysis between reduced dosing versus standard dosing of enoxaparin for venous thromboembolism (VTE) prophylaxis among underweight patients in a community hospital

AUTHORS: Timothy Ramos, PharmD, MPH; Ahmed Selevany, PharmD, BCPS; Richard Adamczyk, PharmD, MPH; Mona Nashed, PharmD

OBJECTIVE: The objective of this study is to evaluate the incidence of bleeding and thrombosis among underweight patients (BMI < 18.5 kg/m2 or weight < 45 kg) who received low-dose (30 mg) versus standard dose (40 mg) enoxaparin once daily for VTE prophylaxis.

METHODS: This is a retrospective, single-center, IRB-exempt cohort study conducted in a 231-bed community hospital in New Jersey. Inclusion criteria consisted of adults > 18 years old with a reported BMI of < 18.5 kg/m2 or total body weight < 45 kilograms during admission who received enoxaparin for VTE prophylaxis. Patients were excluded if one of the following was met: enoxaparin â‰¤48 hours, contraindication to enoxaparin, or hemodialysis. The intervention group received low dose (30 mg) while the control group received standard dose (40 mg) enoxaparin daily. The first primary outcome is a composite endpoint of thrombosis and bleeding. The second primary outcome is a stratified endpoint on the incidence of bleeding alone. The third primary outcome is a stratified endpoint on the incidence of thrombosis alone. Secondary outcomes in this study include mortality rate during admission, average length of stay, and the association between bleeding incidence and renal impairment.

RESULTS: 251 patients met inclusion criteria. 114 (45.4%) patients received low-dose enoxaparin while 137 (54.6%) received standard-dose prophylactic enoxaparin. For the composite primary outcome, 30 (26.31%) patients in the low dose group experienced either thrombosis or bleeding vs 30 (21.9%) patients in the standard dose group [X2(1, n = 251) = 0.668, p = .41]. Regarding the stratified outcomes, no results were statistically significant. For secondary outcomes, the mortality during admission among low dose enoxaparin recipients was 13 (11.4%) patients vs 3 (2.2%) patients in the standard dose group [X2(1, n=251) = 8.85, p = .003]. There was no statistically significant difference with respect to average length of stay.

CONCLUSIONS: The incidence of bleeding, thrombosis, or both bleeding and thrombosis did not yield any significant difference between low-dose prophylactic enoxaparin as compared to standard-dose prophylactic enoxaparin. The average length of stay and the duration of enoxaparin therapy also did not have a significant difference between patients who received low-dose and standard-dose enoxaparin. Mortality during admission was significantly higher in patients who received low-dose enoxaparin.

11:00am – 11:15am Y **Efficacy of Glucagon in Esophageal Food Bolus Obstruction** Empire D

Presenters: Jannel T Hall-Prear
Evaluators: Mychal Dworet
Evaluators 2: Rebecca Lucarelli

TITLE: Use of glucagon in esophageal food bolus obstruction: a retrospective chart review
AUTHORS: Jannel Hall-Prear, PharmD, MS. Michael Perza, PharmD, BCPS. Kristen Abdelmessieh, PharmD
OBJECTIVE: Glucagon use for esophageal food bolus obstruction (EFBO) remains controversial. This study seeks to assess the effectiveness of intravenous (IV) glucagon for food bolus obstruction.
METHODS: A multicenter retrospective chart review was performed based on ICD 10 diagnosis codes, T18.128A, K56.699, and K22.2 between January 1, 2020 to December 31, 2022 of patients who presented to ChristianaCare. Patients who presented to the emergency departments (ED) with chief complaints of food bolus obstruction were included in this study. Patients with any of the above diagnosis codes but without chief complaints of food bolus obstruction and patients presenting to other ChristianaCare facilities besides the ED were excluded. Patients were categorized into four groups; those who received IV glucagon only, those who received glucagon and endoscopy, those who received endoscopy only, and patients with spontaneous passage without treatment. Relevant clinical data collected were age, race, ethnicity, length of hospital stay, location of food bolus, glucagon dose, the difference in time between the first glucagon dose and endoscopy, and if patients were admitted.
RESULTS: A total number of 348 charts were reviewed, and 248 patients met the inclusion criteria. The majority were males, 172 (69.4%), with a mean age of 57 Â± 19.7 years. Glucagon was administered to 157 (63.3%) patients and 91 (36.7%) patients did not receive glucagon. Sixty-one out of 157 (38.9%) patients achieved food bolus relief compared to 56/91 (61.5%) patients who had spontaneous passage ($p < 0.001$). The average length of stay between ED arrival and discharge time was 9.0 Â± 8.7 hours in the glucagon only group and 5.6 Â± 6.9 hours in the group that had spontaneous passage without glucagon ($p = 0.023$). All remaining patients required endoscopy for removal, 96/157 (61.1%) in the glucagon group and 35/91 (38.5%) in the non-glucagon groups.
CONCLUSIONS: Patients who received IV glucagon were significantly less likely to clear food bolus obstruction and required higher rates of endoscopy to achieve food bolus relief compared to patients who did not receive glucagon. Patients who received glucagon alone also had significantly longer hospital stays compared to patients who had spontaneous passage. A prospective randomized controlled trial is needed to further assess the clinical efficacy of glucagon to support its use for EFBO.

11:00am – 11:15am I **Gram-negative Bacteremia IV to PO Stepdown** Magnolia A

Presenters: Amanda Michael
Evaluators: Eun Jin Park
Evaluators 2: Joseph Reilly

TITLE: Clinical outcomes of early vs late oral stepdown therapy in management of uncomplicated gram negative bacteremia
AUTHORS: A. Michael, PharmD; N. Vyas, PharmD, BCPS; Joseph DeRose, DO; Jefferson Health-East Region
OBJECTIVE: The objective of this study was to evaluate the achievement of clinical cure at the end of therapy in early vs late switch to oral antibiotics in patients with gram negative bacteremia.
METHODS: This was an IRB-approved retrospective chart review including patients from January 1, 2022 to March 26, 2022 in a three hospital community health system. Patients were included in this study if they were â‰¥ 18 years of age, hospitalized for â‰¥ 24 hours, received a positive blood culture with E. coli, Klebsiella spp., and/or Proteus spp. and transitioned to oral antibiotics prior to discharge. Exclusion criteria included: complicated bacteremia and any patients who were pregnant, immunocompromised or receiving immunocompromising therapy. The primary endpoint of the study was to evaluate achievement of clinical cure at the end of therapy in early (â‰¤72 hours) vs late (>72 hours) transition to oral antibiotic therapy. The secondary endpoint evaluated the incidence of C. difficile associated diarrhea 30 days after completion of therapy. A subgroup analysis included microbiological clearance and achievement of microbiological cure.
RESULTS: The number and percentage of patients who transitioned from IV to oral antibiotics within 72 hours or remained on IV antibiotics >72 hours and achieved clinical cure and/or microbiological cure will be recorded and results will be presented.
CONCLUSIONS: It is anticipated that this project will show that patients with uncomplicated gram-negative bacteremia who were transitioned from IV to oral antibiotics within 72 hours will have non-inferior outcomes compared to patients who remained on IV antibiotics for >72 hours.

11:00am – 11:15am | **Impact of a Pharmacist-Driven Methicillin-Resistant Staphylococcus Aureus (MRSA) Polymerase Chain Reaction (PCR) Screening on Vancomycin Use in Patients with Suspected MRSA Pneumonia in a Community Hospital** Magnolia B

Presenters: Yiwen Zhang

Evaluators: Cory Hale

Evaluators 2: olga mironova

TITLE: Impact of a Pharmacist-Driven Methicillin-Resistant Staphylococcus Aureus (MRSA) Polymerase Chain Reaction (PCR) Screening on Vancomycin Use in Patients with Suspected MRSA Pneumonia in a Community Hospital

AUTHORS: Yiwen Zhang, PharmD; Amy Laboskie, PharmD, Michelle McLaughlin, PharmD, BCPS; Mandana Eimen, PharmDâ€‹

OBJECTIVE: The objective of this study is to assess the impact of a pharmacist-driven MRSA nasal swab PCR screening on the mean duration of empiric vancomycin therapy in patients with suspected pneumonia.

METHODS: This study will be a single-center retrospective cohort quality improvement study. Patient charts will be reviewed to compare those who received vancomycin for suspected MRSA pneumonia before and after the implementation of a pharmacist-driven protocol for nasal MRSA PCR screening. Patients will be excluded if they were initiated on intravenous (IV) vancomycin for any indication other than suspected MRSA pneumonia, have structural lung diseases such as cystic fibrosis or bronchiectasis, or have a clinical presentation with a high risk for MRSA. The primary intervention of the study will be the implementation of a pharmacist-driven protocol for MRSA nasal swabs. When the pharmacist receives an order for IV vancomycin with the indication of pneumonia or suspected pneumonia, the pharmacist will order a MRSA nasal PCR test. Based on the results of the PCR test, the prescribing physician will be notified and if the test is negative, a recommendation of discontinuing vancomycin will be made.

RESULTS: Pharmacist-driven protocol for nasal MRSA PCR screening was approved in November 2022 by the Sibley Memorial P&T committee and educated to healthcare staff through December 2022. Pre-implementation data will be collected from August 2022 to October 2022, and the post-implementation data will be collected from January 2023 to March 2023.

CONCLUSIONS: Pending

11:00am – 11:15am

O **Assessment on the use of allopurinol to improve safety and efficacy of mercaptopurine in pediatric patients with Acute Lymphoblastic Leukemia and Lymphoma during maintenance therapy**

Magnolia C

Presenters: Tecca Barone
Evaluators: Lindsay Gladysz
Evaluators 3: Mark Sinnett
Evaluators 2: Christine Hancock

TITLE: Assessment on the use of allopurinol to improve the safety and efficacy of mercaptopurine in pediatric patients with Acute Lymphoblastic Leukemia and Lymphoma during maintenance therapy

AUTHORS: Tecca Barone, PharmD; Kevin Mulieri, PharmD, BCPPS; Smita Dandekar, MD, Daniel McKeone, MD

OBJECTIVE: The primary objective of this study is to assess the use of allopurinol to improve safety and efficacy of mercaptopurine in pediatric patients with Acute Lymphoblastic Leukemia (ALL) and Lymphoma (LLy) during maintenance therapy.

METHODS: This was a single-center, retrospective chart review assessing the safety and efficacy of mercaptopurine in pediatric patients with ALL and LLy during maintenance therapy at Penn State Milton S. Hershey Medical Center. All patients treated by the Pediatric Hematology/Oncology service with a diagnosis of ALL or LLy that utilized allopurinol during maintenance therapy were assessed for inclusion. The primary endpoint was time within goal absolute neutrophil count (ANC), range of 500 to 1,500 cells/microliter, prior to and after initiation of allopurinol. Secondary endpoints included; improvement in selective toxicities (hepatotoxicity, pancreatitis, and hypoglycemia) and 6-MMPN:6-TGN ratio prior to and after allopurinol initiation. In addition, an exploratory endpoint assessing mercaptopurine daily dose reduction prior to and after allopurinol initiation was included.

RESULTS: 16 pediatric patients met inclusion criteria and 15 (94%) of which were included. Exclusion was due to incomplete documentation. Median time within goal ANC prior to and after initiation of allopurinol was 27.8 (IQR: 22.6-44.9) and 41.6 (IQR: 20.2-58.2) respectively. Incidence of selected toxicities prior to allopurinol was 15 (100%) hepatotoxicity, 1 (7%) pancreatitis, and 3 (20%) hypoglycemia. Improvement was seen in 13 (87%), 1 (100%), and 2 (67%) respectively. Average 6-MMPN:6-TGN ratio prior to allopurinol initiation was 304:1 and 15:1 after. Average mercaptopurine dose prior to and after allopurinol initiation decreased from 63 to 28 mg/m2/day. No allopurinol adverse effects were reported. No patients relapsed during study period.

CONCLUSIONS: Results suggest that the use of allopurinol in pediatric patients with ALL and LLy receiving mercaptopurine during maintenance therapy is both safe and effective. This study did not directly compare patients receiving this intervention to patients without intervention. Allopurinol increased median time within goal ANC, improved selective toxicities, reduced 6-MMPN:6-TGN ratio, and reduced daily mercaptopurine dose without notable adverse effects or relapse.

11:00am – 11:15am P **Exploring Fentanyl Transdermal System Usage in Accordance With the Institute for Safe Medication Practicesâ€™ Targeted Medication Safety Best Practices in a Community Hospital Setting** Crystal A

Presenters: Kaitlyn Blankenhorn
Evaluators: Nicole Genovese
Evaluators 3: Kyle O'Brien
Evaluators 2: Careen-Joan Franklin

TITLE: Exploring fentanyl transdermal system usage in accordance with the Institute for Safe Medication Practicesâ€™ targeted medication safety best practices in a community hospital setting
AUTHORS: Kaitlyn Blankenhorn, PharmD; Lindsay Gladysz, PharmD, BCPS; Doylestown Hospital, Doylestown, PA
OBJECTIVE: The Institute for Safe Medication Practices (ISMP) Best Practice #15 explores fentanyl transdermal systems (FTS). This project identifies standards of care compared to ISMP Best Practices to provide FTS use via pharmacist education.
METHODS: The retrospective, pre-intervention data collection included fentanyl transdermal systems (FTS) dispensed from January 1, 2021 through September 31, 2022. Data collection focused on identifying a patientâ€™s opioid status and acuity of pain. Chronic pain was determined by searching for its mention in a patientâ€™s medical record. Opioid tolerance was determined using inpatient medication use and outpatient records. Inclusion criteria: Age â‰¥ 18; FTS administration in emergency department or inpatient unit. Exclusion criteria: FTS on home medication list; FTS prescribed in hospital but not administered; inadequate information in medical record to determine pain chronicity or opioid tolerance prior to FTS initiation. Post-intervention data will be collected using the same methods.
RESULTS: The instances of newly started FTS in the emergency department as well as the inpatient setting which were not in alignment with the Institute for Safe Medication Practices Best Practice #15 from the pre-intervention will be compared to the post-intervention data. Results will be presented.
CONCLUSIONS: It is anticipated that this project will illustrate the essential role pharmacists can have in promoting best practices, and will ultimately help the institution align with the Institute for Safe Medication Practicesâ€™ Best Practices to provide both safe and effective patient care.

11:00am – 11:15am 2 **Comparison of Low-Dose versus Standard-Dose Insulin Rates in Pediatric Diabetic Ketoacidosis (DKA)** Wild Rose B

Presenters: Meghan McTavish
Evaluators 2: Ken Bevenour

TITLE: Comparison of low-dose versus standard-dose insulin rates in pediatric diabetic ketoacidosis
AUTHORS: M. McTavish, H. Oti; Bon Secours Saint Maryâ€™s Hospital, Richmond, VA
OBJECTIVE: The objective of this study was to compare the efficacy and safety of low-dose (0.05 unit/kg/hour) versus standard-dose (0.1 unit/kg/hour) insulin rates in pediatric patients with diabetic ketoacidosis (DKA).
METHODS: This was an IRB-approved, retrospective cohort study conducted at a community hospital in Richmond, VA. Historical chart review was performed for pediatric patients who were admitted between January 1, 2017 and December 31, 2021 and met the following inclusion criteria: less than 18 years of age, diagnosis of DKA at admission, and treatment with a single non-titrated insulin infusion rate of either 0.05 unit/kg/hour or 0.1 unit/kg/hour. Patients were excluded from the study if they presented with cerebral edema or septic shock, received an intravenous insulin bolus prior to admission, or were admitted from another facility with incomplete documentation. The primary endpoint was time to resolution of DKA. Secondary endpoints included length of stay, time to achieve target blood glucose, incidence of hypoglycemia, and incidence of hypokalemia.
RESULTS: Primary and secondary endpoint data were recorded and submitted for statistical analysis. A total of 61 encounters were included in the statistical analysis (40 in the low-dose group and 21 in the standard-dose group). Results will be presented.
CONCLUSIONS: It is anticipated that the efficacy and safety of low-dose insulin will be non-inferior to that of standard-dose insulin in the treatment of pediatric patients with DKA. The results of this study may aid in the standardization of prescribing practices at the study site.

11:00am – 11:15am 3 **The impact of an inpatient high-risk anticoagulation prescribing stewardship scoring tool**

Magnolia D

Presenters: Emma Baker

Evaluators: Scott Shoop

Evaluators 3: Paul Ortiz

Evaluators 2: Pranati Kuchimanchi

TITLE: The impact of an inpatient high-risk anticoagulation prescribing stewardship scoring tool

AUTHORS: ES Baker, J. Lindsley, I. Watt, R. Naik, MB Streiff, J. Yui, KE Dane; The Johns Hopkins Hospital (JHH), Baltimore, Maryland

OBJECTIVE: The objective of this study was to evaluate the impact of implementation of an electronic medical record-based high-risk anticoagulation prescribing stewardship scoring tool at a large academic medical center.

METHODS: A single-center, retrospective, observational, cohort study was conducted from January 26, 2022, to May 23, 2022, at a large academic medical center. Admitted adult patients with documented antithrombotic stewardship scoring tool reviews by stewardship pharmacists or trainees during the study period were included. Patients with missing data were excluded. The details of eligible high-risk anticoagulation scoring tool reviews were collected, including the medication and high-risk criteria involved, recommended therapy changes, recommendation acceptance, patient location, and patient demographics. Endpoints for this study were to quantify and categorize recommendations made as a result of the scoring tool, evaluate the rate of accepted recommendations, and characterize scoring tool reviews which did not result in a recommended change in therapy.

RESULTS: Approximately 300 patients were reviewed by stewardship pharmacists and trainees during the study period. Compiled results will illustrate the number of completed reviews, recommended therapy changes, and implemented therapy changes categorized by medication (apixaban, dabigatran, edoxaban, rivaroxaban, enoxaparin, fondaparinux, unfractionated heparin) and high-risk patient characteristics present.

CONCLUSIONS: This project will demonstrate the impact of implementation of a high-risk anticoagulation prescribing stewardship scoring tool utilized by anticoagulation stewardship pharmacists to improve anticoagulation management at a large academic medical center.

11:00am – 11:15am T **Optimizing a Hospital Medication Assistance Program with Pharmacist Interventions at Discharge (OH-MAP)** Wild Rose A

Presenters: Samantha Stewart
Evaluators: Andrew Wherly
Evaluators 3: Jennifer Walls
Evaluators 2: Joanne Heil

TITLE: Optimizing a hospital medication assistance program with pharmacist interventions at discharge (OH-MAP)

AUTHORS: Samantha Stewart, PharmD; Thom Coco, PharmD, BCPS, CTTS; Jadelyn Eggleston, PharmD; Jimmy Gonzalez, PharmD, BCPS

OBJECTIVE: To assess the impact of pharmacist-focused medication reconciliation on the optimal use of a medication assistance programâ€™s formulary for patients with acute myocardial infarction (AMI), chronic heart failure (CHF), or diabetes (DM).

METHODS: This was a single-center, retrospective chart review among patients enrolled in our institutionâ€™s free medication assistance program (MAP) between August 1, 2022 and October 31, 2022. To qualify for inclusion, patients were required to be 18 years of age or older; living in New Jersey; enrolled in the MAP; actively treated for AMI, CHF, and/or DM; discharged from the internal medicine ward service; and have filled discharge prescriptions with our ambulatory pharmacy. Those who had active insurance coverage, were homeless, discharged to a care setting other than home (e.g., skilled nursing facility, etc.), or did not use our pharmacy were excluded. The primary outcome was the proportion of AMI-, CHF-, and DM-specific guideline-directed medication therapies (GDMT) dispensed from our pharmacy that matched the MAP formulary. Secondary outcomes included the proportion of individuals that returned for emergency department (ED) visits or readmission within 30 days of their initial encounter.

RESULTS: A total of 116 patients enrolled in the MAP were admitted to the ward service over the 3-month study period. Of the 54 patients that were admitted to a ward team with a pharmacist, only 5 (9.3%) received free medications through the MAP. In comparison, 7 of 62 patients (11.3%), who were admitted to a ward team without a pharmacist, received free medications through the MAP. Formulary optimization among these two groups were 50% and 76.2%, respectively. No ED visits occurred within 30-days of initial admission between both cohorts. No individuals among the pharmacist-focused care group were readmitted within 30-days, as opposed to two (28.6%) individuals in the usual care group.

CONCLUSIONS: The results of the project cannot be generalized across the entirety of the hospital, given the small sample size. Study enrollment was limited due to most patients filling their prescriptions outside of our pharmacy. Possible explanations include the convenience of outside pharmacies in the community or unwillingness to substitute longstanding medications to those available on formulary. We plan to continue investigating strategies suitable for optimizing equitable care among our patients.

11:20am – 11:35am A **Retrospective review of the impact of clinical inertia on medication treatment plans and glycemic control in patients with type 2 diabetes and cardiovascular disease** Empire A

Presenters: Meredith Stoeckl
Evaluators: Carol Botelho
Evaluators 3: Kelly Mullican
Evaluators 2: Kristen Fink

TITLE: Retrospective review of the impact of clinical inertia on medication treatment plans and glycemic control in patients with type 2 diabetes and cardiovascular disease

AUTHORS: M. Stoeckl, N. Khan, A. Dooley-Wood, M. Moore; Penn Medicine Lancaster General Health. Lancaster, Pennsylvania

OBJECTIVE: The objective of this study was to evaluate the use of cardio-protective medications in patients with type 2 diabetes mellitus (T2DM) and atherosclerotic cardiovascular disease (ASCVD) in the Penn Medicine Lancaster General Health (LGH) system.

METHODS: A retrospective, descriptive cross-sectional study was conducted by chart review using electronic health records from October 2020 to October 2022. Patients were included if they were at least 18 years of age, diagnosed with both T2DM and established ASCVD, had two consecutive HbA1c values >8% within the study period, and managed within Lancaster General Health Physicians (LGHP) Primary Care. The primary endpoint of this study was to determine the percentage of patients with uncontrolled T2DM and established ASCVD who are not on a sodium-glucose cotransporter-1 (SGLT-2) inhibitor or glucagon-like peptide-1 (GLP-1) receptor agonist. Secondary endpoints included percentage of patients on basal and bolus insulin or 3 or more oral agents and not currently prescribed a SGLT-2 inhibitor or GLP-1 receptor agonist, medication classes currently utilized in patients with T2DM and established ASCVD, and percentage of patients with Medicaid not on a SGLT-2 inhibitor or GLP-1 receptor agonist.

RESULTS: The prescribing patterns in patients with T2DM and established ASCVD in the Penn Medicine LGH system will be presented.

CONCLUSIONS: Interpretation of study results and conclusions will be presented.

11:20am – 11:35am C **Evaluation of Iron Indices in Veterans Admitted for Acute Heart Failure** Empire C

Presenters: Allie Mueller
Evaluators: Micheal Strein
Evaluators 3: Alyson Esteves
Evaluators 2: Brian Lopez

TITLE: Evaluation of iron indices in veterans admitted for acute heart failure

AUTHORS: Dr. Allie Mueller, PharmD; Dr. Jane Wong, PharmD; Dr. Troy Kish, PharmD, BCPS

OBJECTIVE: The objective of this review is to determine whether iron indices are monitored during admissions for acute heart failure, as correction of iron deficiency with intravenous (IV) iron may decrease risk of future hospitalizations for heart failure.

METHODS: A retrospective chart review will be conducted of adult veterans who were admitted between January 1, 2020 to December 31, 2022 for acute heart failure and received at least 40mg IV furosemide or equivalent IV loop diuretic. Data collected will include demographics, medical and medication history, baseline and admission labs, and post-discharge hospital admissions and emergency department (ED) visits. The primary outcome is to evaluate the frequency of monitoring for iron deficiency with a complete iron panel during admission. The secondary outcomes are to evaluate the frequency of IV iron administration during admission to patients with iron deficiency (defined as ferritin

11:20am – 11:35am C **Impact of obesity on hemodynamics in patients receiving dexmedetomidine for mechanical ventilation in the ICU** Empire B

Presenters: Nichole Varela Gonzalez
Evaluators: Jason Mordino
Evaluators 3: Trisha Patel
Evaluators 2: Laura Schneider

TITLE: Impact of obesity on hemodynamics in patients receiving dexmedetomidine for mechanical ventilation in the ICU

AUTHORS: Varela Gonzalez, N., Andrick, LM., Lopatofsky, K., and Neville, M.R.

OBJECTIVE: The purpose of this study is to compare rates of hypotension and bradycardia in patients with and without obesity (BMI â‰¥ 30) receiving dexmedetomidine (DEX) dosed on actual body weight.

METHODS: This IRB-approved, retrospective, multi-hospital, cohort study included adult patients receiving DEX for at least 4 hours and requiring mechanical ventilation (MV) in the Intensive Care Unit (ICU) from June 1, 2017 to June 1, 2022. Patients were excluded if SBP < 90 mmhg, MAP < 65 mmhg, HR < 50 bpm, or required vasopressors prior to DEX initiation; DEX used for procedural sedation or general anesthesia; received bolus dose of DEX; admitted to cardiac service; or had history of heart block or a pacemaker. The primary outcome was development of clinically significant hemodynamic instability (defined as SBP < 90 mmhg, MAP < 65 mmhg, HR < 50 bpm) or intervention (defined as recieval of atropine, vasopressors, or â‰¥ 500 mL fluid bolus) within the first 24 hours of DEX administration. Chi-square and Mann-Whitney U test will be utilized, as appropriate, for statistical analysis of collected data.

RESULTS: The number and percentage of patients that had hemodynamic instability while on DEX will be presented.

CONCLUSIONS: It is anticipated that this project will demonstrate a higher rate of hemodynamic instability in patients with obesity compared to those without.

11:20am – 11:35am Y **Development and Implementation of Autoverification Best Practices in the Emergency Department** Empire D

Presenters: Savanna Scott
Evaluators: Mychal Dworet
Evaluators 2: Rebecca Lucarelli

TITLE: Development and implementation of autoverification best practices in the emergency department

AUTHORS: Savanna Scott; Emily Pherson

OBJECTIVE: There is limited guidance on the safe implementation of autoverification and debated interpretation of current recommendations by regulatory bodies. This project will aim to optimize autoverification best practices in the Emergency Department (ED).

METHODS: This single-center, quality improvement study was conducted at a 1,000-bed academic level 1 pediatric and adult trauma center with 33 pediatric ED beds and 77 adult ED beds. Medications in the ED were selected to be autoverified if they met the criteria of (1) delay would cause harm or (2) a licensed independent practitioner controls the ordering, preparation, and administration of a medication. This project was separated into four phases: (1) Characterization of current autoverification practices and policies within the ED; (2) Pharmacy Clinical Specialist, Medication Safety, and Pharmacy Management review of medications stored in ED Pyxis medication stations; (3) Alignment of ED autoverification rules with institutional policy; and (4) Development and implementation of ED autoverification rules in Epic HER. The data consists of various characteristics of autoverification orders, including medication name, dose, frequency, etc. Descriptive data analysis and summary will be conducted.

RESULTS: Autoverification best practices in the ED will be described and the number of medication orders verified pre and post autoverification rules adjustments in EPIC will be reported.

CONCLUSIONS: It is anticipated that this project will redesign autoverification rules in the pediatric and adult Emergency Departments to better align with best practices for autoverification shared by national organizations while continuing to meet regulatory standards.

11:20am – 11:35am | **Characterization of the Adult Sepsis Treatment Guideline Utilization within the Emergency Department at an Academic Medical Center** Magnolia B

Presenters: Deanna Berg
Evaluators: Cory Hale
Evaluators 2: olga mironova

TITLE: Characterization of the adult sepsis treatment guideline utilization within the emergency department at an academic medical center

AUTHORS: D. Berg, C. Maguire, A. Binkley, M. Hinton; Penn Presbyterian Medical Center (PPMC), Philadelphia, Pennsylvania

OBJECTIVE: The primary objective is to determine the proportion of patients who appropriately received antibiotics for sepsis based on institutional empiric treatment guidelines for suspected sepsis with a urinary or intraabdominal source

METHODS: A retrospective chart review of patients who were initiated on empiric antibiotics for sepsis with a suspected source of urinary tract infection (UTI) or intraabdominal infection (IAI) (in a 1:1 ratio) and were seen in the Emergency Department (ED) at Penn Presbyterian Medical Center between September 09, 2021, and September 09, 2022. Patients were identified based on antibiotic orders entered into the electronic medical record (EMR) while in the ED, and the source of infection was confirmed through manual chart review. Institutional guidelines were utilized to determine the appropriateness of initiating antibiotics for suspected sepsis based on the clinical evidence available at the time of antibiotic initiation and the assessment of the empiric regimen. The data collected in this study will be analyzed using descriptive statistics, including mean, median, and mode.

RESULTS: A total of 6869 patients were identified to have an order for broad-spectrum antibiotics in the ED, of which 100 were identified to have suspected sepsis due to a urinary source and 90 with an intraabdominal source. Patients were excluded if antibiotics were initiated outside of the ED. Ninety percent of patients had at least one clinical criterion for sepsis per institutional guidelines and 60% had positive SOFA scores. Institutional guidelines for initiating and selecting broad-spectrum antibiotics for suspected sepsis were adhered to for 27 (27%) patients in the UTI cohort and 7 (7.8%) in the IAI cohort. The most frequently administered antibiotics in the UTI and IAI cohort were cefepime (74% vs 58.9%) and vancomycin (51% vs 66.7%).

CONCLUSIONS: This quality improvement study on the utilization of antibiotics for suspected sepsis of UTI or IAI source identified areas of opportunity to minimize the overidentification of sepsis, which may aid in reducing the unnecessary use of antibiotics. Areas of opportunity include refining the criterion of the signs of organ dysfunction, updating the criteria for adding antifungal coverage in hospital acquired IAI suspected sepsis, and integration of pharmacist in educational opportunities.

11:20am – 11:35am I **The impact of a pharmacist led antibiotic stewardship initiative to improve appropriate levofloxacin utilization** Magnolia A

Presenters: Bona Shin
Evaluators: Eun Jin Park
Evaluators 2: Joseph Reilly

TITLE: The impact of a pharmacist led antibiotic stewardship initiative to improve appropriate levofloxacin utilization

AUTHORS: B. Shin, R. Cofsky; Reading Hospital, West Reading, Pennsylvania

OBJECTIVE: The objective of this study is to assess the impact of electronic education at levofloxacin order entry and prospective pharmacist review of levofloxacin orders and allergies on the optimization of levofloxacin use.

METHODS: The electronic medical record identified adult patients who were admitted and ordered oral or intravenous levofloxacin. The levofloxacin order was updated to provide education at order entry regarding beta-lactam allergies. Pharmacists received education on assessing beta-lactam allergies and appropriate use of fluoroquinolones. Pharmacists prospectively reviewed levofloxacin orders and contacted providers to recommend alternative non-fluoroquinolone antibiotics when appropriate. Demographics, levofloxacin indication and dosing, days of therapy, documented beta-lactam intolerance and historical use, subsequent antibiotics prescribed, baseline QTc, length of stay, and in-hospital mortality were collected retrospectively pre-and post-implementation. The primary endpoint of appropriate levofloxacin utilization was compared pre- and post-protocol implementation. Secondary endpoints included the incidence of levofloxacin discontinuation and subsequent antibiotic use.

RESULTS: 189 patients in the pre-protocol group and 146 patients in the post-protocol group met the inclusion criteria. Of the patients who received levofloxacin, 49% versus 68% were prescribed this antibiotic appropriately in the pre- and post-protocol groups, respectively. Levofloxacin was discontinued 22% of the time in the pre-protocol group and 35% of the time in the post-protocol group. After levofloxacin order placement, the most commonly prescribed subsequent non-fluoroquinolone antibiotic classes included cephalosporins, penicillins, and tetracyclines in both groups. The average number of levofloxacin orders per month decreased from 193 in the pre-protocol group to 74 in the post-protocol group.

CONCLUSIONS: The implementation of provider education regarding beta-lactam allergies and appropriate use of levofloxacin in combination with pharmacist review of levofloxacin orders increased appropriate use and decreased utilization of levofloxacin.

11:20am – 11:35am P **Evaluation of Ketamine for Adjunctive Pain Management in Sickle Cell Crisis** Crystal A

Presenters: Naidelyn Medina
Evaluators: Nicole Genovese
Evaluators 3: Kyle O'Brien
Evaluators 2: Careen-Joan Franklin

TITLE: Evaluation of ketamine for adjunctive pain management in sickle cell crisis

AUTHORS: Naidelyn Medina, PharmD; Minhee Kang, PharmD, BCPS, BCOP; Lama Kanawati, PharmD, BCPS

OBJECTIVE: The purpose of this study is to evaluate the efficacy and safety of ketamine as an adjunct to opioids for pain management in sickle cell crisis.

METHODS: Medical records of patients who received ketamine for sickle cell crisis from January 1, 2019 to March 30, 2023 were reviewed. Participants were at least 18 years of age, admitted for sickle cell crisis, and received ketamine. The primary outcome measured a change in daily oral morphine equivalents before and after receiving ketamine.

RESULTS: A total of eight patients were included; all patients had admissions comparing their opioid use with and without ketamine for sickle cell crisis. Ketamine use decreased opioid requirements in two patients, while six patients did not show a decrease in opioid requirements. The use of ketamine was associated with an extended hospital stay for all the patients. None of the patients reported any side effects from ketamine.

CONCLUSIONS: This study demonstrated mixed results in ketamine efficacy for decreasing opioid requirements in sickle cell crisis. Larger, randomized control trials are needed to compare the efficacy and safety of ketamine as an adjunct to opioids for pain management in sickle cell crisis.

11:20am – 11:35am 2 **Impact of a Pediatric Antimicrobial Stewardship Program on Optimizing Antibiotic Usage in a Non-Freestanding Childrenâ€™s Hospital (PEDS-ASP)** Wild Rose B

Presenters: Amy Eller

Evaluators: Toshiba Morgan-Joseph

Evaluators 2: Ken Bevenour

TITLE: Impact of a Pediatric Antimicrobial Stewardship Program on Optimizing Antibiotic Usage in a Non-Freestanding Childrenâ€™s Hospital (PEDS-ASP)

AUTHORS: Amy Eller, PharmD; Liliana Cruz, MD; Sarah Rawstron, MD; Linda Barron RN, BSN-CPN, MSN; Michelle Kohute, PharmD, BCCCP; Mariawy Riollano Cruz, MD; Anita Siu, PharmD, BCPPS

OBJECTIVE: The purpose of this study was to assess the impact of pediatric antimicrobial stewardship program implementation on the reduction of restricted antibiotic usage and the improvement of patient outcomes at a non-freestanding children's hospital.

METHODS: This was a single-center, retrospective-prospective observational study of pediatric patients admitted to an inpatient pediatric unit. Patients were included if they received any of the following restricted antibiotics: amphotericin B, cefepime, ceftaroline, ciprofloxacin, daptomycin, ertapenem, levofloxacin, linezolid, meropenem, piperacillin-tazobactam, and vancomycin. Patients were excluded if they were admitted to the neonatal intensive care unit or had pre-approved indications for restricted antibiotics. The intervention was the implementation of a pediatric antimicrobial stewardship program requiring ID approval for restricted antibiotics beginning on 01/09/23. A pre-implementation chart review from 01/09/22-03/09/22 and a post-implementation chart review from 01/09/23-03/09/23 were conducted. The primary outcome was the usage of restricted antibiotics. Secondary outcomes included antibiotic days of therapy, hospital length of stay, and hospital readmissions within 30 days.

RESULTS: A total of 33 patients were included in the study, with 85% of patients receiving care in the general pediatric units. 62% of restricted antibiotics received ID approval as required by the program. Vancomycin was the most common restricted antibiotic ordered within both groups. Overall, there was a 35% reduction in patients receiving restricted antibiotics and a 9.5% decrease in utilization of restricted antibiotics compared to the pre-implementation cohort. The average antibiotic days of therapy increased by 2.02 days and hospital length of stay increased by 1.94 days compared to the pre-implementation cohort. Data collection for hospital length of stay is ongoing.

CONCLUSIONS: Implementation of a pediatric antimicrobial stewardship program was associated with a reduction in patients receiving restricted antibiotics and an overall decreased utilization of these agents. These findings are consistent with outcomes reported from other antimicrobial stewardship programs. There was a higher acuity of pediatric patients admitted following implementation of the program. We suspect this contributed to the increased duration of antibiotic therapy and hospital length of stay.

11:20am – 11:35am 3 **Implementation of AUC-based Dosing via DoseMeRx to Improve Vancomycin Treatment Outcomes in Home Infusion Patients** Magnolia D

Presenters: Nida Mohammad
Evaluators: Scott Shoop
Evaluators 3: Paul Ortiz
Evaluators 2: Pranati Kuchimanchi

TITLE: Implementation of AUC-based dosing via DoseMeRx to improve vancomycin treatment outcomes in home infusion patients

AUTHORS: Mohammad, H. Nida, PharmD; McNeill, Anita, RPh, BCSCP; Khlat, John, RPh, MHA, CSP

OBJECTIVE: The purpose of this study is to evaluate the effectiveness of AUC-based dosing of vancomycin via DoseMeRx to improve clinical outcomes in home infusion patients.

METHODS: Single-centered, randomized, and longitudinal study conducted at an integrated health system home infusion pharmacy. For the first half of the study, the data was evaluated from September 30th to November 20th 2022, where 10 adult patients with an active order for vancomycin were included and 5 patients were excluded. The exclusion criteria included patients with intermittent or peritoneal dialysis, age >100 years, height 220 cm, weight 200 kg, received single doses of vancomycin, short term therapy with vancomycin (â‰¤3 days), did not have reported drug levels per labs, did not have time/date of lab collection per labs, time of drug administration not known per patient, pediatrics, or had urinary tract infections (UTIs) or meningitis. The data is currently being evaluated for the second half of the study, which will include patients from February 13th to April 1st 2023.

RESULTS: The results of the first half of this study met the primary outcome, where 3/10 patients had matched the recommended AUC-based dose compared to the dose that the clinician had proposed based on the trough concentration. However, the results of the secondary outcome varied across 10 patients, where 5/10 resulted in a reduced vancomycin dose, 3/10 resulted in an increased dose, and for the remaining 2/10 the dose remained the same. Although majority of the patients had promising results, the study still had three major limitations - small sample size, lack of education for both nurses and patients, and inaccuracy of documentation. As a result, the second half of the study is currently being studied while overcoming these limitations.

CONCLUSIONS: This study demonstrates that the implementation of AUC-based dosing of vancomycin via DoseMeRx in home infusion patients can improve clinical outcomes. However, the first half of the study did not arrive at a definitive conclusion due to the limitations it carried. On the bright side, the second half of the study is currently evaluating this approach while overcoming the limitations.

11:20am – 11:35am Q **Comparison of One-Time Administration of Intravenous vs. Oral Acetaminophen on MME Usage Post Cesarean Delivery** Magnolia C

Presenters: Brooke Owens
Evaluators: Lindsay Gladysz
Evaluators 2: Christine Hancock

TITLE: Comparison of one-time administration of intravenous vs. oral acetaminophen on MME usage post-cesarean delivery

AUTHORS: Brooke Owens, PharmD, Lauren Pino, PharmD, BCPS, Jennifer Lihach, PharmD, BCPS, Anthony DeClerico PharmD, Anne Neely RPh, BCPS

OBJECTIVE: This evaluation aims to determine whether intravenous acetaminophen improved post-operative pain outcomes post-cesarean delivery compared to oral acetaminophen, assessed through total morphine milliequivalents (MME) usage after surgery.

METHODS: A retrospective chart review was conducted for 210 patients with cesarean delivery. Subjects were enrolled list-wise for the comparison group (oral acetaminophen), beginning with patients delivering on May 24, 2022, and working backward until 105 patients were enrolled. For the intervention group (intravenous acetaminophen), subjects were enrolled starting on May 25, 2022, and working forward until 105 patients were enrolled. The primary outcome was total MME used within 24 hours of cesarean delivery. Secondary endpoints included total MME usage until discharge, time to first opioid â€œrescueâ€□ after cesarean delivery, the total number of pain medications administered within 24 hours after delivery and throughout hospital stay (acetaminophen, ibuprofen, ketorolac, hydromorphone, oxycodone), documented bowel movements, breastfeeding success, and length of stay. This study was submitted to the Institutional Review Board for approval as an exempt quality assessment study.

RESULTS: Comparing 105 patients in the oral acetaminophen group to 105 patients in the intravenous acetaminophen group saw no difference in the total MME utilized within 24 hours of cesarean (mean MME of 3.09Â±10.08 compared to 1.92Â±5.38 respectively 95% CI 1.0271 to -3.3795, p = 0.2933) or total MME used throughout entire hospital stay (mean MME of 20.88Â±36.94 compared to 15.0Â±27.05 respectively 95% CI 2.932 to -14.690, p=0.1901). Breastfeeding success outcome was statistically significant, with 85.4% of mothers in the oral acetaminophen group reporting breastfeeding on discharge compared to 72.3% in the intravenous acetaminophen group (p = 0.0270). The remaining secondary outcomes were not statistically significant.

CONCLUSIONS: Intravenous acetaminophen did not decrease total MME compared to oral acetaminophen. Additionally, pain outcomes assessed via opioid utilization in post-cesarean patients compared to oral acetaminophen were not inferior. The results of this quality assessment will be shared with the Inspira Mullica Hill P&T committee to highlight an opportunity to reduce costs by reverting the cesarean section ERAS protocol to include oral acetaminophen without jeopardizing patient care and outcomes.

11:20am – 11:35am T **Development and Implementation of a Pharmacy-Driven Electronic Transitions-of-Care Tool upon Transfer from the Intensive Care Unit** Wild Rose A

Presenters: Kristen Goodrich
Evaluators: Andrew Wherly
Evaluators 3: Jennifer Walls
Evaluators 2: Joanne Heil

TITLE: Development and implementation of a pharmacy-driven electronic transitions-of-care tool upon transfer from the intensive care unit

AUTHORS: Kristen Goodrich, PharmD; Mabel Wong, PharmD, BCPS; Janelle Poyant, PharmD, BCPS, BCCCP

OBJECTIVE: We hypothesize an electronic transitions of care (TOC) tool will decrease the use of inappropriate medications upon intensive care unit (ICU) discharge. The primary objective is medication optimization via pharmacist recommendation acceptance rate.

METHODS: Adults admitted to the Coronary Care Unit or Surgical ICU at Tufts Medical Center for â‰¥72 hours between September 14, 2022 and February 14, 2023 were included. The TOC tool was developed to review and reconcile medication profiles as patients transferred out of the ICU. Critical care pharmacists were responsible for completing the tool within 24 hours of transfer and Medicine/Surgery pharmacists were responsible for following up on any incomplete recommendations. Recommendations were deemed as â€œacceptedâ€□ or â€œnot acceptedâ€□ by comparing recommendations in the handoff tool to actions recorded on the patientâ€™s medication administration record and after visit summary. An anonymous survey was distributed during the post-intervention period to measure satisfaction with and utility of the tool. The primary outcome, defined as recommendation acceptance, was analyzed using descriptive statistics including means, medians, ranges, and percentages.

RESULTS: A total of 15 patients were included in the pre-intervention period (September 14, 2022 to November 13, 2022) and 27 patients were included in the intervention period (November 14, 2022 to February 14, 2022). Critical care pharmacists completed the TOC tool for 37% (n = 10) of patients during the intervention period. The percentage of accepted recommendations will be presented as the primary outcome. Secondary outcomes will include time to recommendation acceptance, length of hospital stay, and 3-day and 30-day ICU or hospital readmission rate.

CONCLUSIONS: This project evaluates the impact of an electronic TOC tool on medication usage as patients are transferred out of or discharged from the ICU. It is anticipated that a pharmacist review will result in increased discontinuation of medications that are no longer indicated.

11:40am – 11:55am A **Clinical Impact of Empagliflozin on eGFR in Patients at a Federally Qualified Health Center With a Predominant Hispanic Patient Population** Empire A

Presenters: Selma Kajtazovic
Evaluators: Carol Botelho
Evaluators 3: Kelly Mullican
Evaluators 2: Kristen Fink

TITLE: Clinical impact of empagliflozin on eGFR in patients at a federally qualified health center with a predominant Hispanic patient population

AUTHORS: Selma Kajtazovic, PharmD, Ashley Rogers, PharmD, BCPS, Vincent Lam, PharmD, Ashwini Ranade, PhD, Alicia Mam daCunha, PharmD, BCACP

OBJECTIVE: The primary objective of this project was to evaluate changes in renal function in patients with type 2 diabetes receiving empagliflozin in a predominantly Hispanic community at a federally qualified health center (FQHC).

METHODS: This study was a retrospective chart review that evaluated the effect of empagliflozin on eGFR from baseline to 12 Â± 2 months of therapy in a predominantly Hispanic patient population at an FQHC. Patients included in this study were prescribed empagliflozin therapy, either as a single agent or combination therapy, and had type 2 diabetes between October 2021 to December 2021. Patients with an eGFR

11:40am – 11:55am C **Characterization of valproic acid use for intensive care unit agitation and delirium: a retrospective chart review** Empire C

Presenters: Tiffany Gardner
Evaluators: Micheal Strein
Evaluators 3: Alyson Esteves
Evaluators 2: Brian Lopez

TITLE: Characterization of valproic acid use for intensive care unit agitation and delirium: a retrospective chart review

AUTHORS: Tiffany Gardner, PharmD; Vanessa Prendergast, PharmD, BCCCP; Hannah Kafisheh, PharmD, BCCCP

OBJECTIVE: The purpose of this study was to characterize valproic acid (VPA) dosing strategies utilized for the treatment of agitation and delirium in the intensive care unit (ICU).

METHODS: This was a single-center, retrospective chart review conducted at an academic medical center between July 1, 2019 and July 1, 2022. Patients were included if they were > 18 years old and received VPA for two or more days in any ICU location for the management of agitation and/or delirium. Patients were excluded if VPA was prescribed prior to admission or was co-administered with a carbapenem. The primary objective was to characterize VPA dosing strategies for the treatment of ICU agitation and delirium. Secondary objectives included assessment of efficacy via changes in Richmond Agitation Sedation Scale (RASS) scores, Confusion Assessment Method for the ICU (CAM-ICU) scores, and de-escalation of concomitant sedative medications. Safety was assessed via monitoring for hepatotoxicity, pancreatitis, hyperammonemia, and thrombocytopenia. Descriptive statistics were utilized to analyze the data.

RESULTS: A total of 44 patients met criteria for inclusion. Eleven patients (25%) received a median VPA loading dose of 1000 mg (Â± 500 mg) or 15 mg/kg (Â± 4.5 mg/kg). The most common initial maintenance doses were VPA 250 or 500 mg every 8 hours (45.5% and 29.5%, respectively) and on day 10 were 500 to 750 mg every 8 hours (39.1% and 26.1%, respectively). The median duration of VPA therapy was 6.6 days (Â± 10.2 days). The percentage of patients with a RASS score > +1 and/or positive CAM-ICU score decreased from prior to VPA initiation to VPA discontinuation or day 10 of therapy, whichever was sooner (36.4% to 9.1% and 38% to 23%, respectively). Hyperammonemia occurred in 13 patients (29.5%).

CONCLUSIONS: VPA dosing strategies for agitation and delirium varied throughout the study, however most patients required a dose increase from the initial starting dose. The findings suggest that initiation of VPA 500 mg every 8 hours was both safe and effective. This was evidenced by improvement in both the RASS and CAM-ICU scores and minimal incidence of adverse effects. Further prospective studies are needed to determine the optimal VPA dosing strategy for the management of ICU agitation and delirium.

11:40am – 11:55am C **Evaluation of the Impact of Transitioning to Subcutaneous NPH Compared to Insulin Glargine after DKA Resolution in Adult Patients** Empire B

Presenters: Alexis Couch
Evaluators: Jason Mordino
Evaluators 3: Trisha Patel
Evaluators 2: Laura Schneider

TITLE: Evaluation of the impact of transitioning to subcutaneous NPH compared to insulin glargine after diabetic ketoacidosis resolution in adult patients

AUTHORS: Alexis V. Couch, PharmD and Maria Cardinale-King, PharmD, BCPS, BCCCP

OBJECTIVE: This study aims to evaluate the impact of the initiation of subcutaneous NPH or glargine after an insulin infusion in adult diabetic ketoacidosis (DKA). The purpose of this study is to identify the optimal agent and the impact on patient outcomes.

METHODS: This is an IRB reviewed, single center retrospective chart review of patients that were on a regular insulin infusion from January 1, 2022 to December 31, 2022. Patients will be divided into two groups: those that received subcutaneous NPH and those that received insulin glargine after transition from the IV insulin infusion. The primary outcome of the study will be the reopening of the anion gap within 5 days after the transition to subcutaneous insulin, and secondary outcomes will include length of stay in the intensive care unit, re-initiation of insulin infusion at any point after the transition to subcutaneous insulin, hypoglycemia within 5 days after transition to subcutaneous insulin and all-cause readmission within 30 days after discharge.

RESULTS: A goal of 50 patients is to be collected and the primary and secondary endpoints will be evaluated using Fisher's exact, Chi-squared, or Mann-Whitney U test as appropriate and the results will be presented.

CONCLUSIONS: It is anticipated that results of this study will shed light on best practices in subcutaneous insulin transition after DKA resolution in adult patients.

11:40am – 11:55am Y **Efficacy and safety for 4-factor prothrombin complex concentrate (4F-PCC) vs. andexanet alfa for reversal of apixaban and rivaroxaban-related intracranial hemorrhage** Empire D

Presenters: MICHAEL ESCANILLA
Evaluators: Mychal Dworet
Evaluators 2: Rebecca Lucarelli

TITLE: Efficacy and safety of 4-factor prothrombin complex concentrate (4F-PCC) vs. andexanet alfa for the reversal of apixaban and rivaroxaban-related intracranial hemorrhage
AUTHORS: M. Escanilla, J. Palummo Harth, YB. Song, D. Nayyer, C. Makosiej
OBJECTIVE: The purpose of this study is to compare the efficacy and safety of 4F-PCC vs. andexanet alfa for the reversal of intracranial hemorrhage (ICH) associated with apixaban and rivaroxaban.
METHODS: A multi-center, retrospective chart review was performed on 418 patients from 4 hospitals over a 3 year timeframe. The primary endpoint was hemostatic efficacy, defined as stability on CT head scan at 24 hours [18-30 hours] following administration of 4F-PCC or andexanet alfa. Secondary endpoints were incidence of in-hospital thrombotic events and in-hospital mortality. Inclusion criteria were patients â‰¥18 years old, use of apixaban or rivaroxaban within 18 hours of hospital presentation, presence of ICH confirmed on CT head scan, and administration of 4F-PCC or andexanet alfa for ICH reversal. Patients with non-ICH bleeding or patients who did not have a follow-up CT scan within the 18-30 hour time window following administration of 4F-PCC or andexanet alfa were excluded.
RESULTS: Of the 418 patient charts reviewed, 59 patients met inclusion criteria [4F-PCC: 29 (49.2%); andexanet alfa: 30 (50.8%)] There was no statistical difference in CT stability at 24 hours for 4F-PCC vs. andexanet alfa [23(79.3%) vs. 26(86.7%)]. Additionally, there was no difference between 4F-PCC vs. andexanet alfa in the incidence of in-hospital thrombotic events [1(3.4%) vs. 0(0%)] or in-hospital morality (6(20.7%) vs. 9(30%)].
CONCLUSIONS: This retrospective comparison suggests that there is no difference in efficacy or safety between 4F-PCC and andexanet alfa for the reversal of ICH-related to apixaban and rivaroxaban use. A major limitation is that this study is likely underpowered due to small sample size. Prospective, head-to-head trials comparing 4F-PCC vs. andexanet alfa are still needed to more effectively compare their efficacy and safety in this patient population.

11:40am – 11:55am I **Impact of Clinical Pharmacists on Transitions of Care Initiatives with Anti-infectives Upon Discharge** Magnolia A

Presenters: Sofiya Olshanskaya
Evaluators: Eun Jin Park
Evaluators 2: Joseph Reilly

TITLE: Impact of Clinical Pharmacists on Transitions of Care with Anti-infectives Upon Discharge
AUTHORS: Olshanskaya.S, Seiple.J, Milewski.A; Penn Medicine Chester County Hospital, West Chester, Pennsylvania.
OBJECTIVE: Per CDC, inappropriate antibiotic use may approach 50% of all outpatient antibiotics prescribed. Promoting a discharge anti-infective guide and pharmacist/provider collaboration can have a positive impact on anti-infective use and patient care.
METHODS: This retrospective chart review and prospective based approach applies to patients at Chester County Hospital (CCH) that were discharged with an anti-infective(s) from June 2022 to March 2023 and from January to April 2023, respectively. Inclusion criteria consisted of patients 18-years-old or older located on three different inpatient units, with respiratory tract, urinary tract (UTI), skin and soft tissue (SSTIs), intra-abdominal, and/or bacteremia infection(s). A comprehensive data collection sheet was utilized and included: type of infection, allergies, renal function, anti-infectives prior to discharge, culture results with susceptibilities, discharge anti-infectives, and 30-day readmissions. Anti-infective appropriateness was assessed based on patientâ€™s disease state, University of Pennsylvaniaâ€™s Health System (UPHS) guidelines, renal dosing policy, and the discharge anti-infective prescribing guide.
RESULTS: Compliance with the UPHS and anti-infective discharge guide, percentage of appropriate anti-infective use, percent of pharmacist intervention, and number of 30-day readmissions will be collected. Results will be presented upon completion of the study.
CONCLUSIONS: It is anticipated that with the positive impact on anti-infective prescribing as a result of the provider-pharmacist collaboration, this project will demonstrate the role for a pharmacist-based patient assessment and intervention to improve anti-infective exposure, patient outcomes, and resistance.

11:40am – 11:55am	I	**Reach for the SAARs: Impact of pharmacist education on antimicrobial stewardship outcomes** *Presenters: Pavan Chary* *Evaluators: Cory Hale* *Evaluators 2: olga mironova* TITLE: Reach for the SAARs: Impact of Pharmacist Education on Antimicrobial Stewardship Outcomes AUTHORS: Pavan Chary, PharmD; Lauren Pino, PharmD, BCPS; Jennifer Lihach, PharmD, BCPS; Danielle Williams, PharmD, BCPS, BCCCP, BCSCP; Peter LaRocco, PharmD, BCPS OBJECTIVE: To examine the impact of pharmacist education to internal medicine hospitalists on antimicrobial stewardship metrics for the broad spectrum agents cefepime, vancomycin, and piperacillin/tazobactam. METHODS: Five educational sessions on urinary tract infections, pneumonia, sepsis, skin/soft tissue infections, and the BioFireÂ® multiplex PCR panels were given to internal medicine hospitalists starting October 13, 2022 until December 29, 2022. Electronic health record (EHR) antimicrobial reports were generated to include patients greater than 18 years of age that received vancomycin, cefepime, and/or piperacillin/tazobactam for empiric antibiotic coverage. The report was generated from July 1, 2022 to September 30, 2022, and from January 1, 2023 to March 15, 2023. Enrolled patients had their charts reviewed for their age, gender, pertinent allergies and reactions, duration of therapy, length of hospital stay, risk factors for MRSA or Pseudomonas, microbiology lab cultures, and the indication for use. In addition, the Standard Antimicrobial Administration Ratio (SAAR) data from the quarters before and after the intervention was evaluated for improvement. RESULTS: This research is currently in progress with results anticipated in mid-April 2023. Preliminary analysis suggests there were no statistically significant outcomes. Results of this study could include a decrease in duration of broad-spectrum antibiotic use, decrease in SAAR, and increased percentage of recipient patients presenting with greater than 2 or 3 risk factors for MRSA or Pseudomonas. CONCLUSIONS: This research may quantify the impact that pharmacists can have on key stewardship outcomes, namely appropriate use of broad-spectrum antibiotics and preserving susceptibility. Pharmacists are inextricably linked to antimicrobial stewardship by virtue of their profession. This research should support the utility that pharmacists can have in this practice setting.	Magnolia B
11:40am – 11:55am	P	**Empty** *Evaluators: Nicole Genovese* *Evaluators 2: Careen-Joan Franklin*	Crystal A
11:40am – 11:55am	2	**Empty** *Evaluators: Toshiba Morgan-Joseph* *Evaluators 2: Ken Bevenour*	Wild Rose B

11:40am – 11:55am Q **Implementation and Evaluation of an Enteral Electrolyte Replacement Protocol at Tufts Medical Center** Magnolia C

Presenters: Alyssa George
Evaluators: Lindsay Gladysz
Evaluators 2: Christine Hancock

TITLE: Retrospective evaluation of electrolyte replacement procedures at an academic medical center

AUTHORS: Alyssa George, PharmD; R.J. Aprile, PharmD, BCPS; Michelle Matthies, PharmD, BCCCP; Tufts Medical Center (TMC), Boston, Massachusetts

OBJECTIVE: The objective of this study is to evaluate the efficacy, timeliness, and route of administration for current electrolyte replacement procedures at Tufts Medical Center, with the intent of implementing an institution-wide enteral replacement protocol.

METHODS: This single-center, retrospective quality improvement project will be implemented at Tufts Medical Center. Eligible subjects include adult patients admitted to a medical, surgical, or intensive care unit who require exogenous electrolyte supplementation. Non-protocolized patients receiving enteral repletion from a general medicine and medical intensive care unit will be evaluated on time from initial laboratory draw to time of electrolyte product administration. Protocolized patients receiving parenteral repletion from medical intensive care units will be examined to determine the number of patients that could have tolerated enteral therapy to assess savings on infusion times and cost. All data will be retrospectively analyzed from September 1 to September 30, 2022.

RESULTS: Current practices of electrolyte repletion at Tufts Medical Center result in both a delay of electrolyte administration and unnecessary use of intravenous formulations. The use of non-protocolized enteral electrolyte repletion was found to be associated with a 4.1 hour delay from timing of laboratory draw to timing of product administration. With the use of protocolized parenteral electrolyte repletion in the intensive care units, 90% of patients in September 2022 were able to tolerate enteral medications at the time of product administration. The estimated savings on cost and infusion times will be further assessed and presented in this subset of patients.

CONCLUSIONS: We hypothesize that implementation of protocol-driven enteral electrolyte replacement will result in faster drug administration, less subsequent subtherapeutic electrolyte levels, and increased physician and nursing satisfaction among the medical, surgical, and intensive care units. Limitations of this study include its single-center nature and inapplicability to patients with advanced kidney or heart disease.

11:40am – 11:55am T **Impact of Pharmacy Intervention on HCAHPS Scores and Readmission Rates in a Community Hospital** Magnolia D

Presenters: Michael Gualano
Evaluators: Scott Shoop
Evaluators 3: Paul Ortiz
Evaluators 2: Pranati Kuchimanchi

TITLE: Impact of pharmacy-led interventions on Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores and readmission rates in a community hospital

AUTHORS: M. Gualano; A. Ramic; D. Pusztai; M. Dworet

OBJECTIVE: HCAHPS scores and readmission rates serve as both measures of quality and reimbursement. The purpose of this study is to assess the impact of a pharmacist led Meds-to-Beds program and first dose education cards on HCAHPS scores and readmission rates.

METHODS: This retrospective observational study assessed HCAHPS scores and 30-day readmission rates after the initiation of two pharmacy-led interventions between April 2022 and March 2023 compared to baseline (October 2021 through March 2022). Implementation of a Meds-to-Beds program was initiated in April 2022 (phase I), and first-dose education cards were initiated in October 2022 (phase II). Data was obtained through third-party entities, PRCEasyView and Vizient clinical database. Patients were included if they were at least 18 years old and admitted to the hospital for a minimum of one night. Patients were excluded if they were admitted to the Behavioral Health Unit or discharged to extended care facilities or hospice. The primary endpoint was the percent change in HCAHPS scores for questions regarding medications. The secondary endpoint was the percent change in 30-day readmission rates. Descriptive statistics were used to assess the impact of each pharmacist-led intervention.

RESULTS: For HCAHPS scores, the total number of respondents thus far is 2,300 [baseline: 803, phase 1: 813, phase 2: 684 (to date)]. Phase 1 of the study resulted in a decrease in HCAHPS scores compared to baseline (61.5 v 63.2; difference of 1.7). There was no change in average 30-day readmission rates percentage between pre-implementation and phase I (10.5 versus 10.8). However, preliminary phase 2 results show an increase in HCAHPS scores compared to baseline (65.6 versus 63.2; change of 2.4). Phase 2 of the study also showed an increase in HCAHPS scores compared to phase 1 of the study (65.6 versus 61.5; change of 4.1). The average 30-day readmission rates are still pending for phase 2.

CONCLUSIONS: Meds-to-beds and first dose medication education cards serve as effective methods for pharmacists to improve HCAHPS scores at mid-sized community hospitals. Meds-to-beds alone did not result in meaningful changes in HCAHPS scores and 30 day readmission rates. Final analysis will identify the impact of both pharmacy-led interventions on all-cause 30-day readmission rates. Future direction includes the use of additional languages and expansion of the education cards to other medication classes.

11:40am – 11:55am T **Implementation of Transitions of Care Hand-off to Ambulatory Anticoagulation Clinic** Wild Rose A

Presenters: Clara Forbes
Evaluators: Andrew Wherly
Evaluators 3: Jennifer Walls
Evaluators 2: Joanne Heil

TITLE: Implementation of transitions of care hand-off to ambulatory anticoagulation clinic

AUTHORS: Clara Forbes, Jared Ostroff, Erica Housman, Parth Patel; Baystate Medical Center, Springfield, MA

OBJECTIVE: Streamline the communication between inpatient warfarin management to the warfarin clinic by implementing a hand-off summary. This project will evaluate whether implementation of this hand-off will enhance patient safety and transitions of care.

METHODS: Retrospective chart review was conducted during two pre-specified 3 month time periods for pre and post implementation of hand-off. Patients appropriate for inclusion were those > 18 years of age admitted to floors covered by the general medicine 1 (GM1) pharmacist at Baystate Medical Center (BMC) who are followed by the anticoagulation clinic and have received at least one inpatient dose of warfarin. Exclusion criteria consisted of patients transitioning to DOAC, status changed to comfort measures only, and those transferring out of the clinic (ex: Discharged to rehab). Patient specific data points were collected from the electronic medical record (EMR) for up to the 7 most recent days prior to discharge. Once the patients were discharged, the GM1 pharmacist prepared a warfarin hand-off summary and submitted it to the Coumadin Clinic via the secure EMR inbox.

RESULTS: Results to be presented include the primary outcomes of the hand-offs impact on transitions of care and patient safety, which will be measured by time to first clinic note in Acelis post-discharge and incidence of INR maintained within therapeutic range at 10 days post-discharge, respectively. Secondary outcomes to be presented include the average number of patients requiring dose adjustments at second clinic visit, 30-day readmission rates for major bleed/thromboembolism, and average time spent per day on warfarin hand-off.

CONCLUSIONS: It is anticipated that this project will demonstrate a role for implementation of a formalized warfarin hand-off summary to enhance both patient safety and transitions of care.

12:00pm – 12:15pm **Empty** Crystal A

Evaluators: Nicole Genovese
Evaluators 2: Careen-Joan Franklin

12:00pm – 12:15pm A **Assessing the Clinical Impact of Pharmacist Home Visits for Veterans Enrolled in Home-Based Primary Care** Empire A

Presenters: Aaron Perfetto
Evaluators: Carol Botelho
Evaluators 3: Kelly Mullican
Evaluators 2: Kristen Fink

TITLE: Assessing the Clinical Impact of Pharmacist Home Visits for Veterans Enrolled in Home-Based Primary Care

AUTHORS: Aaron L. Perfetto, PharmD, Carol L. Botelho, PharmD, BCACP, BCGP

OBJECTIVE: This project will establish clinical pharmacist service expansion of home visits within Home-Based Primary Care (HBPC) at the Veterans Affairs Providence Healthcare System (VAPHS) by identifying interventions made that address medication concerns.

METHODS: The clinical pharmacy service will conduct home visits, in conjunction with other HBPC providers for newly admitted Veterans to the HBPC service at VAPHS from December 2022 to March 2023. In-home visits will be disease state focused to review specific medications, or as a general medication reconciliation and compliance session at initial appointments. The primary endpoint will evaluate recommendations made for drug therapy interventions including initiating, modifying, and discontinuing medications. Other outcomes will include patient adherence issues identified and medication or disease state education provided. An interdisciplinary survey will be conducted within HBPC to assess satisfaction of pharmacy involvement in home visits.

RESULTS: Results will be presented at the Eastern States Conference in May of 2023.

CONCLUSIONS: This pilot program will aim to identify the clinical impact and feasibility of continued pharmacy participation in home visits at the VA Providence Health Care System, as an opportunity for CPPs to provide direct patient care for Veterans with complex medical needs.

12:00pm – 12:15pm C **Empty** Empire C
Evaluators: Micheal Strein
Evaluators 3: Alyson Esteves
Evaluators 2: Brian Lopez

12:00pm – 12:15pm C **Evaluation of Cangrelor Dosing Strategies for Antiplatelet Bridge Therapy at a Large Academic Health System** Empire B
Presenters: Alexander Connery
Evaluators: Jason Mordino
Evaluators 3: Trisha Patel
Evaluators 2: Laura Schneider
TITLE: Evaluation of Cangrelor on Platelet Inhibition When Used as Bridge Therapy In Patients with Coronary Stents
AUTHORS: Alexander Connery, PharmD; Tania Ahuja, PharmD., FACC, BCCP, BCPS, CACP; John Papadopoulos, B.S., PharmD., BCCCP, FCCM; Serena Arnouk, PharmD, BCCCP; Alyson Katz, PharmD, BCCCP; Cristian Merchan, PharmD., BCCCP
OBJECTIVE: The objective of this research is to evaluate the effectiveness and safety of cangrelor doses â‰¤ 0.75 mcg/kg/min as bridge therapy in patients with coronary stents who are unable to receive oral P2Y12 receptor antagonists.
METHODS: This is a retrospective cohort study of adult patients â‰¥ 18 years old who received cangrelor as bridge therapy for at least 6 hours at NYU Langone Health â€“ Tisch/Kimmel campus from January 2015 to October 2022. Patients were excluded if cangrelor was used during percutaneous coronary intervention (PCI) only. Electronic health records were reviewed for baseline demographics, cangrelor characteristics, laboratory data and concomitant medications. All platelet reactivity units (PRUs), as measured by the VerifyNow Assay, were captured for the duration of cangrelor therapy. The primary outcome was the incidence of patients that achieved a goal PRU of

12:00pm – 12:15pm Y **First-line antihypertensive therapies for emergent blood pressure management in hypertensive disorders of pregnancy: does race/ethnicity matter?** Empire D
Presenters: Michelle Montoya
Evaluators: Mychal Dworet
Evaluators 2: Rebecca Lucarelli
TITLE: First-Line Antihypertensive Therapies for Emergent Blood Pressure Management in Hypertensive Disorders of Pregnancy: Does Race/Ethnicity Matter?
AUTHORS: Michelle Montoya, PharmD, Rita Wesley Driggers, MD, FACOG, Christopher Keeys, PharmD, BCPS, Melonie Blake, PharmD, BCPS, Colleen Kepner, MD, FACOG, Stephanie Hatcher, BSN, Paul Norris, PharmD, â€‹Francoise Hoang, PharmD
OBJECTIVE: ACOG recommends labetalol, hydralazine, or nifedipine for severe gestational hypertension.â€¯Calcium channel blockers have superior efficacy to other antihypertensives in chronically hypertensive Black patients and may have similar effect in pregnancy.
METHODS: Charts from a single site were reviewed for inpatients treated from 12/31/20 to 12/31/22 and diagnosed with hypertensive disorders of pregnancy. Patients included experienced an episode of severe gestational hypertension, defined as sustained systolic BP â‰¥ 160 mmHg or diastolic BP â‰¥ 110 mmHg, and received at least one dose of a first-line antihypertensive therapy. Patients were excluded if not treated within 60 minutes of the hypertensive episode. Data collected included race/ethnicity, gestational age, BPs, and choice of antihypertensive therapy. Primary outcome is mean time to BP control, defined as time interval between administration of first antihypertensive to achievement of BP

12:00pm – 12:15pm | **Real World Effectiveness of Fidaxomicin in Patients at High Risk of Recurrence** | Magnolia B

Presenters: Ben Colwell
Evaluators: Cory Hale
Evaluators 2: olga mironova

TITLE: Real-world efficacy of fidaxomicin in patients at high risk for recurrent Clostridioides difficile infection
AUTHORS: Colwell B, Goriacko P, Chang MH, Guo Y; Montefiore Medical Center, Bronx, NY
OBJECTIVE: The objective is to compare the real-world impact of fidaxomicin and vancomycin on Clostridioides difficile infection (CDI) recurrence in a high-risk patient population.
METHODS: This retrospective, matched-cohort study evaluated hospital CDI admissions from January 1, 2016 to November 1, 2022 within the Montefiore Medical Center. Adult patients were included if they had at least one previous recurrent CDI, received at least five days of either fidaxomicin or vancomycin for non-fulminant CDI while admitted, and had at least one additional risk factor for recurrence. The risk factors included age greater than 70, solid organ or bone marrow transplant recipients, broad-spectrum antibiotic use within 30-days, or receipt of chemotherapy/immune-modulating agents within 30 days of admission. Fidaxomicin and vancomycin admissions were matched in a 1:3 ratio. The primary outcome was CDI recurrence at 4 weeks . Secondary outcomes included 90-day CDI readmission and 90-day all-cause mortality.
RESULTS: A total of 363 admissions were reviewed. Sixty-three encounters were excluded due to fulminant CDI, diarrhea from another cause, or use of vancomycin taper therapy. Overall, preliminary data included 68 fidaxomicin and 232 vancomycin admissions. Results are being analyzed. The preliminary data will report the absolute difference and odds ratio of clinical outcomes in an intent-to-treat population. Two sub-group analyses will determine the risk ratios for each recurrence risk factor.
CONCLUSIONS: It is anticipated that this study will find a decreased risk of CDI recurrence at 4-weeks with fidaxomicin treatment as compared to vancomycin.

12:00pm – 12:15pm | **Retrospective Analysis of Cefepime Intravenous Push versus Extended Infusion for the Treatment of Neutropenic Fever** | Magnolia A

Presenters: Thomas Rust
Evaluators: Eun Jin Park
Evaluators 2: Joseph Reilly

TITLE: Retrospective analysis of cefepime intravenous push versus extended infusion for the treatment of neutropenic fever
AUTHORS: Thomas Rust, PharmD; Tracy Krause, PharmD, BCOP; Stephen Saw, PharmD, BCIDP; Hospital of the University of Pennsylvania, Philadelphia, PA
OBJECTIVE: The outcomes associated with intravenous push (IVP) cefepime compared to extended infusion (EI) have not yet been studied. The objective of this study was to evaluate the effectiveness of IVP versus EI cefepime in patients with neutropenic fever.
METHODS: This was a retrospective, single-center, cohort study evaluating patients who received IVP or EI cefepime for at least 48 hours for the treatment of neutropenic fever and were hematopoietic stem cell transplant (HSCT) recipients. Patients were excluded if they were admitted to an intensive care unit (ICU) at the time of cefepime initiation, required renal replacement therapy during admission, received an IVP dose less than 2 grams, or grew a cefepime-resistant organism from initial cultures. Patients were grouped 2:1 EI-to-IVP according to weight >100 kg and autologous versus allogeneic HSCT. The primary outcome was defervescence at 72 hours. Secondary outcomes included 30-day in-hospital mortality, ICU transfer within 72 hours, ICU length of stay (LOS), hospital LOS, breakthrough infection, and escalation of gram-negative therapy within 72 hours. Data was analyzed using independent t-test or Wilcoxon Rank Sum test if continuous or chi-square test or Fisherâ€™s Exact test if nominal.
RESULTS: Of the 120 patients included in this study, 40 patients had received IVP cefepime and 80 patients had received EI cefepime. All baseline demographics were well balanced between groups with the exception of time from cefepime order entry to first dose administration. Concomitant medication administrations were also similar between groups. Defervescence within 72 hours occurred in 28 (70%) patients treated with IVP and 51 (63.8%) patients treated with EI (p = 0.496). No patients experienced in-hospital mortality and median hospital length of stay was not significantly impacted by IVP vs EI administration (18 vs 17.5 days, p = 0.158). None of the additional secondary outcomes studied were significantly different between groups.
CONCLUSIONS: The current study showed no significant differences in clinical outcomes when administering cefepime as IVP or EI for the treatment of neutropenic fever. Larger studies and/or randomized controlled trials are necessary to confirm the findings of this study.

12:00pm – 12:15pm 2 **Empty** Wild Rose B
Evaluators: Toshiba Morgan-Joseph
Evaluators 2: Ken Bevenour

12:00pm – 12:15pm Q **Implementation of high dose naloxone: Guidance for providers on when to use regular versus high dose naloxone in a Veteran population** Magnolia C
Presenters: Catherine Bobenick
Evaluators: Lindsay Gladysz
Evaluators 2: Christine Hancock
TITLE: Implementation of high dose naloxone: Guidance for providers on when to use regular versus high dose naloxone in a Veteran population at risk for opioid overdose
AUTHORS: Nicole Genovese, PharmD, BCGP Pamela Tiavises, PharmD Catherine Bobenich, PharmD Leonard Partanna, PharmD, BCPP
OBJECTIVE: This quality improvement project was implemented to evaluate recommendations for high dose naloxone in a Veteran population at risk for opioid overdose. An order set and education was developed for providers to guide appropriate naloxone prescribing.
METHODS: A risk stratification tool available through Veterans Affairs (VA) Opioid Safety Initiative was used to identify patients at risk for overdose who may benefit from naloxone. A retrospective chart review was conducted to confirm appropriate criteria. Included patients were evaluated by a pharmacist to determine if regular or high dose naloxone is indicated. The VA recommends use of high dose naloxone for history of opioid use disorder, substance use disorder, illicit/nonprescribed substances, and previous overdose. An order set in the electronic medical record was created to guide providerâ€™s decision on when to choose regular versus high dose naloxone for patients at risk for overdose. Following three months of naloxone orders, the prescriptions were assessed for appropriateness of naloxone prescribing according to developed guidance. Education dissemination will be conducted to ensure appropriate prescribing of both regular and high dose naloxone through the order set.
RESULTS: Nine outpatient prescriptions for naloxone 8mg nasal spray were ordered during a six-week trial period. Of the four prescriptions that were appropriate, patients had a history of either substance use disorder (one patient) or opioid use disorder (three patients). All four prescriptions were indicated for risk of opioid overdose. Active opioid prescriptions or substances at the time of naloxone prescribing included heroin use, methadone, or oxycodone. Of the five prescriptions that were not appropriate, patients had an active prescription either for oxycodone, morphine, or tramadol, however there were no compelling indications for high dose naloxone.
CONCLUSIONS: High dose naloxone was successfully implemented at our facility, including an order set to guide prescribing. In general, high dose naloxone prescribing was limited. It was most often prescribed without clear reasoning, other than a current opioid prescription. Appropriate prescriptions were for Veterans with comorbid substance use disorders. Continued education is needed to ensure proper prescribing habits and increase awareness of high dose naloxone and its indications.

12:00pm – 12:15pm T **Evaluation of the impact of inpatient clinical pharmacist counseling and discharge interventions on new insulin start patients discharged from the hospital** Wild Rose A

Presenters: Krina Naik
Evaluators: Andrew Wherly
Evaluators 3: Jennifer Walls
Evaluators 2: Joanne Heil

TITLE: Evaluation of Inpatient Pharmacist Impact on New Start Insulin Patients Discharged from the Hospital
AUTHORS: Krina Naik, PharmD; Jennifer Walls, PharmD, BCPS; Katlyn Wood, PharmD, BCPS
OBJECTIVE: Preparing for discharge becomes more complicated for patients that are discharged and newly started on insulin. The objective of this study is to evaluate the pharmacist impact on new insulin start patients and assess their readiness for discharge.
METHODS: This was a retrospective cross-sectional study, conducted by chart review at Penn Medicine Lancaster General Hospital, from August 1st, 2020 through July 31st, 2022. Patients were included if they were greater than or equal to 18 years of age and insulin was a new medication on their discharge medication list. Patients with an emergency department encounter or those that were discharged to a facility were excluded. The primary end point was a composite consisting of affordability documentation, insulin administration education, and assessment of appropriate insulin and supplies prescribed at discharge. Secondary endpoints included the individual components of the primary composite endpoint, referral rate to outpatient education to the Diabetes and Nutrition Center, readmission within 30 days for glycemic causes and additional pharmacist interventions.
RESULTS: The results of the primary and secondary endpoints will be recorded and presented.
CONCLUSIONS: It is anticipated that this study will demonstrate the value of pharmacist involvement in preparing new insulin start patients for discharge.

12:00pm – 12:15pm T **Impact of Pharmacist Involvement in Transitional Care Management on Hospital Readmissions at St. Lukeâ€™s University Health Network** Magnolia D

Presenters: Alexandra DeMar
Evaluators: Scott Shoop
Evaluators 3: Paul Ortiz
Evaluators 2: Pranati Kuchimanchi

TITLE: Impact of Outpatient Pharmacist Involvement in Transitional Care Management on Hospital Readmissionsâ€¯

AUTHORS: Alexandra DeMar, PharmD; Hilary Weismantel, PharmD, BCACP; Lindsey Rerick, PharmD, BCACP; Lauren Allen, PharmD, BCIDP

OBJECTIVE: The purpose of this study is to determine the impact of pharmacist-led transitional care management (TCM) outpatient on 30-day readmission rates in high-risk patients compared to the standard of care.

METHODS: This retrospective study compared implementing a pharmacist into the TCM process at three primary care offices vs standard of care for TCM without a pharmacist. Data was collected for patients that are considered high-risk for readmission. This was defined as a patient who meets 1 of the 3 criteria: 1) patients admitted with Type 2 Diabetes Mellitus, Heart Failure, or Chronic Obstructive Pulmonary Disease and three or more chronic medication changes at discharge 2) patients with three or more chronic disease states with ten or more chronic medications and three or more chronic medication changes at discharge or 3) patients discharged on a new start anticoagulant. Patients were included if they met the criteria above and were discharged within the health network. Patients were excluded if they had a hospital admission within the past 30-days, admitted for observation, discharged to a skilled nursing facility, or refused pharmacy services. The primary outcome was 30-day readmission rate.

RESULTS: These results are preliminary as research is ongoing (October 20th, 2022 â€“ January 27th, 2023). Patients were divided into two groups: pharmacist intervention (n=50) vs control (n=45). No significant difference in 30-day readmission rate was found (p = 1.00). Number of days to readmission did not differ significantly, however the pharmacist intervention group had more days to readmission compared to control (p = 0.19; 20[17-25] vs 8 [3.75-14.25]). There were 153 Medication Therapy Problems (MTP) identified during pharmacist intervention, which translated into 137 recommendations made. Recommendations were made to providers (104) and patients (33). The acceptance rate of recommendations was 52.5% (55/104) and 100% (33/33), respectively.

CONCLUSIONS: Pharmacist involvement in the TCM process shows identification and resolution of MTP that would otherwise be missed. It is anticipated that this project will demonstrate a need for a TCM pharmacist within the health network. Pharmacists play a unique role compared to other healthcare personnel due to having the capability for quicker resolution of MTP. In conclusion, pharmacist involvement in TCM can prolong days to readmission and may prevent readmission within 30-days in larger populations.