FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Abrahante, Jennifer	jennifer.abrahantepharmd@gmail.com	Baptist Hospital of Miami	Evaluation of a Triage Model for Pharmacist Review of Medication Histories Collected by Pharmacy Technicians in the Emergency Department	Medication history collection is a comprehensive record of the most accurate medication list at the time of interview given available information. The ISMP 2024-2025 Best Practices emphasize verifying appropriateness and resolving medication history discrepancies to enhance safety. The importance of home medication collection accuracy helps ensure patient safety by minimizing medication errors and promoting continuity of care. ASHP guidelines highlight that pharmacist collected medication histories are most accurate, however, utilizing trained pharmacy technicians in the Emergency Department (ED) can optimize resources. A 2024 AJHP study found that implementing a patient risk-scoring tool with pharmacy-technician collected histories improves workflow efficiency and ensures high-risk patients are prioritized for pharmacy-conducted medication histories. Currently, medication history collections at Baptist Hospital of Miami (BHM) are completed by pharmacy technicians on all patients admitted through the ED. The pharmacist then performs a double check to assess accuracy and resolve any discrepancies before finalizing and submitting for provider reconciliation. An internal audit at BHM identified opportunities to improve the accuracy of pharmacy technician medication history collection. Therefore, a 1-hour clinical competency for pharmacy technicians was created and implemented from September 2023 to December 2023. Post-competency education, medication history collection prior to pharmacist validation resulted in a 91% accuracy rate. This identified an opportunity to implement a risk-based triage model for pharmacist review of low-risk medication histories.	Single-centered, retrospective, IRB-exempt, convenience sample review was conducted from February 2025-March 2025 at the BHM ED following the design and implementation of a triage model. The study population included patients 18 years and older, admitted through the ED, whose medication history collection bypassed pharmacist review. Patients with medication histories unable to obtain or incomplete EHR documentation were excluded. A triage model was developed with automated alerts created in the electronic health record (EHR) to triage medication lists meeting validation criteria for pharmacist review. Post-implementation, only those medication histories containing high-risk medications or polypharmacy would require pharmacist review. All other medication histories would bypass pharmacist review, allowing prescribers to proceed directly with reconciliation for admission orders. The primary outcome was percent accuracy of medication histories collected post-triage model. Secondary outcomes included pharmacist time saved, as well as discrepancy type and frequency.	515 patient charts were screened for inclusion to determine 150 charts meeting criteria for review. Out of the 150 medication histories reviewed, 143 were found to be free of discrepancies, reflecting a 95% accuracy rate of technician medication history collections without pharmacist review. The most frequently observed discrepancy was drug omission (6%), followed by drug additions, incorrect frequencies, and incorrect dosages. The time a pharmacist spends per medication history (~5 minutes) and the amount of medication histories collected per day in the ED (~120/day) was used to extrapolate the allocated time saved over a one-month period. An estimated 1,560 medication histories out of 3,600 per month (43%) would bypass pharmacist review, resulting in a total of 130 hours of pharmacist time saved.	Implementation of a medication history triage model for low-risk home medication lists to bypass pharmacist review maintained accuracy. The triage model resulted in saving pharmacist time which could be reallocated for additional clinical services. A key strength of the study was the identification of trends in medication history collection processes. Limitations included the study design, staff adaptability to new processes, and reliance on EHR documentation. Future directions include streamlining the high-risk medication list to further optimize alerts. Most importantly, this study provides evidence for the potential implementation of a triage-model ED workflow process that could be adopted system-wide across Baptist Health South Florida.
Acevedo, Kimberly	kacevedo0129@gmail.com	AdventHealth Celebration	Chromium Supplementation in Patients with Diabetes Requiring Renal Replacement Therapy in the Intensive Care Unit	Chromium is an essential trace mineral involved in blood glucose regulation and is commercially available in the picolinate salt form. Chromium promotes the movement of GLUT4 transporters to the cell membrane, enhancing insulin sensitivity and allowing more glucose to enter the cell. Its use in patients with type 2 diabetes has been studied and shown to be associated with reducing blood glucose levels. Studies also show that levels of trace minerals such as chromium may be reduced in patients receiving various forms of renal replacement therapy. There is little data evaluating chromium's effectiveness in reducing blood glucose levels and total daily insulin requirements in this patient population. This study aims to determine the efficacy and safety of chromium picolinate in hospitalized, critically ill patients with diabetes and renal dysfunction requiring renal replacement therapy.	A retrospective chart review of electronic health records for critically ill patients on renal replacement therapy who received at least four doses of chromium picolinate and insulin for at least 24 hours in either the neurocritical, cardiovascular or medical intensive care units were utilized to screen patients for eligibility. Eligible patients must have had either type 1 or 2 diabetes mellitus and renal dysfunction requiring renal replacement therapy to be included. Any patients with thyroid disorders, pregnant or lactating women, patients previously taking chromium picolinate outpatient or has any reported chromium allergy were excluded from the study. The primary outcome of this study is the reduction of total daily dose of insulin after chromium picolinate supplementation. Secondary and safety outcomes included the percentage of time blood glucose remained within target goal range of 140-180 mg/dL and the incidence of hypoglycemia, respectively. Baseline characteristics were analyzed using descriptive statistics, the Wilcoxon Signed-Rank test was utilized for the primary and secondary outcomes, and the Fisher's Exact Test was used to analyze the safety outcome.	Most patients in the study were Caucasian, non-Hispanic males with an average age of 60 years. Patients were in the ICU for about 10 days and were on chromium for about 6.5 days. The median total daily dose of insulin before chromium supplementation was 34 units (interquartile range, 31), compared to 40 units for patients with chromium supplementation (interquartile range 49.5; p = 0.45). Blood glucose levels were within the target range of 140-180 mg/dL over 72 hours 35% of the time for the pre-chromium phase (interquartile range, 39) and 16% of the time for the post-chromium phase (interquartile range 26; p = 0.19). Incidences of hypoglycemia occurred in three of ten patients in the pre-chromium (30%) phase and five of ten patients in the post-chromium (50%) phase (p = 0.65). There were no differences before and after chromium supplementation for the primary, secondary and safety outcomes.	There was no difference between the pre-chromium and post-chromium phase in the reduction of total daily insulin requirements, percentage of time blood glucose was in target range, or incidences of hypoglycemia. Due to the small sample size, the study was underpowered to detect a difference between pre-chromium and post-chromium blood glucose levels and its ability to reduce total daily insulin requirements in this patient population. A few strengths to note in this study include the patients serving as their own control group. By patients serving as their own control group, personal characteristics that may influence the outcome are held constant to reduce variability. Chromium has a half-life of about 20-30 hours, so to ensure adequate exposure we included patients who received at least 4 doses of chromium. This study also contributes to the limited data available for chromium and its effect on total daily insulin reduction in this patient population. Limitations include the inability to measure serum chromium levels due to the nature of a retrospective study. By measuring serum chromium levels, it will be possible to evaluate how much chromium is left in the body after dialysis sessions which will guide further adjustments to chromium doses in this patient population. There was also an inconsistent amount of corticosteroids utilized among the patients, which could affect blood glucose levels, and there was no account for additional amounts of chromium from tube feeds and/or diets. Future prospective studies with larger sizes are needed to determine whether chromium has a significant effect on total insulin requirements.
Adeyiga, Deji	deji.adeyiga@ufhealth.org	UF Health Jacksonville	Pharmacist-led initiative addressing polypharmacy in older adults presenting to the emergency department after a fall	Falls are the leading cause of injury among older adults aged ≥ 65 years. Potentially inappropriate medications are a known modifiable risk factor for falls, accounting for a prevalence of 65-93%. Polypharmacy increases fall risk when taking more than four medications, without regard of the properties of individual medications. The emergency department (ED) is a unique setting to modify medications known to contribute to falls with a long-term goal of preventing more serious fall-related injuries. Current literature is limited and prior studies have focused on inpatient medication reconciliation which yielded mixed results in fall reduction. In July 2024, our emergency department implemented a policy involving ED pharmacists that addresses polypharmacy and geriatric specific care aiming to reduce the use of high fall-risk medications. The goal of this ED-based initiative of medication reconciliation and pharmacist-led education is to reduce the rate of fall related returns to the ED.	This is a retrospective, single-center study performed at an academic ED that serves over 80,000 patients annually. Patients ≥ 65 years old who present to the ED with a chief complaint of a fall between July 15, 2024 to October 31, 2024 are included. Patients receiving hospice care or patients with an inability to communicate were excluded. Patients were approached by ED pharmacists who performed a medication reconciliation to identify high fall-risk medications. Pharmacists provided direct education to patients about these high-fall risk medications and provided recommendations addressing these medications to the patient's primary care provider (PCP). At 3 months, the electronic health record was reviewed to determine the number of fall-related returns to the ED and to determine if the recommended changes were implemented. Secondary outcomes include class of high-risk medications identified, pharmacists' recommendations made, PCP follow-up, length of stay and mortality.	Most patients in the study were Caucasian, non-Hispanic males with an average age of 60 years. Patients were in the ICU for about 10 days and were on chromium for about 6.5 days. The median total daily dose of insulin before chromium supplementation was 34 units (interquartile range, 31), compared to 40 units for patients with chromium supplementation (interquartile range 49.5; p = 0.45). Blood glucose levels were within the target range of 140-180 mg/dL over 72 hours 35% of the time for the pre-chromium phase (interquartile range, 39) and 16% of the time for the post-chromium phase (interquartile range 26; p = 0.19). Incidences of hypoglycemia occurred in three of ten patients in the pre-chromium (30%) phase and five of ten patients in the post-chromium (50%) phase (p = 0.65). There were no differences before and after chromium supplementation for the primary, secondary and safety outcomes.	While the primary outcome of assessing fall-related returns to the ED within 3 months was not found to be statistically significant, we believe our study was underpowered to detect a difference within the short follow-up period of 3 months. Additional research is needed to determine the long-term efficacy of ED deprescribing programs.
Agalliu, Jessica	jessica.agalliu1@gmail.com	Bay Pines VA Healthcare System	From burnout to balance: strategies to mitigate occupational stress in pharmacy administration	Burnout is a pervasive issue in healthcare, characterized by emotional exhaustion, depersonalization, and reduced personal achievement. The World Health Organization defines burnout as a syndrome resulting from chronic workplace stress that has not been successfully managed. Within the Department of Veterans Affairs (VA), the Reduce Employee Burnout and Optimize Organizational Thriving (REBOOT) initiative identifies key contributors of burnout, including unmanageable workloads, lack of recognition, limited autonomy, and misalignment of values. In pharmacy administration, burnout not only affects individual well-being but also contributes to decreased job satisfaction, increased turnover, and diminished efficiency—ultimately impacting patient care and organizational success. The All Employee Survey (AES), an annual VA-wide tool assessing workplace climate and employee well-being, revealed an increase of burnout symptoms amongst pharmacy administrators from 2023 to 2024 at the Bay Pines Veterans Affairs Healthcare System (BPVAHCS). Given the estimated $149,071 annual cost of pharmacy administrator turnover due to burnout at BPVAHCS, targeted interventions are essential to improve engagement, retention, and overall job satisfaction. This study aims to implement and evaluate strategies designed to enhance workplace recognition, promote well-being, and strengthen engagement among pharmacy supervisors. By addressing the underlying causes of burnout, this project seeks to foster a more supportive work environment and improve organizational outcomes.	This multicenter study aimed to combat the multifaceted issue of burnout by employing various strategies to foster recognition, engagement, and wellness among supervisors. To target recognition, an award was developed utilizing peer nominations and presented at biweekly supervisor team meetings. Award recipients were nominated for various facility-wide awards associated with monetary compensation. Further, a Microsoft Teams channel was created to facilitate engagement and collaboration among supervisors. Key pillars of the Teams channel included anonymous feedback surveys for continuous improvement, and a wellness hub emphasizing mindfulness and self-care practices integrated into the workday. Participation in all interventions was voluntary. The study assessed the impact of these strategies through a mid-study mock survey, distributed anonymously via Microsoft Forms. Results were compared to the 2024 AES scores to evaluate changes in burnout levels. Statistical analyses were utilized to determine the significance of observed trends in employee well-being and engagement.	Utilization of wellness interventions varied, with 66% of participants engaging with resources at least weekly. Microsoft Teams analytics showed peak participation on Mondays, Thursdays, and Fridays. Anonymous feedback was provided by participants and organizational changes are occurring as a result. While the recognition program was well-received, with active nominations and facility-wide visibility, the 2025 mock survey indicated an increase in burnout symptoms. Nearly half (42%) of supervisors reported experiencing emotional exhaustion. Statistical analysis showed a significant change in the number of burnout symptoms experienced ($\chi^2(3) = 8.25$, $p = 0.041$); however, qualitative feedback suggested that external organizational factors contributed to the worsening symptoms.	Despite implementation of recognition and wellness strategies, burnout symptoms among pharmacy administrators increased during the study period. While some participants engaged with the interventions and found them helpful, the overall impact was limited, likely due to confounding external stressors. These findings emphasize the complexity of addressing burnout and highlight the need for broader organizational changes in tandem with targeted well-being efforts. Ongoing efforts will focus on refining and sustaining these initiatives to further evaluate their long-term impact.
Alabre, Neissa	alabreneissa@gmail.com	Health First Holmes Regional Medical Center	Iron sucrose and sodium ferric gluconate complex: a retrospective analysis of adverse reactions in obstetrics and hospitalized patients	Iron deficiency anemia (IDA) is the most common type of anemia. Treatment of IDA involves oral iron supplementation and intravenous (IV) iron. IV iron provides rapid resolution of anemia and should be considered in patients with iron losses too great for oral therapy, malabsorption, or an intolerance to oral therapy. Per the American College of Obstetricians and Gynecologists (ACOG), IV iron maybe used after the first trimester of pregnancy and postpartum, citing decreased adverse reactions and greater hemoglobin concentrations compared to oral iron. Several intravenous (IV) iron formulations are available, including sodium ferric gluconate complex (SFG) and iron sucrose (IS). IV iron may cause minor hypersensitivity reactions such as flushing, urticaria, pruritus, or chest and/or back pressure. Although rare, severe adverse events such as anaphylaxis have been reported, with an estimated incidence of less than 1 in 250,000 administrations. In September 2023, our institution replaced IS with SFG as the preferred formulary drug for iron deficiency anemia. Following this change, an increase in Safety Portal reports regarding adverse reactions to SFG were observed. A subsequent medication use evaluation revealed that a disproportionate number of these reports involved obstetric patients. Currently, no published studies directly compare the incidence of adverse reactions to IV iron in the obstetric population. This study aims to compare the incidence of adverse reactions in obstetric and general hospitalized patients receiving either SFG or IS.	This Institutional Review Board-exempt, retrospective, multi-center study included four hospitals within a Florida health-system. Patients were eligible if they received at least one dose of IV SFG or IV IS between August 2021 and August 2024. The administration of diphenhydramine or IV corticosteroids within one-hour post-infusion was used as a surrogate marker for adverse reactions. When available, manual chart reviews were conducted to document the type and severity of reactions. Medication administration details, including dose and timing, were extracted from the electronic health record Sunrise Clinical Manager (SCM) and reports generated from VigiLanz and Midas Care Management. Patients were excluded if they received both SFG and IS during the same index admission. The primary endpoint was the incidence of adverse reactions following IV iron administration. The secondary endpoint was the incidence of adverse reactions among patients who received premedication, defined as receiving either steroids within the previous 24 hours or diphenhydramine within the previous 12 hours.	A total of 6,347 patients were included (983 obstetric and 5,365 non-obstetric patients) with 11,743 total doses of iron administered (1194 obstetric and 10549 non-obstetric patients). Among them, 41 administrations lead to an iron infusion-related adverse reaction. Within the obstetric population an adverse reaction occurred in 7/1194 (0.005%, p=0.78) of the IV iron administrations. In the general hospitalized population, a reaction occurred in 34/10549 (0.003%, p=0.78) IV iron administrations. More reactions were seen from administrations of SFG compared to IS (29/41, 0.70%). Of the 41 administrations leading to confirmed reaction, 10 occurred after premedications were given prior to IV iron. The rate of adverse reactions was higher in this group compared to those who did not receive premedication (10.3% vs 0.27% p<0.05). Reactions were more likely to occur in the premedication group in patients who received SFG compared to IS (20.9% vs 1.9% p<0.05).	Greater incidence of iron infusion reactions was seen in the obstetric population compared to general hospitalized patients however, this endpoint was not statistically significant. Patients were more likely to have a reaction if they were premedicated prior to receiving IV iron. SFG showed greater rates of iron infusion reactions in both obstetric and general hospitalized patients. Some limitations of this study include possible poor documentation of iron infusion reactions and administration of rescue medications used as a surrogate marker of iron infusion reactions.
Alhamali, Taima	taimahamali@gmail.com	Memorial Hospital Miramar	Bleeding events in hospitalized underweight patients receiving standard versus reduced dosing of enoxaparin for venous thromboembolism prophylaxis	Venous thromboembolism prophylaxis is a mainstay of inpatient hospital care. The standard prophylactic dose of enoxaparin, 40 mg subcutaneous daily, may increase the risk of bleeding in low body weight patients. There are no randomized controlled trials evaluating the optimal dose of enoxaparin for venous thromboembolism prophylaxis in low body weight patients where 40 mg daily may approach therapeutic dosing. However, another important consideration when dosing is the increased risk of thrombosis due to underdosing. This study aims to compare the incidence of bleeding events in hospitalized patients weighing less than 50 kilograms who receive prophylactic dose of enoxaparin. We will analyze the safety and efficacy of standard dosing versus reduced dosing regimens for the prevention of venous thromboembolism.	This study is an IRB-exempt, retrospective, multicenter chart review. Medical records from five hospitals within the healthcare system were analyzed to evaluate adult patients who received enoxaparin for venous thromboembolism prophylaxis December 2023 through August 2024. The study population includes patients aged 18 to 89 years old, weighing 50 kg or less at admission, who have received prophylactic dose enoxaparin for at least 48 hours. Exclusion criteria include use of other anticoagulants for more than 48 hours, pregnancy, presented with thrombosis, active bleeding, baseline platelet count less than 100,000/mm^3, INR greater than 1.5, and creatinine clearance less than 30 ml/min. The primary objective is to compare the incidence of bleeding events defined by The Bleeding Academic Research Consortium (BARC) criteria between patients receiving standard dose enoxaparin (40 mg subcutaneous daily) and those receiving reduced dose enoxaparin (30 mg subcutaneous daily) for venous thromboembolism prophylaxis. The secondary endpoints include differences in rates of thrombotic events and in-hospital mortality. Descriptive and inferential statistics were used for data analysis. A total of 228 was required to reach a power of 80% to detect a difference of 10% between groups for the primary outcome analysis and alpha is set to 0.05.	A total of 282 patients were identified, of which 228 met inclusion criteria and were analyzed. Among these, 167 patients received enoxaparin 40 mg, while 61 patients received 30 mg. The incidence of bleeding events was statistically significantly higher in the 30 mg group when compared to the 40 mg group (8.2% vs 1.8%, p=0.02)(Table 2). The baseline demographics (Table 1) showed that patients in the 30 mg group had a significantly lower body weight and BMI compared to the 40 mg group. In addition, NSAID and antiplatelet use were numerically higher in the 30 mg group with similar durations of enoxaparin therapy between groups. These baseline characteristics may have contributed to the higher incidence of bleeding events observed in the 30 mg group. A fully adjusted cox regression analysis was conducted to adjust for potential confounding factors such as age, gender, weight, BMI, concurrent use of antiplatelet agents and NSAIDs, baseline platelet count, INR, serum creatinine, creatinine clearance, and treatment duration. This analysis showed a comparable risk of bleeding between the groups, with an adjusted hazard ratio of 3.60 (95% CI: 0.48-27.12; p = 0.213). Finally, one thrombotic event occurred in a patient receiving the 40 mg dose after therapy initiation. In-hospital mortality was observed in one patient from each dosing group, showing no difference in mortality between the two cohorts.	In this study of underweight patients receiving prophylactic enoxaparin, the reduced 30 mg dose was associated with a higher number of bleeding events compared to the standard 40 mg dose. This significant increase in bleeding events in the reduced dosing group could have been influenced by age, weight, BMI, and concurrent use of antiplatelets and NSAIDS. Thrombotic events and in-hospital mortality were comparable between groups. These findings suggest that standard dosing may not necessarily increase bleeding risk and could offer similar safety outcomes in this population. Therefore, severely underweight patients with concurrent antiplatelet or NSAIDs use should be evaluated for the risks and benefits of various thromboembolism prophylaxis use.
Al-Homsi, Adnan	Adnan.alhomsi@AdventHealth.com	AdventHealth Daytona Beach	Comparison of mortality outcomes between etomidate and ketamine for rapid sequence intubation	Rapid sequence intubation (RSI) remains the cornerstone of emergency airway management, requiring careful selection of induction agents to optimize patient outcomes.1 Etomidate, acting via the gamma-aminobutyric acid (GABA) receptor complex, provides rapid onset of action while maintaining cardiovascular stability during RSI. However, there is concern regarding adrenal suppression with this agent.2 Ketamine, functioning through N-methyl- D-aspartate (NMDA) receptor antagonism, offers sympathomimetic properties that maintain cardiac output, though its effects in critically ill catecholamine-depleted patients remain debated.3 The optimal choice between these agents remains uncertain in critical care literature. The Society of Critical Care Medicine suggests no significant differences between etomidate and ketamine regarding mortality or hemodynamic parameters.4 However, a recent Bayesian meta-analysis suggested that ketamine might offer a mortality advantage over etomidate with an 83.2% probability of reduced mortality.5 Given this ongoing debate and limited definitive evidence, our study aimed to evaluate mortality differences and clinical outcomes between these agents in critically ill patients requiring emergency airway management at our institution.	This IRB-approved single-center retrospective cohort chart review examined adult patients receiving either etomidate or ketamine for RSI at AdventHealth Daytona Beach. The etomidate cohort was collected during an 8- month period (April 2024 to December 2024), while the ketamine cohort required an extended 24-month collection period (December 2022 to December 2024) due to nationwide supply constraints and limited institutional availability. The primary outcome was 7-day all-cause mortality. Secondary outcomes included 28-day mortality, vasopressor requirements within 24 hours of intubation, ventilation duration, and Intensive Care Unit (ICU) length of stay. Safety outcomes were evaluated by assessing the incidence of newly diagnosed adrenal insufficiency post intubation. Data collection through electronic medical record review included patient demographics, comorbidities, intubation indication, vital signs before and after intubation, APACHE II scores, medication weight-based dosing, number of intubation attempts, neuromuscular blocking agent used, post-intubation intravenous fluids and concurrent steroids administered. Patients were excluded if they had known adrenal insufficiency, required intubation without sedation, had known allergies to either medication, were pregnant, or were under 18 years of age. Chi-square and student's t-tests were used for categorical and continuous variables.	A total of 353 patients were screened for inclusion and exclusion criteria; 247 patients were included in the data analysis (210 patients in the etomidate cohort and 37 patients in the ketamine cohort). Baseline characteristics were similar between the two groups, such as age and comorbidities. The primary reason for intubation amongst the two groups was acute respiratory failure (41.4% and 78.4%) with chronic obstructive pulmonary disease history more seen in the ketamine group (28.1% vs. 32.4%). Additionally, patients given ketamine had higher APACHE II scores (18.7 vs. 21.2), suggesting greater severity of illness. The primary outcome showed similar 7-day (71.9% vs. 70.3%; p=0.84) and 28-day (59.5% vs. 62.2%; p=0.76) survival rates for etomidate and ketamine. The need for vasopressor support within 24-hours of intubation was more frequently observed in patients receiving ketamine as compared to etomidate (64.8% vs. 75.7%; p=0.21). Ketamine recipients required more frequent fluid boluses (13.5% vs. 3.8%) in addition to vasopressor support and were on longer durations of concurrent steroids (1 day vs. 3 days; p=0.32). There was no difference in mechanical ventilation duration (median 3 days, p=0.82), however median ICU length of stay in days was higher for the etomidate group (6 vs. 5, p=0.26). Weight-based medication dosing with ketamine was more often within the recommended dosing ranges for the indication of RSI (mean 1.51 ± 0.64 mg/kg) when compared to etomidate (mean 0.27 ± 0.09 mg/kg). First-pass intubation success rates were comparable for both cohorts (90.1% vs. 100%). The safety endpoint of adrenal insufficiency post-intubation occurred in only 6 patients in the etomidate group.	This retrospective chart review comparing the utilization of etomidate versus ketamine for RSI found no statistically significant difference in 7-day all-cause mortality. Despite higher pre-intubation APACHE II scores and need for vasopressor support post-intubation, the ketamine cohort showed modestly favorable trends in 28-day survival (59.5% vs. 62.2%) and a lower ICU length of stay (median 6 vs. 5 days), although not reaching statistical significance. These findings support safe use of either etomidate or ketamine as induction agents for RSI. Individual patient factors such as reason for intubation, comorbidities, and pre-intubation hemodynamic stability should guide which induction agent is chosen for RSI. There are a few limitations to our study including asymmetric data collection periods due to nationwide supply constraints, unevenly distributed study group sizes, and retrospective nature of data collection. Future studies in critically ill patients are warranted and should confirm findings of possible mortality benefit when comparing induction agents for RSI.

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Alvarez, Sebastian	sebalvarez@mhs.net	Memorial Regional Hospital South	Treatment of Cyclic Vomiting Syndrome and Cannabinoid Hyperemesis Syndrome in the Emergency Department	Cyclic vomiting syndrome (CVS) is a chronic disorder of gut-brain interaction characterized by acute episodes of nausea, vomiting, and retching, separated by episode-free periods. Cannabinoid hyperemesis syndrome (CHS) is a subtype of CVS and associated with chronic, heavy cannabis use. CVS remains underdiagnosed and undertreated. One-half of people with CVS visit the emergency department at least once a year for treatment. Antipsychotics have been used last line for treatment of CVS/CHS resistant to anti-emetics. The primary objective of this study is to assess the efficacy of antipsychotics in treating patients with CVS and CHS in the emergency department.	This study was a retrospective chart review of patients with a clinical diagnosis of CVS or CHS, utilizing Epic Hyperspace across the five hospitals and the 24 hour urgent care within the Memorial Healthcare System. Adult patients admitted into the emergency department with a diagnosis of cyclic vomiting syndrome or cannabinoid hyperemesis syndrome treated with an antipsychotic from January 2023 to June 2024 were included in the study. Patients under the age of 18 and patients with known causes of nausea and vomiting (chemotherapy, pregnancy, pathogen induced vomiting, etc.) were excluded. The primary efficacy endpoint was the number of episodes of emesis following initiation of the antipsychotic requiring emergency department treatment. Secondary endpoints include adverse events due to the antipsychotic, length of stay in the emergency department, the number of episodes of emesis, and the use of rescue antiemetic after initiation of the study medications.	A total of 293 patient encounters were evaluated with 30 patient encounters excluded. Of the 263 encounters assessed, 150 (57%) received an antipsychotic during their ED stay, and 113 (43%) did not receive an antipsychotic as antiemetic treatment. Baseline characteristics between both groups were similar in all data collected except for the number of patients who were using home antiemetic abortive therapy. In the primary objective, after receiving an antipsychotic, 25 (16.7%) patients experienced an episode of emesis, versus 25 (22.1%) patients who did not receive an antipsychotic as part of their antiemetic therapy. A subgroup analysis of patients who were not admitted into the hospital had a median ED length of stay of 239 minutes (201.25-303.75) in the antipsychotic group versus 201 minutes (166.50-272.25) for the non-antipsychotic group. Thirty-six (24%) patients in the antipsychotic group were admitted into the hospital, vs 28 (24.8%) of patients in the non-antipsychotic group.	A lower incidence of emesis was observed in patients who received an antipsychotic as part of their anti-emetic treatment; however, the difference was not statistically significant. There was a longer ED length of stay noted with the patients who received antipsychotic treatment. This is likely due to antipsychotics being reserved for more severe patients who fail first-line antiemetic treatment.
Amago, Giselle	giselle.amago@gmail.com	VA-Miami, FL-Miami VA Healthcare System	Outpatient pharmacy local prescription mailing - a quality improvement and patient safety project	The Veterans Health Administration is the largest integrated health care system in the United States, providing traditional hospital-based services as well as outpatient care to patients. As part of outpatient services, Miami VA Healthcare System also provides operational oversight of delivery of medications. This study aims to improve the outpatient pharmacy processes and ensure timely delivery of medications. The goal is to provide patients their medications timely based on individual needs while choosing the appropriate route of delivery in balancing customer service and accounting for a cost conscience model.	A prospective review of all locally filled medications that are mailed via United Parcel Service of America (UPS) over four weeks. The primary endpoint is to evaluate the appropriate use of UPS shipping methods when factoring in the clinical urgency of the patient care needs. The data collected will be used to identify opportunities to improve the current process in place and to provide a cost avoidance projection following the implementation of strategies identified.	Out of 500 orders that were reviewed, 65% were mailed using the most appropriate route of delivery. Identified areas of improvement include delivery of medications to be given at time of discharge, medication orders for scheduled procedures to be send through United States Postal Service (USPS), urgent medications to be send overnight, and refill orders to be send through Consolidated Mail Outpatient Pharmacy (CMOP). Additionally, when comparing costs of delivery for the selected route versus the preferred one, an extrapolated value of about $9,000/year could be saved in the future if the appropriate delivery route is selected.	Opportunities for improvement were identified and education should be provided to physicians, pharmacists, and pharmacy technicians to ensure a safer and more cost-effective medication-delivery process. Additionally, a shipping selection guide will be created and made available to help with the appropriate selection process. In this way, we will be providing this service to our veterans in a timely, safe, and efficient way.
Ambroise, Garly	Garlyambroise@gmail.com	AdventHealth Kissimmee	Incidence of Serum Sodium Overcorrection with Tolvaptan Compared to 3% Sodium Chloride for Hyponatremia Management	Hyponatremia is a frequently encountered electrolyte disorder among hospitalized patients and is associated with increased morbidity and mortality. For severe or symptomatic cases, prompt management is vital to prevent complications such as seizures; however, controlled sodium correction is vital to avoid serious consequences such as cerebral edema or osmotic demyelination syndrome. One treatment strategy includes 3% sodium chloride (HTS), which offers effective sodium replacement but requires meticulous monitoring due to the risk of overcorrection. Another strategy involves using tolvaptan, an oral vasopressin V2-receptor antagonist, to promote free water excretion, although concerns remain regarding its potential to cause rapid overcorrection and increased healthcare costs.	This retrospective review was conducted at AdventHealth Central Florida Division Hospitals between January 1st 2024, to April 30th2024. Adult patients with serum sodium levels below 125 mEq/L who received either tolvaptan or HTS were included. Patients were assigned to the tolvaptan group (n = 160) or HTS group (n = 70). The primary outcome was the incidence of serum sodium overcorrection, defined as an increase of > 8 mEq/L within 24 hours or > 18 mEq/L within 48 hours. Secondary outcomes aligned with the objectives listed above. Statistical analyses were conducted using appropriate chi-squared statistics, t-tests, or Mann-Whitney U, as appropriate.	Serum sodium overcorrection occurred in 31% of patients in the tolvaptan group compared to 50% in the HTS group (p < 0.05). At the 24-hour time point, 13% of tolvaptan-treated patients experienced overcorrection versus 24.3% in the HTS group (p < 0.05). Patients in the tolvaptan group experienced significantly smaller sodium increases at 48 hours (average change 6.25 vs 9.12 mEq/L; (p < 0.05). Tolvaptan recipients had a more negative fluid balance on day 1 (−627 mL vs. +464 mL; (p < 0.05), while also experiencing a longer treatment duration (2.37 vs. 1.78 days; (p < 0.05). In the tolvaptan group, adherence to institutional sodium monitoring guidelines was lower compared to the HTS group, with reduced order set usage (78.9% vs. 98.6%, (p < 0.05) and fewer sodium checks performed at 12, 24, and 48 hours (p < 0.05). Free water administration did not significantly differ between the tolvaptan and HTS groups.	In this study comparing tolvaptan and 3% HTS, tolvaptan use resulted in significantly lower overcorrection rates within 24 and 48 hours, albeit with a more negative fluid balance and prolonged treatment duration. However, the lesser incidence of overcorrection in the tolvaptan group may have been influenced by less frequent sodium monitoring compared to the HTS group. These findings highlight the critical importance of proactive sodium monitoring regardless of therapeutic modality. Future prospective studies are warranted to refine correction strategies and optimize patient safety.
Apostoli, Greta	apostoli.greta20@yahoo.com	HCA Florida Putnam Hospital	Pharmacist-led protocol of IV ceftriaxone to oral antibiotics in COPD, UTI, and PNA: a retrospective chart review	Intravenous (IV) administration of antibiotics is the initial route in the hospital setting. The transition from intravenous to oral (PO) antibiotics has been studied concluding no difference between the two groups. The majority of physicians are hesitant of converting to oral antibiotics due to the belief of therapeutic failure. The purpose of the study was to evaluate the clinical impact of transitioning from IV ceftriaxone to PO antibiotics.	A retrospective study was conducted at HCA Florida Putnam Hospital. Subjects were divided between two groups: IV versus IV to PO under the setting of chronic obstructive pulmonary disease (COPD), urinary tract infection (UTI), and pneumonia (PNA). Data was obtained from April 2024-April 2025, and an electronic data mining software was utilized to collect patient information. The primary outcome was the clinical impact of IV ceftriaxone to PO antibiotics for worsening symptoms in COPD, UTI, and PNA. Secondary outcomes included length of stay, switch day from IV to PO, 30-day readmission, and day of therapy on ceftriaxone.	In the cohort study, 62 patients total were collected; 30 patients in the oral group and 32 in the IV group. 53% (16/30) of patients in the oral group did not experience worsening symptoms according to physician clinical judgment. 47% of the remaining patients in the oral group did not have any mention of worsening symptoms by the providers and were therefore classified as unknown status. There was no statistical significance in the progression of signs (WBC and temperature) as well as 30-day readmissions. Length of stay (LOS) was greater in the oral group: 4.8 days versus the IV group 2.9 days (p<0.001). Patient preferences and disposition were positively correlated to the increased LOS in the PO group. Day of therapy on ceftriaxone was similar between oral versus IV (2.2 and 2.0 respectively). Average switch day from IV to PO was 3.1 days.	The transition of IV to PO antibiotics is not associated with worsening of symptoms in the setting of COPD, PNA, and UTI.
Aramburo, Jacqueline	1jackiearamburo@gmail.com	Lee Health	Implementation of febrile neutropenia antimicrobial prophylaxis recommendations for acute myeloid leukemia: a pre-post intervention study	Neutropenic acute myeloid leukemia (AML) patients are at high risk for infectious complications. Thus, antimicrobial prophylaxis is a key component of infection prevention. However, literature regarding the use of appropriate prophylaxis in community health systems is lacking. The purpose of this study was to assess the impact of a treatment pathway and order set guidance for antimicrobial prophylaxis in neutropenic AML patients within a large community health system.	This was a multi-hospital, retrospective, pre-post intervention cohort study. The treatment pathway and order set guidance included recommendations for antimicrobial, antiviral, antifungal, and Pneumocystis jirovecii pneumonia (PJP) prophylaxis. Pre-intervention was between January 2019– September 2023, compared to a similar post-intervention time frame from January 2022 – September 2024. Patients were included if they were ≥18 years with an AML diagnosis and had an absolute neutrophil count <1.0x 103 cells/µL. Patients were excluded if they had a concurrent diagnosis of febrile neutropenia or were receiving intravenous systemic antibiotics for the treatment of an infection on admission. The primary outcome was the percentage of patients that received guideline-directed prophylaxis, which was defined as a composite outcome of appropriate antibacterial, antiviral, antifungal, and PJP prophylaxis initiated within 24 hours of admission or onset of neutropenia. Key secondary outcomes included the percentage of patients receiving guideline-directed therapy for each of the subcategories at any point during admission, in-hospital mortality, and development of neutropenic fever.	Of the 125 patients eligible for inclusion, 76 were excluded resulting in 49 patients included. The average age was 65 years and 57% were male. The primary outcome was similar, demonstrating 62.5% and 76% guideline concordance in the pre- and post-groups respectively (P=0.31). However, the percentage of patients receiving guideline-directed therapy at any point during admission was significantly higher in the post- group (62.5% vs. 92%; P=0.013). There was a significant improvement in rates of guideline concordant antibacterial agents (pre- 79.2% vs. post- 100%; P=0.02). No differences were found in the incidence of in-hospital mortality (pre- 8.3% vs. post- 0%; P=0.23) or development of a neutropenic fever (pre- 29.2% vs post-16%; P=0.27). A sub-group analysis showed that 95.2% of patients receiving inpatient chemotherapy were on appropriate prophylaxis agents during admission.	The implementation of antimicrobial prophylaxis recommendations increased the percentage of patients on guideline recommended prophylaxis during admission by 47%, with a significant improvement in appropriate antibacterial prophylaxis. Further studies are needed to support the use and impact of institution specific guidance on clinical outcomes.
Aristide, Jerline	jerlinearistide@gmail.com	Cleveland Clinic Indian River Hospital	Assessment of Heart Failure Guideline-Directed Medication Therapy Adherence and Barriers to Use in Cardiology and Primary Care Clinics	Nearly 6.7 million Americans aged 20 and older have heart failure, and its prevalence is expected to rise to 8.5 million Americans by 2030.1 Heart failure with reduced ejection fraction (HFrEF) is characterized by a left ventricular ejection fraction of less than 40%, as determined by echocardiography, and is associated with structural cardiac remodeling. Current guidelines recommend use of four medication classes for heart failure with reduced ejection fraction (HFrEF): sodium-glucose cotransporter-2 inhibitors, angiotensin receptor antagonists or neprilysin inhibitors, beta-blockers, and mineralocorticoid receptor antagonists. These medications improve the quality of life and reduce mortality in HFrEF patients. Reaching target doses, as demonstrated in clinical trials, is crucial, yet studies show that adherence to guideline-directed medical therapy (GDMT) remains suboptimal in practice.2 Barriers include physiological factors, comorbidities, intolerance, financial constraints, and other patient-specific limitations, leading to gaps in effective GDMT implementation. Comorbidities such as hypertension (HTN), atrial fibrillation (AF), and diabetes mellitus (DM) are frequently associated with heart failure and may be linked to adverse clinical outcomes.3 This study aims to assess the proportion of HFrEF patients at cardiology and primary care clinics of a community hospital, receiving the four pillars of GDMT at target doses and identify barriers to adherence.	This retrospective cohort study involved a chart review using EPIC for adult patients (≥18 years) in the outpatient setting diagnosed with heart failure with reduced ejection fraction (HFrEF) between August 1, 2023, and August 1, 2024. Eligible patients had at least one encounter in both primary care and cardiology within the Cleveland Clinic Indian River network during the study period. The primary outcome was the proportion of patients prescribed all four pillars of guideline-directed medical therapy (GDMT) at target doses. Patients not meeting this criteria were categorized based on use of 0, 1, 2, 3, or 4 pillars at any dose. Secondary outcomes included factors associated with GDMT adherence or barriers to optimal therapy, such as comorbidities, severity of chronic kidney disease, percent of patients hospitalized during the study period, reported adverse drug events, and whether patients were co-managed by a specialized heart failure clinic (defined as ≥2 visits during the study period).	Of 442 patients screened, 288 had an LVEF recorded; 95 had an LVEF ≤40%. Sixty-five patients met inclusion criteria, having at least one visit with both primary care and cardiology. Only 1 patient (1%) was on all four pillars of guideline-directed medical therapy (GDMT) at target doses. At any dose, 23 patients (34%) were on all four pillars, 20 (30%) on three, 18 (27%) on two, 3 (4%) on one, and 3 (4%) on none. For secondary outcomes, 26 patients (39%) had documented heart failure visits, 35 (52%) were hospitalized, 24 (36%) had ≥3 comorbidities, and 14 (20%) experienced adverse drug events attributed to GDMT. A significant association was found between GDMT pillars at any dose and heart failure clinic visits (Fisher's exact p = 0.025), with post-hoc analysis indicating that patients on fewer medications were more likely to have no visits, while those on full GDMT were more likely to have heart failure clinic visits (p=0.032).	The results of the study indicate a non-statistically significant relationship between patients on 0,1,2,3, or 4 pillars at any dose and comorbidities such as type II diabetes mellitus, hypertension, hyperlipidemia, atrial fibrillation, obesity, and CKD severity. However, patients with at least 2 heart failure clinic visits compared to those with none, were numerically on more guideline-directed medications for heart failure. Although the sample size is small, this study demonstrates the need for close monitoring to ensure appropriate care as those seen by these specialists were mostly on all pillars of GDMT and only 1% of patients were on all 4 pillars at target doses. Limitations of the study include small sample size, poor documentation of adverse drug events and reasons for discontinuation of therapy, and limited timeframe as some patients may have held therapy briefly due to acute conditions. This study provides primarily observational data, and direct causal relationships for several outcomes cannot be determined. However, it offers valuable insight into prescribing patterns at Cleveland Clinic Indian River, which can hopefully guide future quality improvement initiatives, support the development of best practices, and inform larger-scale studies.
Ariza, Bria	briaariza@gmail.com	HCA Florida Trinity Hospital	Evaluating Sugammadex Vial-Splitting as a Cost-Savings Initiative	Sugammadex is a commonly used neuromuscular blockade reversal agent, but its high cost has led healthcare systems to explore cost-containment strategies. Vial-splitting, as supported by previous studies, has shown potential in reducing overall expenses. In September 2024, a vial-splitting protocol was introduced at HCA Florida Trinity Hospital, with pharmacy technicians aliquoting two 500 mg vials into five 200 mg doses. This study retrospectively analyzed the financial and operational impact of this intervention.	A retrospective longitudinal study was conducted from September 1, 2024, to December 31, 2024. Data were collected on the number of 200 mg doses prepared, doses wasted, and associated costs. The average wholesale price (AWP) per 200 mg dose was $114 with the vial-splitting method, compared to $155.59 per commercially available 200 mg vials. Additionally, drug waste from expired doses exceeding the 10-day beyond-use date was quantified. The primary outcome was the adjusted total sugammadex spend per OR case, incorporating drug cost, supplies, and waste.	Over the 4-month study period, 326 sugammadex 200 mg doses were prepared through vial-splitting using the manufacturer 500 mg vials. The cost, including drug and supplies, to prepare each 200mg dose via vial-splitting was $115.36, compared to $155.59 per dose when using manufactured 200mg vials. Twelve aliquoted doses (3.7%) were discarded due to expiration, resulting in a waste-related loss of $1,384.32. After accounting for this waste, the adjusted average cost per dose was $119.61. Despite the minimal waste, the vial-splitting approach remained cost-effective, resulting in a per-dose savings of $35.98 compared to manufactured 200mg vials and total savings of $11,729.48 across all doses prepared.	The implementation of a sugammadex vial-splitting protocol demonstrated notable cost savings despite minimal waste due to expiration. These results support vial-splitting as a financially viable strategy for institutions seeking to reduce drug spending in high-utilization settings like the operating room. Hospitals seeking to reduce medication expenses may benefit from adopting similar vial-splitting protocols, contributing to more sustainable healthcare practices.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Ashford, Neshae	neshae_ashford@yahoo.com	HCA Florida Northside Hospital	Potassium Response to Sodium Polystyrene Sulfonate versus Sodium Zirconium Cyclosilicate for Treatment of Asymptomatic Hyperkalemia in Emergency Department Patients	Hyperkalemia is estimated to be responsible for over 800,000 emergency department (ED) visits each year. Hyperkalemia is defined as a serum potassium level >5.0 mEq/L and can lead to fatal cardiac arrythmias if left untreated. The management of hyperkalemia requires a multi-modal approach incorporating various medications, including potassium binding agents. Our institution switched from sodium polystyrene sulfonate (SPS) to sodium zirconium cyclosilicate (SZC) as our preferred potassium binder in December 2021. The purpose of this study is to compare the potassium lowering effect of SPS and SZC in patients presenting to the ED with acute asymptomatic hyperkalemia.	The study is a single-center, retrospective chart review comparing the potassium lowering effect of SPS and SZC in adult patients presenting to the ED with asymptomatic hyperkalemia. ED patients who received SPS from January 1, 2020 through December 2021 or SZC from January 2022 through December 2023 were randomly sampled until 100 patients meeting inclusion criteria were identified for each group. Patients were included if they received either SPS or SZC and insulin for a serum potassium greater than 5.5 mEq/L. Patients were excluded if they were on chronic SPS or SZC therapy, diagnosed with diabetic ketoacidosis or hyperglycemic hyperosmolar state, received dialysis prior to repeat potassium level, had a recent bowel obstruction, received succinylcholine, had concurrent use of sorbitol, or were a member of a protected population. The primary outcome was change in serum potassium from baseline to first repeat level following SPS or SZC administration. Secondary outcomes included incidence of hypokalemia, hypomagnesemia, and hypocalcemia. Statistical analysis was done using the chi-squared test and two-sample t-test. This study provides a comparison of potassium binding agents for acute potassium lowering in the ED.	A total of 384 patients matching the initial criteria of ED patients who received SPS from January 1, 2020 to December 31, 2021 or SZC from January 1, 2022 to December 31, 2023 were screened to identify the pre-determined sample size of 100 patients per group. The patient characteristics were similar between the SPS vs. SZC groups including gender (male 56% vs. 62%), average age (71 vs. 71), average weight (81 vs. 84 kg), average height (66.55 vs. 67.41 inches) and baseline labs. The dosage of medication administered varied in the SPS group, with 66% of patients receiving the average SPS dose of 30 grams. The SZC group however, maintained a fixed dose of 10 grams for each patient. As additive therapy to the potassium binder, the SPS group compared to the SZC group were as followed 100% of patients received insulin, (80% vs. 67%) received dextrose, (56% vs. 60%) received calcium gluconate, (7% vs. 7%) received calcium chloride, (37% vs. 31%) received sodium bicarbonate, (23% vs. 17%) received albuterol nebulized solution, (12% vs. 15%) received albuterol/ipratropium nebulized, (16% vs. 12%) furosemide and (3% vs. 0%) bumetanide. The average baseline potassium was higher in the SZC group compared to the SPS group (6.4 mEq/L vs. 6.27 mEq/L, p=0.221). Other baseline labs were comparable: levels of magnesium (2.38 vs. 2.51, p=0.251), calcium (9.44 vs. 9.33, p=0.410) and glucose (189 vs. 147, p=0.029) were mostly higher in the SPS group compared to the SZC group, excluding magnesium, but not statistically significant. We identified that there was not a statistically significant difference in the mean change in serum potassium level from baseline to first repeat level following administration of SPS versus SZC (-1.27 mEq/L vs. -1.27 mEq/L, p=0.973). There was not a significant difference in incidence of hypokalemia (5% v. 4%; p=0.733) or hypocalcemia (12% v. 6%; p=0.138) in patients who received SPS compared to SZC, however patients in the SPS group experienced significantly more hypomagnesemia (12% v. 3%; p<0.016).	Sodium polystyrene sulfonate and sodium zirconium cyclosilicate have similar potassium lowering effects, as evidenced by the average decrease in potassium level in each group of patients being treated for acute hyperkalemia in the emergency department. While there was not a difference in potassium lowering effect, SPS was associated with a higher incidence of hypomagnesemia, potentially supporting increased safety with the use of SZC. Further studies are needed to assess potassium binders and their effect on potassium levels.
Assil, Rim	assilr2@ccf.org	Cleveland Clinic Florida, Weston	Evaluation of a 72-hour protocol for meropenem in a community hospital	Antibiotic resistance and the habit of overprescribing have emerged as escalating global concerns for more than ten years. As resistance increases, the range of effective treatments against infections and related deaths is shrinking. The growing challenge posed by Carbapenem-resistant Enterobacterales (CRE) prompted the national action plan for Combating Antibiotic-Resistant Bacteria (CARB) to broaden its evidence-based strategies and objectives to better manage antibiotic use. The CARB action plan for 2020-2025 advocates for a cooperative approach to formulate policies and procedures that reinforce the fundamental aspects of hospital antibiotic stewardship. In response to cases of potentially unnecessary, redundant, or excessively long treatments, a community hospital initiated a pharmacy-led protocol in 2019. This protocol mandates an automatic stop of antimicrobial orders after 72 hours unless there is a consultation with an Infectious Disease (ID) specialist. The purpose of this observational comparative cohort study is to assess the impact of the 72-hour automatic discontinuation protocol on meropenem orders issued by non-infectious disease specialists	This is institutional review board-approved retrospective, observational, independent, comparative cohort evaluating the clinical impact of 72-hour meropenem stop in absence of ID specialist consult. Meropenem orders started before September 2019 reflecting the period before the initiation of this protocol will be evaluated in patients admitted to the Surgical ICU (SICU), Medical ICU (MICU) and non-ICU patients compared to the period after September 2019 evaluating the same patient population respectively. This study included adult patients from September 2019 up until August 2024 aged 18 years and older who had meropenem ordered by non-ID providers. Patients with a documented life-threatening allergic reaction to penicillin, such as anaphylaxis, or an unknown allergic reaction that led to the escalation of carbapenem use, as well as those with a history or current diagnosis of Extended Spectrum Beta-Lactamase (ESBL) infections were excluded. The primary outcome evaluated clinical resolution defined as the number of patients experienced clinical improvement. Clinical improvement is defined by preset criteria as the following: Clinical improvement for ICU patients, downgrading from ICU OR meeting 2 of the following criteria, white blood cells (WBC) trending down on day 1 and day 3 and temperature trends on day 1 and day 3. As for the non-ICU the definition is meeting 2 of the following criteria: WBC trending down on day 1 and day 3 and temperature trends on day 1 and day 3. Descriptive statistics were utilized to describe the data. Continuous data from baseline characteristics were reported as mean, median and percentages. Primary and secondary outcomes were conducted and compared using Fisher Exact for dichotomous variables and Student's t-test for continuous variables using Stata software	A total of 3000+ charts were reviewed, 170 patients met the inclusion criteria. Out of the 170 patients 89 were evaluated in the ICU-group; further divided into prior and post protocol-implementation groups, 45 and 45 patients respectively. In this cohort, 50 patients were males (56%), the average age was 62 years, and the main infection source was respiratory tract in both arms. The primary outcome occurred in 34 patients out of 45 in the pre-protocol (76%), and in 34 patients out of 45 post-protocol-implementation (76%) (RR,1.0; 95% CI, 0.62 to 1.6; P-value 1.000). As for the non-ICU cohort, 77 patients were evaluated, 32 in the pre-protocol group and 36 in the post-protocol group. Thirty-two were males (45%) and the average age was 79 years. The main infection source was gastrointestinal in pre and post protocol arm. The primary outcome occurred in 27 out of 32 (84%) patients in the pre-protocol group and 36 out of 38 (94%) in the post-protocol group (RR,1.1; 95%CI, 1.0 to 1.3; P-value 0.15).	The CARB action plan has highlighted the need to expand strategies for more effective antibiotic management. This study does not support the idea that a three-day stop date negatively affects clinical outcomes due to concerns on orders being discontinued prematurely. Conversely, it suggests that the increase in ID consultations may contribute to more appropriate antimicrobial use. Limitations of this study include its retrospective design and the potential impact of SARS-CoV-2 on antibiotic selection and longer therapy durations due to increased clinical severity in the post-2019 group
Atwan, Rama	Ratwan@mhs.net	Memorial Regional Hospital	Evaluation of a Bivalirudin Dosing Titration Protocol in Patients with Temporary Mechanical Heart Pumps	Temporary heart pumps are commonly utilized to restore hemodynamics and protect the myocardium. Use as a bridge to permanent ventricular assist devices and heart transplants is increasing. Temporary heart pump can increase thrombotic risks and requires anticoagulation therapy. Historically, heparin was recommended in the purge and/or systemically, to prevent pump thrombosis, however, Memorial Regional Hospital converted to bicarbonate purge and bivalirudin to evade heparin's adverse effects in prolonged use. Information on bivalirudin use in waitlisted, inpatient heart transplant patients is limited. Therefore, the purpose of this study was to evaluate a nursing bivalirudin titration protocol before and after implementation.	A retrospective cohort chart review was conducted on admitted adult heart transplant waitlisted patients with a temporary heart pump at a 797-bed community hospital from May 23, 2024, to September 23, 2024. Exclusion criteria include concurrent anticoagulation therapy, pre-existing coagulopathy, bleeding diathesis or active bleeding, additional cardiac mechanical support, and incomplete documentation. The primary objective was to compare the time to achieve therapeutic activated partial thromboplastin time (aPTT) before and after protocol implementation. Secondary objectives included assessing the time spent within the therapeutic aPTT range and evaluating bleeding and thrombotic events. Descriptive statistics were used to describe the data. Mann-Whitney U test was applied to compare the nominal variables while the Student's t-test was used to compare continuous variables before and after implementation of the protocol. A p value < 0.05 was considered significant. The target aPTT range was defined as 50 to 60.9 seconds in the physician-driven titration protocol and 45 to 60.9 seconds in the nursing-driven titration protocol. Bivalirudin was considered to be at a therapeutic dose once the aPTT value fell within the respective target range. Compliance with the protocol was assessed differently for each group. In the physician-driven protocol group, compliance was determined by whether aPTT levels were drawn appropriately—defined as within +2 hours of the indicated time per protocol. In the nursing-driven protocol group, compliance was assessed based on both the timing of the aPTT level draws and whether subsequent dose adjustments were made correctly in accordance with the protocol recommendations based on the resulting aPTT values. Bleeding events were identified through chart documentation, laboratory findings, and imaging. The severity of bleeding events was classified according to the Bleeding Academic Research Consortium (BARC) criteria. Thrombotic events were similarly identified through chart documentation and imaging.	A total of 24 patients were included. The median was 56 years old and the majority were male (87.5%). All patients required temporary mechanical circulatory support due to cardiogenic shock, most commonly managed with the Impella 5.5 device. The most frequent comorbidities were heart failure and hypertension, with an average baseline ejection fraction of 23%. The nursing-driven protocol group achieved therapeutic aPTT significantly faster than the physician-driven protocol group (13.25 vs. 41.67 hours, p = 0.022). Although the duration of maintaining therapeutic aPTT was not significant between groups (p = 0.147), 47% of total bivalirudin infusion hours under the physician-driven protocol were within the therapeutic range (5,904.62 out of 12,816.85 hours), compared to 75% under the nursing-driven protocol (8,956.56 out of 12,009.50 hours). Bleeding events occurred in 38% of patients, with significantly fewer events under the nursing protocol (33% vs. 69%, p = 0.0328). Thrombotic events were observed in 25% of patients, with more events occurring under the nursing-driven protocol, though this difference was not statistically significant (p = 0.1122). Overall, 61% of aPTT values were within the therapeutic range with the nursing-driven protocol group achieving a higher proportion of in-range values (76% vs. 47%). Protocol adherence was also higher in the nursing-driven protocol group (60% vs. 51%) of the overall 55% of protocol adherence.	Implementation of a nursing-driven bivalirudin titration protocol significantly improved time to therapeutic aPTT and increased time spent within the therapeutic range, without increasing bleeding. Adherence to protocol was notably higher in the nursing-driven protocol group compared to the physician-driven protocol group. These findings suggest that a standardized, nursing-driven approach to bivalirudin titration in patients with temporary heart pumps awaiting transplantation will optimize care and may improve outcomes.
Awad, Salma	smawad@browardhealth.org	Broward Health Medical Center	Use of Factor Products in Cardiac Surgery-Related Hemorrhage	Cardiac surgery is commonly associated with significant hemorrhage, occurring in 2-15% of open-heart surgeries. Management of hemorrhage during cardiac surgery with transfusion of allogenic blood products has been shown to be an independent risk factor for adverse outcomes. Recombinant Factor VIIa (rFVIIa) and four-factor prothrombin complex concentrates (4F-PCC) are frequently used to improve hemostasis with recent studies showing no significant difference in thrombotic events. Previous data suggest rFVIIa may reduce reoperations and transfusions, while 4F-PCC has similar transfusion needs but a higher risk of AKI, prolonged ICU stays and increased in-hospital mortality. The purpose of this study is to evaluate the use of rFVIIa and 4F-PCC in managing cardiac surgery related hemorrhage.	A retrospective cohort chart review was conducted on adult patients who underwent cardiac surgery and experienced bleeding requiring intervention with rVIIa, 4F-PCC, or both at a 716-bed community hospital from September 6, 2022, to September 25, 2024. Exclusion criteria included less than 18 years old, have history of congenital bleeding disorder, required extracorporeal membrane oxygenation (ECMO), refused blood products, or are included in protected populations such as pregnant or incarcerated persons. The primary objective was the amount of pRBC required 0 – 6 hours after receipt of rFVIIa or 4F-PCC. Secondary objectives included hospital length of stay (LOS) and in-hospital mortality. Secondary safety objectives consisted of thrombotic events during admission and acute kidney injury (AKI) within 3 days of surgery using RIFLE criteria. Descriptive statistics were used to describe the data. Mann-Whitney U test was applied to compare the nominal variables while the Student's t-test was used to compare continuous variables. A p value < 0.05 was considered significant. Additional outcomes evaluated in this study included the aggregate amount of blood products given up to 18 hours after initial factor product, need for reoperation due to uncontrolled hemorrhage, and safety outcomes such as chest tube output.	Out of 81 patients, a total of 49 were included in the study, with an average age of approximately 65 years. The majority of the cohort were male (77.5%). Among the types of cardiac surgeries performed including isolated coronary artery bypass grafting (CABG), CABG and valve procedures, isolated valve procedures, aortic procedures, and other cardiac operations, the most common procedure in the rFVIIa group was aortic procedures (38%), whereas isolated CABG accounted for the highest proportion in the 4F-PCC group (37%). There was no statistically significant difference in the amount of pRBC administered within 0–6 hours following the administration of either rFVIIa (n=21) or 4F-PCC (n=16) (p = 0.4357). The mean hospital length of stay was 16.49 days in the rFVIIa group compared to 19.76 days in the 4F-PCC group; however, this difference was also not statistically significant (p = 0.314; 95% CI, [-9.79 to 3.24]). In-hospital mortality occurred less frequently in the rFVIIa group compared to the 4F-PCC group (0.09% vs 0.18%, p = 0.4376). The incidence of thrombotic events did not significantly differ between the two groups (p = 0.4178). Regarding AKI within three days of surgery, 37.5% of patients in the 4F-PCC group developed AKI, with 66.7% classified as "risk" and 33.3% as "injury" according to RIFLE criteria; none met the criteria for "failure." In the rFVIIa group, 23.8% developed AKI, with 40% classified as "risk" and 60% as "injury," and similarly, none reached the "failure" category. Despite the higher incidence of AKI in the 4F-PCC group, this difference was not statistically significant (p = 0.3838).	In this single-center, retrospective cohort study, no statistically significant differences were identified between rFVIIa and 4F-PCC with respect to hemostatic efficacy, hospital length of stay, in-hospital mortality, thrombotic events, or AKI following cardiac surgery-related hemorrhage. These findings suggest that both rFVIIa and 4F-PCC may be viable options for managing refractory bleeding in cardiac surgery patients without a significant difference in safety or efficacy outcomes. Further prospective, randomized controlled trials are needed to better define the optimal use of factor products in this setting
Awobusuyi, Dolapo	dolapoawobusuyi@outlook.com	Mayo Clinic Florida	Pharmacist-led empiric piperacillin-tazobactam de-escalation among patients with Community-Acquired Intra-Abdominal Infections	Piperacillin-Tazobactam (PTZ) is often used to treat community-acquired intra abdominal infections (CA-IAIs) despite common causative pathogens being susceptible to more narrow-spectrum agents such as ceftriaxone and metronidazole. The susceptibility to PTZ versus the predominant bacteria involved in CA-IAI which includes Escherichia coli, Klebsiella spp, Proteus spp, Enterobacter spp, Streptococci, and anaerobic bacteria have declined. The overuse of broad-spectrum antibiotics is a leading cause of antimicrobial resistance. Multidrug-resistant Pseudomonas is classified by the Centers for Disease Control and Prevention as a serious threat of concern to human health affecting approximately 33,000 hospitalized patients each year. Pharmacists play a major role in antimicrobial stewardship and de-escalation of antibiotics. The purpose of this study was to evaluate the impact of a pharmacist-led algorithm involving the de escalation of PTZ to ceftriaxone and metronidazole on the duration of PTZ.	This is an IRB approved retrospective cohort study that was conducted at an academic medical center. Patients were eligible for inclusion if they were admitted with CA-IAI empirically placed on PTZ between January 1st, 2022, through June 30th, 2022, and January 1st , 2024, through June 30th, 2024. Patients were excluded if they had a concomitant infection requiring the use of PTZ, pregnant, age ≥ 70 years old with concomitant malignancy, diagnosed with sepsis or septic shock (defined as the presence of acute organ dysfunction ≥ 2 new SOFA points plus evidence of infection), received a solid organ or bone marrow transplant, received IV antibiotics in the past 90 days, had a diagnosis of cholangitis, pancreatitis, isolation of Enterococcus and/or P. aeruginosa from intra abdominal fluid or abscess cultures and/or drained in the last year. The primary outcome was PTZ length of therapy before and after algorithm implementation. The secondary outcomes were to compare hospital length of stay (LOS), and treatment associated complications during the current hospitalization pre-implementation vs post-implementation of the algorithm. Treatment associated complications were defined as post-operative infections including surgical site infection, development of new intra-abdominal abscess, readmission to the hospital within 30 days due to intra-abdominal infection, development of Clostridioides difficile (C. diff) associated diarrhea, and medication toxicity such as acute kidney injury, hepatotoxicity or hematologic abnormalities. All statistical analysis were performed using BlueSky Statistics software v. 10.3. The primary outcome was analyzed using linear regression and secondary outcomes were analyzed using logistic regression. Categorical variables were analyzed using Fisher's exact test and continuous variables were summarized using Wilcoxon rank sum-test with the sample mean. P-values less than 0.05 will be considered as statistically significant.	Baseline characteristics are outlined in Table 1. Compared with patients in the pre intervention group, those in the post-intervention group had a mean 1.2-day reduction in PTZ length of therapy (2.3 vs. 1.2 days, p < 0.001). There was no difference in LOS, (β= 0.001, 98% CI -1.29-1.29; p=0.477), hospital readmission within 30 days due to intra-abdominal infection (OR 0.85, 98% CI 0.51-1.44; p=0.59), treatment associated complications during current hospitalization (OR 0.77 98% CI 0.45-1.32; p=0.41), development of C. diff associated diarrhea (OR 3.29, 98% CI 0.77-22.4; p=0.18), or medication toxicity (OR 2.07 98% CI 0.79-6.08; p=0.16) (Table 2).	Pharmacist-led intervention decreased PTZ utilization and secondary outcomes were overall similar between the two groups. The use of narrow-spectrum antibiotics for the empiric treatment of CA-IAI did not lead to adverse clinical outcomes and may contribute to decreased incidence of anti-pseudomonal resistance. This suggests that pharmacists play a crucial role in mitigating antimicrobial resistance, highlighting the potential for strategic antibiotic stewardship to optimize therapeutic outcomes.
Bahamonde, Jennifer	jennife.bahamonde001@gmail.com	Broward Health Medical Center	Levetiracetam Prophylaxis vs. no Antiseizure Medication Prophylaxis in Patients with Mild Traumatic Brain Injury at a Level 1 Trauma Center	Traumatic brain injury (TBI) affects over 27 million individuals globally each year[1], with mild TBI (mTBI) accounting for more than 75% of cases[2]. Post-traumatic seizures (PTS), particularly early seizures, are associated with worsened neurological outcomes, increased morbidity, and the potential development of post-traumatic epilepsy[3]. While guidelines support seizure prophylaxis in moderate to severe TBI[4], data are limited in mTBI, and the role of antiseizure medication—particularly levetiracetam (LEV)—remains unclear. This study aims to evaluate the impact of LEV prophylaxis compared to no antiseizure medication (ASM) on outcomes in patients with mTBI.	This retrospective cohort study was conducted at a Level I trauma center and included patients admitted with mild traumatic brain injury (mTBI) between June 2022 and December 2023. Patients were identified through the institutional trauma registry and included if they had an admission Glasgow Coma Scale (GCS) score of 13–15 and at least one ICU day. Patients were excluded if they were <18 years old, transferred from an outside institution, had a pre-existing seizure disorder, received other antiseizure medications, or died within 24 hours. Patients were assigned to the levetiracetam (LEV) group if they received levetiracetam within 48 hours of admission for ≥2 days, or to the no antiseizure medication (ASM) group if they received no ASM, for prophylaxis, during hospitalization. The primary outcome was GCS at discharge. Secondary outcomes included seizure incidence, in-hospital mortality, mechanical ventilation duration, discharge disposition, and ICU/hospital length of stay. Descriptive and comparative statistics were used, with significance set at p<0.05.	Of the 301 patients included, 155 were in the levetiracetam group and 166 in the no ASM group. There were more males in the levetiracetam group compared to the no ASM group (77.0% vs. 61.4%, p = 0.003). Among those who received levetiracetam, the median dose was 500 mg twice daily [IQR 500–500]. At discharge, the median GCS score was 15 [IQR 15–15] in the no ASM group and 15 [IQR 14–15] in the levetiracetam group (p < 0.001). Patients in the levetiracetam group received more medications with anti-seizure effects (70.4% vs. 48.2%, p < 0.001) and medications that lower the seizure threshold (45.2% vs. 27.7%, p = 0.001). Both ICU length of stay (6.3 ± 7.4 vs. 3.2 ± 4.9 days, p < 0.001) and hospital length of stay (11.0 ± 12.3 vs. 6.6 ± 12.7 days, p = 0.002) were longer in the levetiracetam group. In-hospital mortality did not differ between the groups (3.7% vs. 1.8%, p = 0.255).	In this study, both groups had a median GCS of 15 at discharge. Levetiracetam use in patients with mild TBI was associated with longer ICU and hospital lengths of stay, without a corresponding improvement in in-hospital mortality. These findings raise questions about the benefit of routine prophylactic levetiracetam in this population and suggest that its use may warrant re-evaluation.
Becker, Sara	sara_becker@yahoo.com	UF Health Leesburg	Identifying risk factors and incidence of thrombocytopenia from linezolid therapy in a community hospital setting	Linezolid, an oxazolidinone antibiotic, offers critical coverage against multidrug-resistant gram-positive pathogens, including methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant Enterococcus (VRE). However, its use has been increasingly linked to hematologic toxicities, notably thrombocytopenia, which can necessitate therapy modification and pose serious bleeding risks. Several studies have identified factors that may predispose patients to thrombocytopenia, including prolonged exposure, impaired drug clearance due to renal dysfunction, and concurrent use of anticoagulants or other myelosuppressive agents. However, much of the existing literature has focused on tertiary care settings, leaving a gap in understanding the risk factors specific to community hospitals where patient populations and treatment practices may differ. This retrospective cohort study evaluated the incidence of linezolid-associated thrombocytopenia in a community hospital setting and identified demographic, clinical, and treatment-related risk factors contributing to its development.	A manual chart review was conducted on adult patients at UF Health Leesburg and Spanish Plaines Hospitals from July 1, 2023- July 1, 2024, who were administered linezolid therapy (>6 doses or at least 72 hours of therapy) and who had a baseline platelet count >150,000 uL. Patients were excluded if they had comorbidities associated with thrombocytopenia such as leukemia or other cancer types, bone marrow disorders, history of heparin induced thrombocytopenia, or patients who received concomitant medications that cause thrombocytopenia such as chemotherapy agents and anticoagulants (therapeutic doses). The primary outcome was incidence of a documented platelet count of <150,000 uL or 50% decrease from baseline. Secondary outcomes included comparing the proportion of patients who developed thrombocytopenia versus those who did not, based on impaired renal function (CrCl <30 mL/min and 30-60 mL/min), body mass index (BMI) extremes (>30 or <18), and age >65 years. Electronic health records were reviewed to extract demographic information, comorbidities, laboratory values, and medication history. Descriptive statistics were used to summarize demographics. Chi-Square and Fischer's Exact Test identified independent predictors of thrombocytopenia.	Of the 98 patients, 62 (63.3%) were male; the mean (+SD) age of the patients was 71.1+16.2 years. The primary outcome occurred in 18 patients (18.4%). Median duration of linezolid use was 6 days. When comparing patients who developed thrombocytopenia to those who did not, there were no statistically significant differences in the rates of impaired renal function (CrCl <30 mL/min; 5.1% vs. 5.1%, p=0.9), BMI extremes (>30 or <18; 7.1% vs 1%, p=0.7), or age >65 years (12.2% vs. 56.1%, p=0.4). These findings suggest that, in this cohort, renal impairment, BMI extremes, and advanced age alone were not independently associated with the development of thrombocytopenia.	Among patients who were treated with linezolid, the incidence of thrombocytopenia was low. Impaired renal function, BMI extremes, and age >65 years did not show a significantly increased risk of thrombocytopenia. Several limitations should be considered when interpreting these results. Our modest sample size may have limited the ability to detect additional risk factors. Furthermore, as the study was conducted at two institutions within a single region, generalizability to other healthcare settings may be limited. Incomplete documentation and variability in laboratory monitoring frequency could also have impacted case identification. At the Central Florida hospitals, clinical pharmacists routinely monitor complete blood counts, including platelet levels, for all patients receiving linezolid. This study further emphasizes the importance of formalizing and standardizing these monitoring processes, possibly through pharmacist-driven protocols or clinical decision support tools in the electronic health record. In addition, future consideration should be given to the potential role of therapeutic drug monitoring (TDM) for linezolid as a means to optimize exposure and minimize toxicity, especially in patients with impaired renal function. Although this study will not result in immediate changes to linezolid prescribing practices, it reinforces the necessity of vigilant platelet monitoring and heightened caution in high-risk populations. Future efforts should include provider education and consideration of alternative therapies in patients identified as particularly vulnerable.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Benton, Madison	maddyvictoria98@gmail.com	Morton Plant Hospital	Fentanyl Bolus Dosing Versus Continuous Infusion for Analgosedation in Mechanically Ventilated Patients	Pain and sedation management within intensive care units (ICUs) is a crucial component of patient care. Highlighted within the 2018 Society of Critical Care Medicine guidelines on the prevention and management of pain, agitation/sedation, and delirium, pain is often present at rest for critically ill patients. Inadequate pain management can lead to agitation which in turn can lead to oversedation and increased ICU length of stay. Opioids remain the mainstay of pain and sedation treatment in mechanically ventilated patients. Although there is no drug of choice, fentanyl is often utilized for its analgosedation properties. There is also a lack of data comparing the use of bolus fentanyl and continuous infusion fentanyl in those mechanically ventilated. The purpose of this study is to investigate the impact on ventilation days for bolus dosing fentanyl versus continuous infusion for analgosedation in mechanically ventilated patients.	This was an institutional review board (IRB) approved, retrospective, multi-site, cohort study from October 1, 2024 through February 28, 2025. Patients were included if they were ≥18 years old, admitted to a BayCare hospital ICU, mechanically ventilated ≥24 hours, and received either bolus dose or continuous infusion fentanyl for analgosedation. Exclusion criteria included pregnancy, post-cardiac surgery patients, use of a continuous infusion of a neuromuscular blocking agent, patients on targeted temperature management, transitioned to comfort care, hospice, or expired while mechanically ventilated, received a tracheostomy, or admitted from a long-term care facility with a tracheostomy. The primary outcome was difference in ventilator days between fentanyl bolus dosing versus continuous infusion for analgosedation. Secondary endpoints include ICU length of stay, recorded adverse effects, total fentanyl dosing, and use of adjunctive pain and sedation medications. All statistical data was calculated using Minitab 21 Statistical Software™. Using a difference of 1 day for effect size and standard deviation of 5.58 days, a power of 80%, and an alpha value of 0.05, the calculated sample size for the primary outcome was 498 patients or 245 patients in each group. A clinically significant difference of one day was used based on the estimated difference in ventilator days from our institution versus other institutions within the healthcare system. Sample t-Test was used to evaluate normally distributed data. Mann-Whitney U test was used to evaluate continuous data that was not normally distributed. Chi Squared or Fisher's Exact testing was used for categorical data.	A total of 62 patients were included in the study with 27 patients in the bolus group and 36 patients in the continuous infusion group. Baseline characteristics were similar across the two groups. Although not statistically significant, the median age within the continuous infusion group was 9 years younger than the bolus group (p=0.06). In addition, the bolus group had an overall higher average APACHE IV score as compared to the continuous infusion group (p= 0.46). The primary outcome of ventilator days was not statistically significant with a median of 4 ventilator days within the bolus group as compared to 3 ventilator days in the continuous infusion group (p= 0.33). Comparatively, ICU length of stay was 6 days within both groups (p=0.20). The average fentanyl dose for the bolus group was a total of 350 mcg throughout the intubation period as compared to 6000 mcg for the continuous infusion group (p<0.001). There was no statistically significant difference between the other secondary outcomes including other sedatives utilized, benzodiazepine use, other opioids utilized, and recorded adverse effects.	In mechanically ventilated patients receiving fentanyl for pain and sedation, there was no difference in mechanical ventilator days or ICU length of stay between those receiving bolus versus continuous infusion fentanyl. In conclusion, additional larger, prospective studies are necessary to determine the impact of bolus versus continuous infusion fentanyl on mechanical ventilator days.
Booths, Skyler	Skyler.Booths@ufhealth.org	UF Health Jacksonville	Tolerability of glucagon-like peptide 1 receptor agonists at an academic medical center	Discontinuation rates of patients prescribed glucagon-like peptide 1 receptor agonists (GLP-1 RAs) have been thoroughly studied, though factors contributing to discontinuation in our patient population at a large academic medical center are currently unknown. The purpose of this study is to evaluate the possible factors contributing to discontinuation in patients prescribed an injectable GLP-1 RA.	This single center, retrospective chart review study included adult patients who were prescribed an injectable GLP-1 RA from an outpatient primary care or endocrinology clinic at a large academic medical center between 6/30/22 and 12/31/22 and whom had at least two office visit notes after drug initiation. Patients were excluded if they were > 90 years old, pregnant, diagnosed with type 1 diabetes mellitus, or prescribed a GLP-1 RA by an outside physician. The primary objective was to compare the rate of drug discontinuation for patients prescribed an injectable GLP-1 RA. Secondary objectives included evaluating potential factors contributing to GLP-1 RA discontinuation, GLP-1 RA dosing adjustments, initiation of medication(s) due to GLP-1 RA-associated adverse events , time from drug initiation to discontinuation, rate of unplanned hospital visits potentially associated with GLP-1 RA use, and follow-up encounters with primary care or endocrinology providers.	A random sample of 750 patients were identified as having a prescription for a GLP-1 RA during the study time frame. Of those, 589 patients were screened with 154 patients meeting inclusion criteria. Out of the 154 included patients, 68 and 83 were prescribed dulaglutide or semaglutide, respectively. Only three were prescribed liraglutide (excluded from the statistical analysis due to low use). GLP-1 RA discontinuation occurred in 39 (57.4%) and 35 (42.2%) patients in the dulaglutide and semaglutide groups, respectively (p-value = 0.09).	In this study, the discontinuation rate of injectable GLP-1 RA was not found to be statistically significant. The most common reasons for drug discontinuation were ineffectiveness and drug shortage.
Bourn, Lindsay	lindsay.bourn@ufhealth.org	UF Health Jacksonville	Rivaroxaban Versus Once Daily Enoxaparin for Venous Thromboembolism Prophylaxis in Medical Patients	While admitted to the hospital, medical patients are at an increased risk of venous thromboembolism (VTE) due to being immobile for a prolonged period of time. According to the 2012 CHEST guidelines, medical patients at risk of VTE should be anticoagulated with first-line heparin products, which is the gold standard practice. However, patient adherence to subcutaneous enoxaparin remains a concern. Rivaroxaban is approved for VTE prophylaxis in medical patients. As an oral medication, it provides an alternative to subcutaneous enoxaparin. The MAGELLAN study assessed the efficacy of rivaroxaban versus once daily enoxaparin. Rivaroxaban was proven noninferior for 10+4 days of therapy. It still remains unknown if medical patients are willing to use rivaroxaban as an alternative. This study aims to determine differences in adherence rates between rivaroxaban and once daily enoxaparin when used for VTE prophylaxis.	This is a single-center, retrospective, observational study comparing adherence rates between once daily enoxaparin and once daily rivaroxaban for VTE prophylaxis from October 1st, 2019 to December 31st, 2024. During the intervention period, a retrospective chart review was conducted to collect the total doses of the study drug that were offered and the number that were refused in order to calculate adherence rates. The primary endpoint is the difference in adherence rates between once daily rivaroxaban and once daily enoxaparin. Secondary endpoints include differences in rates of bleeding, rates of VTE, and hospital charges, and predictors of noncompliance.	The baseline characteristics were similar between the two groups, with the exception of hospital length of stay (rivaroxaban 61.3 days [25.8-167.1] vs enoxaparin 10 days [7.2-17.4]; p	Overall, the rivaroxaban group showed 25% better adherence than the enoxaparin group. In terms of safety, there were less major and minor bleeding events seen in the rivaroxaban group. Overall, rivaroxaban could be a viable option for DVT prophylaxis in order to ensure better adherence and prevent adverse events.
Bozka, Shelby	shelbybozka@gmail.com	St. Joseph's Children's Hospital	Implementation of a Standardized Diabetic Ketoacidosis Protocol to Optimize Time to Resolution in Pediatric Patients	Diabetic ketoacidosis (DKA) is a common, potentially life-threatening complication in pediatric patients with newly diagnosed and established type-1 diabetes mellitus (T1DM). In the pediatric population, DKA is the leading cause of diabetes-related death. DKA is defined as hyperglycemia (blood glucose > 200 mg/dL), metabolic acidosis (venous pH < 7.3 or serum bicarbonate < 18) along with ketonemia (beta-hydroxybutyrate > 3 mmol/L) or moderate or large ketonuria due to insulin deficiency. Due to the high incidence and potential for morbidity, numerous management strategies have been established for optimal care. Treatment of pediatric DKA requires fluids for resuscitation, an insulin infusion, electrolyte replacement, and close monitoring of laboratory values and response to therapy. Previous studies with DKA protocols and standardization in place have demonstrated decreased hospital costs and patient length of stay without an increase in readmission rates. Due to variable ordering practices between providers in the Pediatric Emergency Department (ED) and Pediatric Intensive Care Unit (PICU), a joint standardized Pediatric DKA PowerPlan was implemented with the intent to optimize patient care and reduce potential safety risks by eliminating immense variability and efficiently expedite patient care.	This was a retrospective, non-interventional chart review utilizing patient data from electronic medical records from June 14, 2019 to December 14, 2021 (pre-powerplan standardization) and June 15, 2022 to June 15, 2024 (post-powerplan standardization). To minimize confounding variables, a 6-month wash-out period was included between the pre- and post-groups. Children < 18 years who were admitted to the PICU and diagnosed with DKA were evaluated. Patients were excluded if they were transferred from another facility or ED, or if they were placed on dialysis. Baseline characteristics included age, weight, gender, race, ethnicity, known or new-onset T1DM, initial laboratory and assessment parameters which consisted of serum blood glucose, anion gap, bicarbonate, pH from a blood gas, and a Glasgow Coma Score. Additional parameters were collected via Excel spreadsheet: order times for protocol components which included normal saline bolus, two-bag DKA fluids, insulin infusion, subcutaneous insulin, and PICU admit and discharge times. The specific aim of this study was to evaluate if a difference exists in resolution of DKA, which is defined as time of ED admission to time of insulin infusion discontinuation, in hours, in patients admitted prior to and after implementation and of a Pediatric DKA PowerPlan. Secondary objectives were to evaluate time of administration of NS bolus, two-bag fluids, and insulin infusion orders in comparison to ED admission time; and ED, PICU, and total length of stay.	A total of 345 patients were screened based on the selected time frame, with 159 patients assigned to the pre-implementation group and 186 patients to the post-implementation. In the pre-implementation group, 59 patients met inclusion criteria, and 60 patients in the post-implementation group. Baseline characteristics were evaluated and similar between the two groups, however there was a higher percentage of patients with a known T1DM diagnosis in the pre-implementation group (64.4% vs. 48.3%, p=0.077). Time to resolution of DKA occurred sooner in the post-implementation group compared to the pre-implementation group (20.2 hours vs. 19.7 hours, p=0.480). Following the protocol implementation, earlier administration time of the two-bag fluids was observed (209 minutes vs. 203 minutes), as well as patient admission to start of insulin infusion (168 minutes vs. 152 minutes). Additionally, patient total length of stay was shorter (39.1 hours vs. 38.1 hours) after protocol implementation.	There was no significant difference observed in time to resolution of DKA in patients prior to and after implementation of the protocol. Although not statistically significant, more patients with a known T1DM diagnosis with multiple admissions were observed in the pre-implementation group which could have led to provider familiarity and more efficient treatment. Future goals involve further analysis of a sub-group population with new-onset T1DM.
Bracey, Easton	ebracey2@aol.com	Bay Pines VA Healthcare System	Clearing the Air: How Updated Computerized Patient Record System Order Sets and Provider Education Breathe New Life into COPD Care	Chronic Obstructive Pulmonary Disease (COPD) is a leading cause of morbidity and mortality among Veterans, significantly impacting quality of life and healthcare utilization. At Bay Pines VA, COPD dashboard metrics are below the national average, highlighting an urgent need for quality improvement initiatives. The 2025 Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines emphasize structured, evidence-based approaches to COPD management, including optimizing inhaled therapies, reducing exacerbation risks, and improving medication adherence through standardized clinical decision tools. However, the existing Computerized Patient Record System (CPRS) COPD order set at the Bay Pines VA Healthcare System is outdated and not fully aligned with these latest recommendations, potentially leading to inconsistencies in treatment selection and suboptimal patient outcomes. Additionally, provider familiarity and utilization of the order set vary, further exacerbating discrepancies in COPD management. Addressing these gaps through order set optimization and targeted provider education at the Bay Pines VA Sarasota Community-Based Outpatient Clinic (CBOC) presents an opportunity to enhance adherence to GOLD 2025 recommendations, streamline clinical workflows, and improve key COPD dashboard metrics, such as appropriate bronchodilator selection and rescue inhaler use. This study aims to evaluate the impact of updating the CPRS COPD order set and implementing structured provider education at the Bay Pines VA Sarasota CBOC on adherence to guideline-based care and clinical outcomes within the VA healthcare system.	This single-center, pre-post interventional study is being conducted at the Bay Pines VA Sarasota CBOC. The intervention includes (1) updating the CPRS COPD order set in alignment with GOLD 2025 guidelines and VA formulary preferences and (2) conducting provider education sessions focused on order set utilization and evidence-based COPD management. Key COPD dashboard metrics—including inhaler optimization, rescue inhaler overuse, inhaled corticosteroid (ICS) without combo long-acting beta agonist (LABA) and long-acting muscarinic antagonist (LAMA), and COPD with exacerbation without LABA or LAMA—are being collected at baseline and post-intervention. Descriptive statistics will be used to analyze changes in adherence to guideline-based care.	To be completed once data is available. Placeholder for key findings, including improvements in COPD dashboard metrics and provider adherence to updated guidelines.	To be completed once data is available. Placeholder for key takeaways regarding the impact of CPRS order set updates and provider education on COPD management at the VA.
Brewster, Clare	clare.brewster1@ascension.org	Ascension St. Vincent's Riverside Hospital	Impact of initial parenteral anticoagulation on DOAC loading dose for acute VTE: a multicenter study	Venous thromboembolism (VTE), which includes deep vein thrombosis (DVT) and pulmonary embolism (PE), is a significant health concern leading to substantial morbidity and mortality. Currently, no studies have specifically assessed differences in parenteral anticoagulation duration in relation to the duration of a direct oral anticoagulant (DOAC) load-in dose for acute VTE. The goal of this study was to evaluate the safety and effectiveness of adjusting the DOAC load-in dose by subtracting the number of days of parenteral anticoagulation, compared to using the full DOAC load-in dose regardless of the duration of parenteral anticoagulation	This was a multi-center, retrospective, observational cohort study conducted across twenty-nine hospitals. Subjects were included if they were > 18 years of age, admitted to the hospital with newly diagnosed VTE, received treatment with apixaban or rivaroxaban, and received therapeutic parenteral anticoagulation for at least 24 hours prior to starting oral anticoagulation. Subjects were excluded if they received therapeutic anticoagulation prior to admission, had greater than 1 hour overlap between parenteral anticoagulation and initiation of DOAC, did not receive a load-in dose reduction directly corresponding to the number of days of parenteral anticoagulation, had moderate to severe mitral valve stenosis, bleeding on admission or prior to initiation of therapeutic anticoagulation, mechanical valve replacement, antiphospholipid antibody syndrome, severe liver disease, or received contraindicated medications. Full load-in dosing was defined as having received 13 to 14 doses of apixaban 10 mg or 39 to 42 doses of rivaroxaban 15 mg. Reduced load-in dosing was defined as missing up to two doses of apixaban or rivaroxaban for every 24-hour period during which therapeutic parenteral anticoagulation was administered. The primary outcome was the time to recurrence of VTE within 6 months. Secondary outcomes included major bleeding, clinically relevant nonmajor bleeding (CRNMB), re-hospitalization for a VTE or anticoagulant related event, hospital length of stay, and mortality within 6 months. Based on an alpha of 0.05, it was estimated a total of 1,423 subjects in a 3:1 ratio (full to reduced load-in) would be required to meet 80% power. Student's t-test and Mann-Whitney U were used for the analysis of continuous and ordinal data. Chi-square and Fisher's exact test were used for categorical and nominal outcomes. Additionally, a multivariable linear regression was used to adjust for confounding variables.	A total of 2,068 subjects were screened with 945 subjects meeting inclusion criteria, with 740 in the full load-in, and 205 in the reduced load-in group. The most common reason for exclusion was failure to receive parenteral anticoagulation for > 24 hours prior to DOAC. Baseline characteristics are shown in Table 1. The primary outcome of time to recurrence of VTE within 6 months showed no significant difference between the reduced and full load-in groups (180 days vs 180 days, p= 0.379). A multivariable linear regression was conducted to adjust for weight, tobacco smoker, and type of VTE. After adjusting for these potential confounders, there remained no significant difference between the two groups (p=0.134). Upon analysis of secondary outcomes, hospital length of stay was significantly longer in the reduced load-in group compared to the full load-in group (11 days vs 5 days, p	The results of this study suggest that either full or reduced DOAC load-in in hospitalized patients with acute VTE is safe and effective, although the reduced load-in group showed longer hospital length of stay and increased mortality compared to full DOAC load-in.
Brooks, Lindsay	librooks@mhs.net	Memorial Regional Hospital	Pharmacological management of agitation in hospitalized elderly patients: evaluating appropriateness and standard practices	During hospitalization, older adults commonly experience agitation, and severe agitation has the potential to increase the risk of harm to patients and staff, prolong mechanical ventilation, and extend hospital stays. However, many disease states mimic symptoms of agitation, which poses a challenge when it comes to distinguishing and treating agitation. Previous literature expresses the need to establish a customized approach to agitation treatment in geriatrics, specifically, due to the complexity of treatment, altered pharmacokinetics, and adverse outcomes in this population. Therefore, this study is being conducted to evaluate the appropriateness of pharmacological management in elderly patients during their hospital stay.	A retrospective chart review was conducted to evaluate the pharmacologic management of agitation in elderly inpatients at a public, non-profit hospital in South Florida. Patients aged 65 years and older admitted between January 1 and June 30, 2024, were included. Data were collected from the institution's electronic health record system (EPIC) and included demographics (age, gender, race), clinical comorbidities, agitation severity (as documented in nursing and provider notes), use of physical restraints, medication regimen details (e.g., number of doses, scheduled vs. as-needed [PRN] administration), and reported side effects. Descriptive statistics (frequencies, means, standard deviations) were used to summarize demographics and key variables. Chi-square tests assessed associations between categorical variables, including appropriateness and side effects, as well as medication effectiveness and restraint use. A binary logistic regression model was constructed to identify predictors of regimen appropriateness, incorporating clinically relevant covariates such as agitation severity, number of agents administered, and medication scheduling. The primary outcome was regimen appropriateness; secondary outcomes included medication effectiveness, repeat dosing, documentation completeness, restraint use, and incidence of side effects. All analyses were conducted using Python (Pandas, Seaborn, Matplotlib, and SciPy libraries).	A total of 54 patients (72 independent encounters) were evaluated to assess the appropriateness, effectiveness, safety, and documentation of pharmacologic management for acute agitation. Of the 72 encounters, 50% (36/72) were classified as appropriate based on alignment with SAS score, restraint use, and the number of doses administered; 50% (36/72) were deemed inappropriate, often due to overtreatment in patients with low agitation severity (SAS ≤ 4) or disproportionate intervention in those with higher severity. Medication was considered effective in 68.1% (49/72) of encounters, while 31.9% (23/72) were not effective, as indicated by repeated or escalating PRN use within a 24-hour period. Documented side effects occurred in 6.9% (5/72) of encounters. A chi-square test showed no statistically significant association between regimen appropriateness and side effect incidence (p = 1.000). Likewise, no significant association was found between dosing effectiveness and restraint use (p = 0.0521). Only 27.8% (20/72) of encounters had complete PRN documentation, defined by the presence of both a side effect score and a clinical rationale. Restraints were employed in 76.4% (55/72) of encounters, yet only 7.3% (4/55) had documented side effects, suggesting potential underreporting of adverse events. Medications were categorized into 20 types, with the most frequently administered being Olanzapine IM, Haloperidol IM, and Lorazepam PO.	This study highlights variability in the appropriateness and effectiveness of pharmacologic strategies used to manage acute agitation in elderly inpatients. Half of the evaluated encounters did not meet appropriateness criteria, often due to overtreatment of patients with low agitation scores or disproportionate use of restraints and medications. While medications were generally effective, documentation was frequently incomplete and side effects underreported, highlighting the need for more tailored and standardized approaches.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Brown, Hollyann	brown.holly.hb@gmail.com	Orlando Regional Medical Center-Orlando Health	Safety of brivaracetam and levetiracetam among hospitalized patients with renal dysfunction	Brivaracetam is a Synaptic Vesicle 2 Protein (SV2A) selective anti-seizure medication (ASM), similar to the widely used levetiracetam. Brivaracetam may offer advantages for patients who cannot tolerate or respond adequately to levetiracetam. One retrospective study demonstrated that switching from levetiracetam to brivaracetam resulted in significantly fewer neuropsychiatric adverse events, with 76% of patients reporting improvement. However, one population not currently addressed in brivaracetam literature is patients with severe renal dysfunction including those requiring renal replacement therapy (RRT). This population was excluded from the three phase III trials that led to Food and Drug Administration (FDA) approval of brivaracetam. Brivaracetam undergoes primarily hepatic metabolism to inactive metabolites suggesting use in altered renal function may be safe. In one pharmacokinetic study of brivaracetam, the maximum concentration (Cmax) and volume of distribution of brivaracetam were not modified by severe renal impairment. Additionally, the original trials included only 38 geriatric patients, leaving a gap in the drug's safety data in older adults, who are at higher risk for renal dysfunction or failure requiring dialysis. This study aims to assess the safety of brivaracetam in comparison to levetiracetam in patients with severe renal dysfunction, defined by an estimated creatinine clearance (CrCl) of less than 50 mL/min	This was a retrospective cohort study conducted at a single institution on all adult patients ≥18 years old admitted between May 1st, 2021 to December 2nd, 2024. Patients were included if they received at least one dose of either brivaracetam (BRIV) or levetiracetam (LEV) and had a CrCl < 50 mL/min at the time of first dose administration. Patients were excluded if they were pregnant, breastfeeding, incarcerated, or if they were receiving levetiracetam for seizure prophylaxis. The primary outcome was a composite of adverse drug events (ADE) due to the ASM, defined as either somnolence, dizziness, headache, agitation, or any other ADE leading to discontinuation, change, or dose reduction in the ASM. Secondary outcomes included seizure freedom based on electroencephalogram (EEG) report, achieving 50% seizure reduction on EEG, and dosing description. Safety outcomes included the individual components of the composite outcome. Study data was collected and managed using REDCap® and statistical analyses were conducted using SPSS® . Statistical analyses included Mann-Whitney U test for non-normally distributed continuous data and the Chi squared or Fischer's exact tests for categorical data. A p value of < 0.05 was considered statistically significant.	Baseline characteristics are highlighted in Table 1. The groups were evenly distributed by age, weight, and sex. For both groups, the median age was 71 years. Nearly 50% of patients in both groups were on some type of RRT on admission. More BRIV patients (69%) were admitted to the ICU compared to LEV patients (27%) (p=	Among patients with renal dysfunction, BRIV was found to have increased ADEs compared to LEV. The advanced age in both groups may have contributed to the documented somnolence. Additionally, BRIV patients had higher acuity, were more likely to have a documented seizure and to initiate therapy during hospitalization. Across both groups, patients admitted to the ICU were more likely to develop somnolence on either therapy. The lower incidence of ICU admissions in the LEV and high frequency of continuation of home ASM therapy may explain the lower incidence of somnolence seen in this group. Future prospective studies comparing older, critically ill BRIV and LEV patients with renal dysfunction should be conducted to confirm the safety of BRIV in this population.
Bryson, Morgan	morganhb95@gmail.com	Orlando Health Orlando Regional Medical Center	Survey of critical care pharmacists and providers on use of corticosteroids in acute respiratory distress syndrome	Acute respiratory distress syndrome (ARDS) is a life-threatening condition characterized by hypoxemia from alveolar collapse and edema. Recent updates in the 2023 American Thoracic Society (ATS) guidelines and the 2024 Society of Critical Care Medicine (SSCM) guidelines for the management of ARDS now include a conditional recommendation for the use of systemic corticosteroids. Prior to 2023, there were no guideline recommendations regarding corticosteroids as a treatment strategy in ARDS. Due to the recency of these recommendations, it is hypothesized that practice varies widely in both the use of corticosteroids as well as the corticosteroid and dosing chosen. The objective of this study was to evaluate self-reported use of corticosteroids for treatment of ARDS from critical care pharmacists and providers across the United States to gain insight into current practice.	This study aimed to gather information through an online survey regarding the use of corticosteroids in the treatment of ARDS in critically ill patients, including whether corticosteroids are routinely utilized in practice, the doses chosen, and how the regimen is influenced by concomitant conditions with compelling indications for corticosteroid therapy. The survey included questions about participant demographics, general ARDS management, and corticosteroid use in ARDS with and without a concomitant condition that would typically indicate a corticosteroid. Survey questions were designed through REDCap by the research investigators, consisting of multiple choice, select all that apply, and free-text questions, and beta-tested by non-project personnel. The survey was distributed electronically twice within 4 weeks to members of American College of Clinical Pharmacy (ACCP) affiliated listservs, several Society of Critical Care Medicine (SCCM) state chapters, and individual healthcare professionals located in Florida and Georgia. Descriptive statistics were utilized for all data.	Sixty-two responses were collected, which mostly included pharmacists (73%; 45/62) and attending physicians (21%; 13/62) practicing in medical or cardiovascular intensive care units in university-affiliated or teaching community institutions in the South region. Most respondents reported routinely utilizing corticosteroids in their practice (87%; 54/62). Of these fifty-four responses, 91% (49/54) prefer dexamethasone as the choice of corticosteroid for managing ARDS compared to 7% using methylprednisolone and 2% choosing hydrocortisone. The most common dosing for dexamethasone was 20 mg intravenous once daily for 5 days followed by 10 mg intravenous once daily for an additional 5 days (98%; 48/49). When utilizing corticosteroids for ARDS, a majority of respondents would initiate corticosteroids within 24-72 hours (67%; 36/54) for moderate-severe ARDS (69%; 37/54). Other treatment modalities are typically considered before the initiation of corticosteroid therapy in ARDS; the most reported strategies included lung protective ventilation, conservative fluid management, prone positioning, and heavy sedation. The most selected corticosteroid in cases of ARDS in addition to a concomitant condition with a compelling indication for a corticosteroid was also investigated, including COVID-19, pneumocystis pneumonia, severe bacterial community-acquired pneumonia (CAP), and septic shock. Dexamethasone remained the preferred corticosteroid in the setting of ARDS with COVID-19 as well as ARDS with CAP but shifted in the remaining conditions studied. In ARDS with septic shock, 52% (28/54) favored hydrocortisone over dexamethasone (42%; 23/54). Of the eight respondents who reported not utilizing corticosteroids for ARDS in their practice, the most common rationale included limited quality data, undesirable side effects, and potential harm demonstrated in previous studies (50%; 4/8).	The majority of critical care pharmacists and providers are utilizing corticosteroids as a strategy in treating ARDS as part of a multi-faceted approach. Based on the results of this study, the preferred corticosteroid is dexamethasone, but this may change depending on if a concurrent condition in which corticosteroids are usually indicated is present.
Buchholz, Eliana	buchholzeliana@live.com	James A. Haley Veterans Hospital	Pharmacist-Driven Approach to Buprenorphine Conversion from Long Term Opioid Therapy	Long-term opioid use in veterans is associated with numerous harmful outcomes, including misuse, cognitive impairment, overdose risk, and death, making opioid tapering and discontinuation crucial but challenging. Transdermal and buccal buprenorphine are effective opioids, especially for elderly or renally impaired patients, offering safer pain management with fewer side effects compared to traditional full mu opioids. The 2022 VA/DoD Pain Guidelines recommend the use of buprenorphine over full mu opioids due to its ceiling effect on respiratory depression. The objectives of this study are to improve the number of successful transitions of full mu opioid therapy to transdermal or buccal buprenorphine (and maintained for at least 3 months) leveraging a pharmacist-led collaboration with attending providers for veterans in the JAHVH Spinal Cord Injury Unit and achieve meaningful improvement in the veteran's outlook on their chronic pain at 3 months post buprenorphine transition.	The data for this project was collected via prospective chart review. To evaluate deprescribing of bull mu opioids and the transition to buccal or transdermal buprenorphine, pre- and post-implementation data was compared. The percent change in veteran's morphine equivalence was compared between the pre- and post-implementation of clinical pharmacist buprenorphine transition intervention. Veterans were identified as study candidates via the Stratification Tool for Opioid Risk Mitigation (STORM) Dashboard which identified high-risk long-term opioid-patients. Pre-implementation data collected included the veteran's total daily morphine equivalence, concomitant sedating medications, mental health disorders, renal function, sleep apnea diagnosis, and suicide/ overdose risk score determined by the STORM Dashboard. These outcomes will be assessed after program implementation to determine its impact on patient outcomes.	From November 2024 to April 2025, this study examined the conversion of full mu opioids to buprenorphine in 23 patients with chronic pain. Of the participants, 19 had a concomitant mental health condition, 21 were on sedating medications, 9 had an eGFR <60 mL/min, and 14 had a diagnosis of sleep apnea. When transitioning to buprenorphine, 57% of the patients remained stable on the recommended dose, 22% required a dose increase, 7% needed a dose decrease, and 14% failed the buprenorphine trial. Of those who remained on buprenorphine, 75% of them completely stopped their full mu opioid. The average daily morphine equivalence (ME) before buprenorphine initiation was 63.33 mg, which decreased to an average of 24.33 mg after the transition. This represents a 61% reduction in full mu opioid use.	The study demonstrated that switching from full mu opioids to buprenorphine resulted in a significant reduction in full mu opioid use, which aligns with the goal of reducing opioid-related risks. Considering the findings from the 2017 STORM Analysis, which shows that each milligram of full mu opioid use is associated with a 0.3% increased risk of serious outcomes such as death or overdose, the reduction in opioid use seen in this study could potentially lower the patients' risks of these adverse events.
Bunn, Taylor	taylor.bunn@ufhealth.org	UF Health Jacksonville	Evaluation of Patient Choice in the Management of Inpatient Pain	The CDC estimates that over 50 million adults in the U.S. suffer from chronic pain, highlighting the importance of effective pain management in hospitals to prevent negative outcomes. Traditionally, providers ordered analgesics based on pain scores, restricting nurses from administering milder medications when patients preferred them. In fall 2023, this urban academic medical center adopted a new TJC-approved practice allowing patients to request lower-potency pain medications despite higher pain scores. This change aims to reduce opioid consumption, and accommodate patient preference, potentially decreasing opioid-related side effects.	This is a single-center, retrospective, observational study evaluating patients at a large academic medical center. This study evaluates hospitalized adult patients, 18 years and older, admitted to the general medicine service between November 1, 2023 and November 1, 2024 for at least 72-hours and received at least one dose of an opioid analgesic that was ordered by a non-ED provider and assesses their total opioid consumption per day standardized to OME's. The primary endpoint will be to compare opioid consumption, measured in OMEs, within 72-hours for hospitalized patients who have actively opted in to receive lower potency pain medications versus patients who have opted in but have not actively received lower potency pain medications based on their pain score compared to standard of care (e.g. patient receives pain medication indicated for pain score). Secondary endpoints will be to compare the effects of this policy on patients who receive lower potency pain medication and standard of care on documented rates of constipation, rates of adverse drug events, fall rates, sedation, nausea/vomiting, naloxone administration, and median pain score decrease in patients.	A preliminary analysis of 108 patients (8 actively opted-in, 100 standard of care) was completed. The sample included 58 females and 50 males with a median age of 65 years old in the actively opted-in group and 61 years old in the standard of care group. The primary outcome of consumption of OMEs showed a significant decrease in the median (IQR) of OME's consumed, 6.25 (5.0, 15.0) compared to 67.5 (28.8, 106.2) (p < 0.001) for the patients who received less than 75% of lower potency pain medications versus the standard of care group respectively. There was found to be no difference between the two groups when it comes to secondary results, all of which are provided in Table 1.	Patients who actively opted-in and received more than 75% lower potency pain medications significantly decreased the total number of OME's they received within the first 72-hours of hospitalization. Further data collection to expand the number of included patients to create more evenly distributed trial arms for analysis is warranted. There is potential for nursing education to explain the importance of utilizing lower potency pain medications and emphasizing the risks that higher potency pain medications carry.
But-Gusaim, Ana	ana.butgusaim@ascension.org	Ascension Sacred Heart Pensacola	Utility of methicillin-resistant Staphylococcus aureus nasal PCR in guiding empiric antibiotics in skin and soft tissue infections	Antibiotic coverage of methicillin-resistant Staphylococcus aureus (MRSA) for skin and soft tissue infections (SSTI) is often included in empiric regimens; however, the use of unnecessary antibiotics is associated with increased risk of drug toxicities and development of resistance. MRSA nasal polymerase chain reaction (PCR) assays have become a helpful tool to de-escalate MRSA coverage in community-acquired pneumonia but evidence is still emerging regarding its utility in SSTIs. The 2014 Infectious Diseases Society of America (IDSA) guideline for SSTIs recommends initial therapy active against MRSA empirically for patients with failed initial antibiotic treatment, purulence, abscess, or if patients have MRSA risk factors including nasal colonization. The IDSA guideline does not indicate whether the MRSA nasal PCR should be used in de-escalation of MRSA therapy. Meanwhile, the 2021 American Academy of Family Physicians (AAFP) Diabetes Related Foot Infection (DFI) guideline states to consider discontinuing antibiotic coverage for MRSA if the MRSA nasal culture is negative. Providers at our institution began ordering MRSA nasal PCR for SSTIs, but the utility of whether to use this alone versus other clinical risk factors to start or discontinue MRSA therapy was questioned since guideline recommendations are conflicting. This study aimed to evaluate the predictive value of MRSA nasal PCR results versus clinical risk factors to guide empiric antibiotic therapy in patients with SSTIs.	This was a single center, retrospective cohort study at a community teaching hospital including patients admitted from January 1, 2023 to December 31, 2023. Patients with tissue, wound, or surgical cultures were screened and included if they were at least 18 years of age, had a MRSA nasal PCR result during hospital admission, and had a deep culture for SSTI or DFI within 72 hours of the MRSA nasal PCR. The first encounter in which MRSA nasal PCR and clinical culture data were both available was included. Patients were excluded if they had missing data, cultures from an unspecified collection site, or if anti-MRSA therapy was initiated greater than or equal to 72 hours before MRSA nasal PCR screening or culture collection. Cultures from bone or joint fluid were not included. For the primary endpoint, sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were calculated for the MRSA nasal PCR, clinical risk factors excluding a positive MRSA nasal PCR, and clinical risk factors including a positive MRSA nasal PCR. For the secondary endpoints, sensitivity, specificity, PPV, and NPV were calculated for a subgroup analysis of purulent versus nonpurulent cultures along with the percent of MRSA-positive cultures associated with each risk factor.	A total of 1,077 patients with tissue cultures were identified and screened. Of those, 25 patients were included in data analysis. The most common reason for not meeting inclusion criteria was the absence of MRSA nasal PCR during hospital admission. Baseline characteristics are outlined in Table 1. A positive MRSA nasal PCR was detected in 2 patients. Growth of MRSA was not noted in any of the cultures, and therefore the sensitivity and PPV of MRSA nasal PCR were not able to be calculated. The specificity was 92% for MRSA nasal PCR (95% CI 73.97 to 99), 32% for risk factors not including MRSA nasal PCR (95% CI 14.95 to 53.05), and 28% for risk factors including MRSA nasal PCR (95% CI 12.07 to 49.39). The NPVs were 100% for all three groups. For the subgroup analysis of purulent infections (n=13), the specificity was 100% for MRSA nasal PCR (95% CI 75.29 to 100), 38% for risk factors not including MRSA nasal PCR (95% CI 13.86 to 68.42), and 38% for risk factors including MRSA nasal PCR (95% CI 13.86 to 68.42). The NPV was 100% for purulent infections. For the subgroup analysis of non-purulent infections (n=12), the specificity was 83% for MRSA nasal PCR (95% CI 51.59 to 97.91), 25% for risk factors not including MRSA nasal PCR (95% CI 5.49 to 57.19), and 17% for risk factors including MRSA nasal PCR (95% CI 2.09 to 48.41). The NPV was 100% for nonpurulent infections.	MRSA nasal PCR alone may be a useful tool compared to risk factors with or without MRSA nasal PCR for de-escalating empiric antibiotic therapy for SSTIs based on the high NPV, but given the small sample size and lack of positive MRSA cultures, it is difficult to adequately determine clinical utility. Further research with larger sample sizes are needed.
Butterworth, Zachary	zachary.butterworth@baycare.org	Winter Haven Hospital - BayCare Health	Differences in vancomycin duration of therapy based on minimum inhibitory concentration breakpoints in cases of non-methicillin-resistant staphylococcus aureus gram-positive bacteremia	Vancomycin is an antibiotic that forms the backbone of empiric therapy for many different infections (i.e. bacteremia). Many gram-positive bacterial species are susceptible to the effects of vancomycin including, but not limited to, Staphylococcus aureus (including methicillin resistant (MRSA) and methicillin-susceptible isolates), Coagulase-negative staphylococci (CoNS) (including S. epidermidis and methicillin-resistant isolates), Enterococcus spp., and Streptococcus spp. (i.e., S. pyogenes, S. pneumoniae, S. agalactiae). Traditionally, vancomycin was monitored through the usage of trough levels to ensure appropriate dosing. Beginning in 2020, the Infectious Diseases Society of America (IDSA) began recommending the usage of AUC/MIC monitoring to minimize incidence of nephrotoxicity. The AUC/MIC level that is considered therapeutic for vancomycin is 400-600 mg*hour/L. In practice this is measured through random levels which are inputted into a Bayesian software program that recommends a therapeutic dosing regimen. Within this not-for profit health system comprised of 16 hospitals, the Bayesian software program that is used is DoseMeRx®. Many organisms have varying degrees of susceptibility to vancomycin, illustrated by differing minimum inhibitory concentration (MIC) breakpoints. Unfortunately, there is sparse literature on the dosing of vancomycin with an MIC breakpoint >1 ug/mL in non-MRSA bacteremia infections. DoseMeRx® assumes a MIC of 1 for vancomycin, which is typically the upper limit of what is used in practice when treating Staphylococcus aureus infections. This suggests, particularly for Enterococcal spp. and CoNS-associated bacteremias, higher MIC breakpoints of vancomycin could warrant different dosing regimens. The purpose of this study is to determine if duration of antibiotic therapy is significantly different between non-MRSA bacteremia patients with a vancomycin MIC ≤1 ug/mL and non-MRSA bacteremia patients with a vancomycin MIC >1 ug/mL.	thodology: This was an IRB-approved, retrospective cohort study which included patients at 13 of the aforementioned health system's hospitals. Eligible patients were those who received vancomycin to treat a case of non-MRSA gram-positive bacteremia from June 1st, 2021, to December 31st, 2023. Patients were included in the study if they had an uncomplicated CoNS or Enterococcal bacteremia with a minimum of two positive blood cultures. Upon inclusion into the study, patients were divided based on their vancomycin MIC (i.e. MIC ≤1 ug/mL versus MIC >1 ug/mL). Patients were excluded if they had a bacteremia infection caused by Staphylococcus aureus or a Streptococcal species, had a polymicrobial bacteremia, an Enterococcal or a CoNS infection with an MIC breakpoint greater than 4 ug/mL, received less than 3 days of vancomycin therapy, were in a protected population (i.e.	A total of 1,654 patients were screened for inclusion into the study, of which 90 were found to meet the study's inclusion criteria. Included patients were divided based on their respective vancomycin MIC with 61 patients included in the ≤1 ug/mL group, and 29 included in the >1 ug/mL group. Characteristics of the study participants are included in Table 1. Overall, the profile of both groups was similar, however, differences in several of the patient characteristics were pronounced. These included a greater proportion of males in the MIC ≤1 ug/mL group, a lower mean BMI in the MIC >1 ug/mL group, a higher share of patients with diabetes in the MIC >1 ug/mL group, as well as a greater proportion having an unknown site of infection or having a culture deemed a contaminant in the MIC ≤1 ug/mL group. Outcome results for the study are included in Table 2. For the primary outcome, median duration of vancomycin therapy was 5 days in both groups (p=0.2), which was not statistically significant. Likewise, between-group differences in the study's secondary outcomes were found to lack statistical significance.	The study did not find a statistical difference with any of the outcomes between either study group. Caution should be used when interpreting data from the study as one major study limitation was not meeting power. The biggest driver in exclusion from the study was not having at least three days of vancomycin therapy. It is possible that with a larger patient population, which could be achieved through the relaxation of some of the exclusionary criteria, a statistically significant difference in duration of vancomycin therapy may exist.
Byrd, Anna	anna.byrd@bmcjax.com	Baptist Medical Center/Wolfson Children's Hospital	Clinical utility of methicillin resistant Staphylococcus aureus nares swabs in guiding antimicrobial therapy in pediatric patients	Staphylococcus aureus is a gram-positive bacterium that commonly colonizes the skin and nares of about one in three people. While most infections from this colonization do not lead to severe systemic issues, methicillin-resistant Staphylococcus aureus (MRSA) is a dangerous strain resistant to several antibiotics, including penicillins and cephalosporins. While MRSA surveillance guidelines are established for adults, data on efficacy in pediatric populations remain limited. Studies suggest high negative predictive values (NPV) of MRSA nares swabs (MNS) in children, supporting their use in guiding anti-MRSA therapy. This study assessed the clinical utility of MNS in children at a single-center institution. It analyzed various patients and infection types to evaluate the impact of these swabs on treatment decisions and antibiotic use, aiming to improve MRSA surveillance and promote stewardship.	This study was a single-center, retrospective chart review conducted at a tertiary, academic medical center from August 1, 2022, to August 1, 2024. Patients 18 years and younger were included if they were initiated on anti-MRSA infectives with a culture and MNS within 48 hours. Only one MNS was included for each patient encounter. The study population was divided into two groups: those with negative MNS and positive MNS. The study compared the incidence of negative and positive MRSA cultures in both MNS groups, as well as the incidence of de-escalating anti-MRSA therapy. Additionally, it assessed the length of MRSA treatment between these groups. Statistical analysis was conducted using Fischer's exact or Chi-square and Mann-Whitney U. Statistical significance was defined as $p < 0.05$.	The initial data extraction identified 642 patients for screening. Of those, 114 met the inclusion criteria, with 57 positive nares swabs (PNS) and 57 negative nares swabs (NNS). The predominant age group was between 1 and 12 years, with the pediatric intensive care unit (PICU) being the most common hospital unit. In terms of anti-MRSA treatment, vancomycin was the most frequently administered antibiotic in both groups (p=0.04). Although a wide range of potential infection sites were screened, bloodstream and respiratory infections emerged as the most prevalent across both groups. Of the 114 swabs collected, 11 yielded a positive culture for MRSA, with 10 from the PNS group and 1 from the NNS group. The negative and positive predictive values of the MNS for predicting clinical MRSA infection were 98.2% and 14%, respectively (p=0.032). For respiratory infections specifically, the negative predictive value (NPV) and positive predictive value (PPV) were 100% and 31.6% (p=0.02). There were no significant differences in the rates of de-escalation, continuation, or discontinuation of therapy between the two groups following a subsequent negative culture. The length of anti-MRSA treatment was also observed in both groups following both a positive and negative culture, however no statistical difference was seen.	A high NPV indicates that MNS can be a valuable tool in ruling out MRSA infections, thereby helping clinicians to avoid the unnecessary use of anti-MRSA infectives. This is particularly important in promoting antimicrobial stewardship by reducing the overuse of broad-spectrum antibiotics such as vancomycin, which can contribute to the development of antibiotic resistance. Utility was identified specifically in respiratory infections, where the ability to accurately rule out MRSA infection could help reduce the overuse of broad-spectrum antibiotics and minimize the risk of resistance development. This not only ensures more targeted treatment but also reduces the risk of adverse effects and unnecessary costs associated with broader-spectrum antibiotics. While the utility of MNS in respiratory infections has shown promising results, further research is needed to assess its effectiveness in other types of infections, such as skin, soft tissue, or bloodstream infections. This would provide a more comprehensive understanding of how MNS can aid in decision-making across various clinical scenarios, ultimately supporting broader efforts in antimicrobial stewardship and improving patient outcomes.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Cabaniss, Taylor	tcabaniss10@gmail.com	Cleveland Clinic Indian River Hospital	Assessment of fluid-sensitive patient populations after fluid resuscitation in the setting of sepsis	The appropriate fluid resuscitation strategy for septic patients at risk for fluid overload remains a topic of controversy. The Surviving Sepsis Campaign recommends a 30 mL/kg crystalloid fluid bolus for patients with sepsis-induced hypoperfusion or septic shock. Criticism of this approach includes excessive fluid resuscitation in certain patient populations such as those with CKD, CHF, and obesity. More studies are needed to evaluate whether these patients would benefit from a different fluid resuscitation strategy. This study aims to evaluate the appropriateness of current guideline recommended fluid resuscitation strategy in CKD, CHF, and obese patients diagnosed with sepsis and administered the 30 mL/kg fluid bolus in the emergency department with subsequent admission to the critical care unit at Cleveland Clinic Indian River Hospital.	This retrospective cohort study included patients admitted to the intensive care unit after receiving the 30 mL/kg sepsis fluid bolus in the emergency department in a community hospital. The study period was from July 1, 2023, to July 1, 2024. Patients were identified via EPIC data reporting. Manual chart review was conducted to assess inclusion criteria. The primary outcome is fluid overload as identified by the need for diuretic therapy or new start dialysis as a surrogate marker after receiving the sepsis guideline recommended 30 mL/kg fluid bolus. Secondary outcomes included ICU length of stay, ICU mortality, and vasopressor requirements.	Of 237 sepsis patient encounters identified and screened for criteria, 180 encounters were excluded. This left 57 encounters that met the inclusion criteria. The primary outcome was identified in 31 of 57 total encounters (54%), only 1 encounter required new start dialysis. Some encounters included multiple comorbidities. Diuresis was required in 20 of 29 (69%) encounters with obesity, 14 of 29 (48%) encounters with CKD, and 19 of 29 (65%) of encounters with HF. Secondary outcomes of 30-day mortality were 13 of 57 (23%), ICU mortality was 2 of 57 (3.5%) and overall median ICU length of stay was 3.5 days (IQR 4.4, range 37.22). Vasopressors were administered in 42 of 57 (74%) encounters.	The study highlights a significant association between fluid overload in sepsis patients with comorbid conditions such as obesity, CKD, and heart failure, with obesity demonstrating the highest incidence. This suggests that these comorbidities may require more careful consideration of the impact the 30 mL/kg fluid bolus has on fluid status. A higher rate of ICU mortality and prolonged ICU stay was observed in this cohort. Further research is needed to refine fluid resuscitation strategies and improve outcomes for these high-risk patient groups. Understanding the underlying pathophysiology of fluid overload in these conditions and testing different therapeutic approaches could lead to more effective management strategies and potentially reduced mortality rates in sepsis patients with comorbidities.
Campbell, Tajera	campbeltl96@aol.com	Holy Cross Health	Role of Pharmacist Follow-Up Calls in Addressing Medication-Related Problems	Medication-related problems (MRPs) are common during transitions of care, particularly at hospital discharge, when patients may face challenges understanding or accessing their medications. Recognizing the impact of these issues on patient outcomes, the institution is committed to identifying and mitigating MRPs during the critical post-discharge period. Patients often face significant barriers to medication access and adherence, including financial constraints, transportation issues, limited clinical knowledge, absence of symptoms, medication availability, and mistrust of the healthcare system. Pharmacist-led follow-up calls have emerged as valuable interventions in supporting patients after discharge. The institution implemented a pharmacy resident-led transitions of care (TOC) project to evaluate the impact of post-discharge pharmacy follow-up phone calls on the identification and resolution of MRPs among patients discharged from the internal medicine service.	This retrospective descriptive cohort study was conducted over a six-month period, from September 2024 to February 2025, at a 559-bed community teaching hospital in South Florida. Eligible patients were identified through a report generated by the electronic medical record (EMR) system. Eligible patients were identified through the EMR and met the following criteria: adults aged 18 years or older who were admitted to one of the internal medicine teaching teams for at least 24 hours and discharged home. Exclusion criteria included patients in law enforcement custody (e.g., incarcerated individuals), hospital stays of less than 24 hours, discharge to a facility (e.g., skilled nursing or rehabilitation), discharge against medical advice, or discharge with a printed prescription. Pharmacists conducted follow-up phone interviews with the included patients to assess whether the newly prescribed medication(s) had been picked up from the pharmacy, to identify and resolve any MRPs, and to provide medication counseling. Medication-related problems were identified as failure to receive medication, drug-drug interactions, information about the medications, and adverse reactions. The primary outcome was the proportion of patients who completed the follow-up phone call intervention. Secondary outcomes included the types of MRPs identified and resolved, and confirmation of receiving medication from the pharmacy.	A total of 591 patient charts were reviewed, of which 201 met the inclusion criteria and were contacted for follow-up. Of these, 98 patients (48.8%) successfully completed a phone interview with a pharmacist. Among the patients who completed the intervention, 100% received medication counseling, and 98% confirmed receipt of their discharge medications from the pharmacy. Medication-related problems were identified in 2 patients (2.0%) and were resolved during the follow-up call by the pharmacist.	Pharmacist-led follow-up calls can effectively extend the reach of TOC services. This study demonstrates that pharmacy residents, functioning as pharmacy extenders, were able to reach a greater number of patients and support safe transitions by confirming medication access and providing counseling. Among patients who completed follow-up, 98% had successfully obtained their discharge medication and received education on their proper use. Expanding the initiative to include additional physician teams and TOC pharmacists may help identify more medication-related problems earlier in the post-discharge period. Future research should explore the scalability, sustainability, and long-term impact of pharmacist-led TOC interventions on clinical outcomes. Additional analyses could stratify the sample to those patients that were already reviewed by the TOC team and those who were not, as well as broaden the scope of MRPs evaluated.
Candelaria-Jimenez, Astrid	astrid.candelariajimenez@jax.ufl.edu	UF Health Jacksonville	Impact of Meds-to-Bed Program on Hospital Discharge Timing	Transitions of care (TOC) programs are designed to ensure the continuity and coordination of healthcare as patients move between different levels of care. The primary goals of these programs are to reduce gaps in care, improve patient outcomes, and minimize healthcare costs. Transitions of care programs are typically multidisciplinary, including pharmacists. Pharmacist-led interventions in TOC programs have been shown to improve patient outcomes, particularly by reducing 30-day hospital readmissions and emergency department visits. A growing intervention is meds-to-bed (MTB) programs, which ensure that patients have timely access to their medications when they are discharged, helping to improve adherence to prescribed regimens. Recent studies have demonstrated that MTB programs can reduce the rates of 30-day hospital readmissions. However, the effect of such programs on discharge timing remains unclear. The objective of this study is to assess the impact of the MTB program on discharge timing for patients discharged from inpatient admission at UF Health Jacksonville, Downtown.	This is an IRB-approved, retrospective, single-center, observational cohort study evaluating the time interval between discharge orders and medication delivery for patients enrolled in the MTB program. Patients discharged between November 1st, 2023, and April 30th, 2024, who either receive MTB services or pick up their discharge medications from the pharmacy met inclusion criteria. Patients whose prescriptions are intended for another community pharmacy, leaving the hospital against medical advice, and being discharge on weekends are excluded from the study. Exclusion criteria also apply to patients whose discharge orders were received by the pharmacy on a date different from the discharge date with the exception for patients whose discharge orders were sent after hours and who were discharged the following day. Data was collected using the electronic medical record and pharmacy dispensing records. The primary endpoint is to compare the time between discharge orders and medication delivery for both groups. Secondary endpoints include prescription readiness, pharmacist interventions, and 30-day readmission rates. Parametric data are presented as mean (SD) and non-parametric data as median [IQR]. Categorical variables are presented with frequencies and percentages and compared using chi-square. Continuous variables were tested using the Kruskal-Wallis test. All analyses were run using SPSS Statistics for Windows, version 29 (IBM Corporation, Armonk, NY).	In total, 200 patients were included with 101 patients receiving MTB and 99 patients picking up their medications at the pharmacy window. Baseline characteristics are outlined in Table 1. There no difference in the time it takes for patients to receive their medications using the MTB program when compared to those patients who picked up the medication at the pharmacy window (MTB 130.0 mins [93.0,179.0] vs. Pick-up: 120.0 mins [75.5, 176.5]; p= 0.158). However, more patients in the MTB group received their medications before discharge when compared to patients packing up their medications at the pharmacy window (MTB 6 (5.9) vs Pick-up 42 (42.4); p
Carter, Vivian	carterv82@outlook.com	BayCare Saint Joseph's Hospital South	Acute pain in opioid-naïve patients: evaluating morphine dosing strategies in the emergency department	Acute pain is the most common reason for emergency department (ED) visits in the United States, accounting for approximately 24.8 million visits in 2022. Despite its prevalence, optimal opioid dosing strategies for opioid-naïve patients remain undefined. The 2022 CDC Pain Management Guidelines recommend initiating opioids only when necessary and at the lowest effective dose, emphasizing clinical judgment and individualized care. Institutional policies at BayCare Health System similarly promote judicious opioid use. Inadequately treated acute pain can contribute to chronic pain syndromes, opioid dependence, and increased socioeconomic burden. With obesity rates projected to rise substantially, the complexity of opioid dosing presents further clinical challenges. This retrospective analysis evaluated morphine dosing practices in opioid-naïve ED patients to support evidence-based prescribing protocols.	This IRB-approved, single-center retrospective study included opioid-naïve adults (≥18 years) who presented to the ED at St. Joseph's Hospital-South between February 1, 2023, and July 31, 2024 and received intravenous (IV) morphine for acute pain. Patients were excluded if they had sickle cell disease, migraine, arthritis, cancer-related pain, chest pain, were enrolled in palliative or hospice care, or had received another opioid prior to morphine administration. The primary outcome was change in pain intensity, assessed using the Numeric Rating Scale (NRS) following morphine administration. A mixed-effects ordered logistic regression was conducted to evaluate the association between morphine administration and pain intensity, adjusting for age, sex, and body mass index (BMI), with patient-level random intercepts to account for clustering. Model fit was assessed using a Wald $\chi^2(4)$ test. Marginal effects analysis was used to estimate changes in the predicted probabilities of pain severity categories. Statistical analyses were conducted using Stata 15.1.	The analysis included 284 observations from 142 patients. Pain intensity was categorized as high (1), moderate (2), or low (3). The regression model was statistically significant (Wald $\chi^2(4) = 49.28$; $p < 0.001$), with improved fit following the inclusion of random intercepts (chibar$^2(01) = 12.77$; $p = 0.0002$). Morphine administration was associated with significantly increased odds of reporting lower pain intensity (OR, 50.80; 95% CI, 16.96–152.22; $p < 0.001$). Age, BMI, and sex were not independently associated with pain outcomes. Predicted probabilities showed a shift to lower pain categories post morphine administration. Marginal effects analysis indicated following morphine administration there was a 57.7% reduction in the probability of reporting high pain intensity ($p < 0.001$), leading to a shift causing a 23.8% increase in the probability of reporting moderate pain ($p < 0.0001$), and a 33.9% increase in the probability of reporting low pain ($p < 0.0001$), demonstrating morphine effectiveness. The most frequently used dose of morphine was 4 mg IV, irrespective of weight or BMI. Use of adjunctive analgesics, repeat dosing, and naloxone was infrequent.	Although this study did not meet power, morphine administration demonstrated a marked decrease in pain intensity in patients who presented with high pain score regardless of BMI, age, or sex. No association was noted between BMI and changes in pain intensity following morphine, indicating the need for further studies to validate these findings. Limitations include the single-center, retrospective design, relatively small sample size, provider variance in initial dosing, use of a subjective self-reporting pain scale, interpatient variability of self-reported pain, and lack of long-term outcome data.
Cheaz, Carol	ccheaz17@gmail.com	Cleveland Clinic Tradition Hospital	Impact of Early Oral Step-Down in Urinary Tract Infections Caused by ESBL-producing Enterobacterales	Extended-spectrum beta-lactamase (ESBL)-producing bacteria, primarily Escherichia coli and Klebsiella species, are resistant to a broad range of beta-lactam antibiotics. While intravenous (IV) carbapenems are preferred for treatment of ESBL infections outside of the urinary tract, in the setting of urinary tract infections (UTIs), current guidelines prefer oral options when clinically appropriate. Oral step-down therapy may reduce hospital length of stay and associated risks. The objective of this study was to compare the clinical outcomes of patients with ESBL-producing UTIs treated with either continued IV therapy or oral step-down therapy within the Cleveland Clinic Florida Hospital System.	This multi-center, retrospective cohort study included patients > 18 years old treated for ESBL-producing urinary tract infections between August 31, 2023, and August 31, 2024. Exclusion criteria included patients with polymicrobial urinary tract infections, bacteremia, cultures demonstrating non-susceptibility to carbapenems, patients transferred to an intensive-care unit and in-hospital mortality. Patients were divided into two groups, oral step-down therapy within 48 hours of culture result or continued IV therapy group. The primary outcome of this study was hospital length of stay. Secondary outcomes included 30- and 90-day readmissions, duration of antimicrobial therapy, adverse events, time to oral-step down, and escalation of therapy or transition back to intravenous therapy after culture result. Categorical variables were analyzed using the Chi-square test or Fisher's exact test and presented as n (%). Continuous variables were reported as medians with interquartile ranges (IQR). A p-value less than 0.05 was considered statistically significant.	A total of 377 patient charts were reviewed and 123 patients met inclusion criteria. Of these, 57 received early oral step-down therapy and 86 continued IV therapy. Hospital length of stay was similar between the two groups (median 5 vs. 4 days; p = 0.996). Readmission at 30 days (11% vs. 21%; p = 0.179) and 90 days (24% vs. 30%; p = 0.505) was numerically lower in the oral step-down group but not statistically significant. There were no adverse events documented in either group. Total antibiotic duration was comparable (6 vs. 7 days; p = 0.218).	While a reduced length of stay was not observed in the early oral step-down cohort, the early transition was well tolerated. There was no increase in hospital readmission, while contributing to reduced carbapenem utilization. These findings support the use of oral step-down therapy in patients as a safe and effective strategy that aligns with antimicrobial stewardship goals. However, given the retrospective design and limited sample size, larger randomized controlled trials are needed to further validate these findings.
Chiasson, Brianne	brianne.chiasson@hcahealthcare.com	HCA Florida Fort Walton-Destin Hospital	Comparison of prothrombin complex concentrate, human, to prothrombin complex concentrate, human-lans, for reversal of bleeding from direct oral anticoagulants	Guideline-based therapy for the reversal of bleeding associated with direct oral anticoagulants (DOACs) includes andexanet alfa and weight-based prothrombin complex concentrate (PCC). The management of DOAC-associated bleeds presents a unique challenge due to the high cost of brand name reversal agents, such as andexanet alfa. In clinical practice, standardized PCC doses have been extrapolated for the reversal of DOAC-associated bleeds. Previous studies have demonstrated that fixed-dose four-factor PCC (4F-PCC) was associated with a higher likelihood of achieving hemostatic efficacy, quicker time to administration, and reduced cost compared to variable-dose 4F-PCC for warfarin reversal. These findings highlight the potential benefits of fixed-dose strategies in clinical practice. However, there is a gap in current research comparing the efficacy of fixed-dose PCC formulations for the reversal of DOAC-associated bleeding. This study aims to address this gap by comparing the hemostatic efficacy of fixed-dosing PCC, human, to PCC, human-lans for the reversal of bleeding due to direct oral anticoagulant usage.	This retrospective descriptive analysis was conducted at a Level Two Trauma Center. The study included patients 18 years and older with DOAC-associated bleeding who received either PCC, human, or PCC, human-lans. Exclusion criteria consisted of patients who were pregnant, incarcerated, recently treated with andexanet alfa, or had contraindications to receiving PCC. The preintervention cohort consisted of PCC, human from November 1, 2023, through April 30, 2024, and the postintervention cohort consisted of PCC, human-lans from May 1, 2024, through October 31, 2024. Descriptive and inferential statistics were performed to analyze the data.	Baseline characteristics are outlined in Table 1. Of the predictors evaluated, parameters leading to failure of hemostatic efficacy included a reduction in hemoglobin greater than 10%, observed in 40% (4/10) of PCC human patients and 100% (6/6) of PCC human lans patients (95% CI 0.00 – 1.02; p=0.034) which was statistically significant. Additionally, blood product administration after 30 minutes of PCC dose was also statistically significant, and occurred in 60% (6/10) of PCC human patients and none (0/6) of the PCC human lans patients (95% CI 0.98 –∞; p=0.034).	The analysis revealed that PCC, human-lans, demonstrated statistically significant improvements in hemostatic efficacy compared to PCC, human. Specifically, PCC, human-lans, was more effective in reducing the need for blood product administration and managing significant reductions in hemoglobin levels. These findings suggest that PCC, human-lans, may offer better clinical outcomes for the reversal of bleeding due to direct oral anticoagulant usage. Further research with larger sample sizes is recommended to confirm these results and explore additional outcomes.
Cochrane, Britney	britney.cochrane@hcahealthcare.com	HCA Florida Trinity Hospital	Comparison of clinical outcomes following implementation of a new diabetic ketoacidosis (DKA) protocol	Diabetic ketoacidosis (DKA) is an acute, life-threatening complication of diabetes. DKA is characterized by a triad of hyperglycemia, ketosis, and metabolic acidosis. Prompt and effective treatment is critical to avoid complications. A protocol modification was implemented to adjust insulin not only according to the current blood glucose levels but also based on the change from the previous blood glucose check. This modification aimed to prevent hypoglycemia in patients receiving an insulin drip.	This is an ethics committee-approved, single-center, retrospective chart review study, conducted at a 272-bed community teaching hospital. Patients were included if they were at least 18 years old and hospitalized with a diagnosis of DKA from October 2023 to September 2024. Patients were excluded if they were taking oral hypoglycemic agents at home, had incomplete medical records, had a concurrent diagnosis of chronic renal failure requiring dialysis, and pregnant individuals. The new order set was introduced in March 2024, thus patients treated during this month were also excluded from this study. Patients were divided into two cohorts: the pre-implementation group, which received insulin adjustments based solely on current blood glucose levels, and the post-implementation group, where insulin dosing was modified based on both current blood glucose levels and changes from the previous glucose check. The primary outcome is time to resolution of DKA defined by pH > 7.3, bicarbonate > 18 mmol/L, and BG < 200 mg/dL. Secondary outcomes include time on insulin drip, incidence of hypoglycemia defined by blood glucose < 70 mg/dL, and length of ICU stay.	The study included 43 patients with diabetic ketoacidosis, divided into pre-intervention (n=22) and post-intervention (n=21) groups with comparable baseline demographics. The primary outcome, time to resolution of DKA, showed no statistically significant difference between the groups (0.37 vs. 0.36 days; p=0.886). Similarly, there was no statistically significant difference in the secondary outcomes, including time on an insulin drip (0.86 vs. 0.78 days, p=0.364) and ICU length of stay (1.15 vs. 1.44 days, p=0.1234). However, the modified protocol was associated with a significant reduction in hypoglycemic events, with 10 episodes in the pre-intervention group compared to 3 in the post-intervention group (p=0.0472).	While the modified insulin dosing protocol did not significantly impact the time to DKA resolution, time on insulin drip, or ICU length of stay, it was associated with a meaningful reduction in hypoglycemia, which was the main reason for this institution to modify their protocol. These findings suggest that incorporating prior blood glucose trends into insulin adjustments may enhance patient safety without prolonging treatment. However, given the study's limitations, including its small sample size, single-center retrospective design, and short post-intervention period, further research with larger, multi-center cohorts and prospective study designs are needed to validate these findings and assess the broader impact of this protocol modification on DKA management.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Coker, Elijah	Elijah.coker@leehealth.org	Lee Health Gulf Coast Medical Center	Evaluation of Intravenous Insulin Dosing in Hyperkalemia Patients with Renal Insufficiency and the Incidence of Hypoglycemia	Hyperkalemia is a potentially life-threatening condition that can lead to fatigue, muscle weakness, and sudden death due to cardiac arrhythmias. To address this electrolyte abnormality and reduce the risk of sudden death, patients are commonly treated with a protocolized treatment regimen incorporating calcium, sodium bicarbonate, and potassium exchange agents. Current guidelines and recent studies suggest a dose of 10-20 units for the management of acute hyperkalemia. However, this dosing strategy may be associated with increased side effects such as hypoglycemia. Furthermore, patients with chronic kidney disease may experience hypoglycemic episodes at rates exceeding 30% due to impaired insulin clearance leading to prolonged pharmacodynamics. This research will assess the difference in the incidence of hypoglycemia when comparing less than 10 units of regular human insulin to 10 units for the treatment of hyperkalemia in patients with renal insufficiency.	This retrospective cohort study was conducted between January 1, 2023 and June 30, 2023 at a community health system. Eligible patients were 18 years or older and had an estimated glomerular filtration rate of less than 45 mL/min or were receiving intermittent hemodialysis/peritoneal dialysis. Patients must have received at least one dose of intravenous insulin ordered from a Lee Health hyperkalemia orderset. Patients were excluded from this study if they did not have a pre and post-treatment serum potassium level, if they were hypoglycemic before initiating hyperkalemia treatment, or if patients had hyperpseudohiuakocytosis. Patients were divided into two groups based on the dose of intravenous insulin received: 10 units versus less than 10 units. A sub-analysis was performed to specifically compare 10 units to 5 units. The primary outcome was the percentage of patients experiencing hypoglycemia receiving 10 units versus less than 10 units of intravenous regular human insulin. Hypoglycemia for purposes of this study was defined as a blood glucose of less than 70 mg/dL. Secondary outcomes included the incidence of the requirement for rescue intravenous dextrose administration post-insulin administration, change from baseline serum potassium, hospital length of stay, and all-cause mortality within the index emergency department visit.	This study included 150 patients receiving 5 units (n=75) or 10 units (n=75) of intravenous insulin regular for the management of hyperkalemia. The primary outcome of the incidence of hypoglycemia occurred more frequently in the patients who received 10 units of insulin regular (22% vs 12%, p < 0.01). There was no difference in the reduction of serum potassium between the two groups (0.96 vs 0.99, p = 0.46), the incidence of the administration of intravenous dextrose (13% vs. 23%, p = 0.14), length of stay (7.9 days vs. 6.9 days, p = 0.92), or all cause mortality (3% vs. 4%, p = 0.65).	Utilizing 5 units of intravenous insulin regular for the treatment of hyperkalemia in patients with renal dysfunction resulted in a lower incidence of hypoglycemia while retaining efficacy in serum potassium reduction. Based on this data, it may be reasonable to prioritize using 5 units v. 10 units of intravenous insulin regular.
Colon, Cristina	tina18.cc@gmail.com	Community Care Plan	Impact of social determinants of health on medication adherence and care costs in heart failure and hypertension	According to the 2023 American Heart Association Guideline for the Management of Patients with Chronic Coronary Disease SDOH, are key drivers of health disparities and inequities Significantly impact the health and well-being of patients. Addressing these barriers through SDOH interventions can significantly improve adherence and treatment outcomes for patients with hypertension and heart failure. The cost of care can significantly impact health plans as it directly influences their financial stability. Few studies have examined the connection between SDOH and the cost of care in cardiovascular disease	A retrospective cohort study was conducted among 82 members with hypertension and heart failure. Member demographics, clinical traits, SDOH referrals, medication adherence, and care costs were collected using Community Care Plan data warehouse Power BI. Data was retrieved in September 2024 for members serviced from January to December 2023.	A total of 82 members were included in this study, 41 in each group. In Group 1 a total of 56.1% of the members were adherent to their medications, while 43.9% were not adherent. In Group 2 only 22% of members were adherent, while 78% were not adherent. The median cost of care for Group 1 was $7,391.68, while the median cost for Group 2 was substantially lower at $1,281.51. Group 1 had a higher number of members with a cost of care exceeding $20,000. In Group 2, most members had a cost of care below $999.	Findings demonstrated a statistically significant association between SDOH referrals and medication adherence. Members who received SDOH referrals incurred higher care costs compared to those who did not, this may be attributed to the higher utilization of available resources from the health plan and multiple unrelated hospitalizations. Future studies should evaluate long-term intervention effectiveness and address persistent adherence barriers.
Connor, Joel	cstengel224@gmail.com	Tallahassee Memorial HealthCare	Effect of abdominal wall thickness on anti-Xa levels during enoxaparin prophylaxis in obese trauma patients	Venous thromboembolism (VTE) is a life-threatening medical condition that is a common complication in trauma patients due to meeting Virchow's triad (hypercoagulability, hemodynamic changes, and endothelial injury). Current guidelines recommend enoxaparin for the prevention of VTE in this patient population; however, there is a lack of consensus on the most appropriate method for determining the dose, as weight-based dosing can prove subtherapeutic. This can be seen with the obese population, as these patients have an increased rate of VTE. One proposed method for determining an appropriate enoxaparin prophylactic dose is through the measurement of abdominal wall thickness as resulted from a CT scan. The goal of this study is to find a correlation between abdominal wall thickness and anti-Xa level for prescriber consideration in enoxaparin dosing for obese trauma patients.	This is a prospective, single-center, quality improvement project at a not-for-profit healthcare system. Patients admitted to the inpatient trauma service will be screened for inclusion into the study. Those that qualify for abdominal CT scans based on surgeon discretion with respect to trauma-related diagnoses will have an abdominal wall thickness measurement recorded in the electronic medical record (EMR). This study will utilize the pharmacist-driven protocol for enoxaparin prophylactic dosing for obese trauma patients who weigh 120 kg or greater. This protocol dictates that enoxaparin 60 mg twice daily will be initiated. Data will be analyzed in a continuous manner by obtaining peak anti-Xa level measurements and categorizing each result as subtherapeutic (< 0.2 units/mL), therapeutic (0.2 to 0.4 units/mL), or supratherapeutic (> 0.4 units/mL) per hospital policy. These will be matched to the corresponding enoxaparin dose given and abdominal wall thickness that was assessed. The primary objective of the study is to determine the relationship between abdominal wall thickness and anti-Xa level in adult obese trauma patients receiving enoxaparin for DVT prophylaxis. Secondary objectives include identifying the final dose of enoxaparin needed to provide therapeutic anti-Xa levels and the incidence of VTE. Other patient information that will be analyzed include social history for tobacco use and renal function (creatinine clearance). All pertinent patient information will be obtained from the EMR and stored on a protected spreadsheet. Based on power analysis and prior trauma patient census, we estimate that we will need access to 100 patient records in order to provide 80% power for the study.	Due to a change in IRB leadership, implementation of a new EMR, and a smaller patient population than expected, the study is currently in progress. As such, only preliminary data are available. Five patient charts have been reviewed, with two being included in the analysis and three being excluded. Exclusions were due to delays in starting the consult, lack of abdominal CT imaging, and the develop of VTE prior to appropriate dose adjustments. Patient A weighed 121.6 kg, had an average abdominal wall thickness of 77 mm, and a creatinine clearance of 70.46 mL/min. The initial anti-Xa level was 0.49 units/mL, and they required two dose adjustments with a final therapeutic enoxaparin dose of 40 mg twice daily. Patient B weighed 140 kg, had an average abdominal wall thickness of 52.5 mm, and had a creatinine clearance of 114.7 mL/min. The initial anti-Xa level was 0.32 units/mL and therefore required no dose adjustments, staying at the enoxaparin dose of 60 mg twice daily. Neither patient developed a VTE during their admission.	Preliminary data suggests that patients with thicker abdominal walls require more dose adjustments. Interestingly, of the two patients analyzed, the patient with the thicker abdominal wall required a lower dose of enoxaparin in order to reach a therapeutic anti-Xa level. There are many confounding variables that could have altered the results, and definitive conclusions cannot be drawn from the two patients analyzed. While the current data contradicts the hypothesis, ongoing data collection continues, and efforts are being made to reach evaluate additional patients.
Conrad, Alan	acon0009@shands.ufl.edu	UF Health - Shands Hospital	Evaluation of the Timeframe to Re-optimization of Automated Dispensing Cabinets at a Large Academic Medical Center	Automated dispensing cabinets (ADCs) play a crucial role in enhancing efficiency of medication distribution, reducing dispensing errors, and improving diversion monitoring throughout hospital systems. The efficiencies gained are due to secure storage and dispensing on the nursing units. The magnitude of efficiency is reliant on the ADC having the appropriate amount and types of medications. When adjustments to the ADC inventory are made to accommodate the needs of a unit's current patient population, this process is referred to as optimization. ADC optimization involves removing stagnant stock from cabinets to create space, adding new medications frequently utilized through patient-specific methods, and adjusting the PAR levels of current ADC inventory to reflect usage patterns. Research indicates that optimizing ADCs reduces doses dispensed from the central pharmacy, decreases technician time needed for restocking cabinets, and shortens medication turnaround time. Most studies examine a single instance of optimization and suggest that these efforts should be repeated to maintain benefits. This study seeks to determine when optimization advantages are diminished, and re-optimization should occur.	This study was conducted at a large academic medical center with 248 ADCs distributed across three towers. The study population included ADCs in the adult patient care units of one of the institution's towers. ADCs in pharmacy areas, perioperative areas, and pediatric units were excluded. The optimization and monitoring processes are detailed below. Medications were removed from cabinets if they had low or no usage in the six months before optimization. Low usage was defined as eight or fewer dosage units issued and four or fewer transacted days in the preceding six months. Medications identified as potential additions to common stock were considered if there were four or more Patient Specific Bin (PSB) assignments in the previous 180 days. During optimization, the automation technician added medications from most to least used until all available space in the cabinet was filled. PAR level adjustments utilized average daily usage on dispensed days multiplied by seven to facilitate a once-weekly restock. The reorder quantities were set at half of the maximum PAR. The critical low amount was also established at half of the reorder quantity. The primary outcome was the time taken to reach a 50% loss of the benefit from optimization, based on the composite of the weekly number requested fills from the central pharmacy area for patient-specific orders, critical low restocks, and stockouts of optimized ADCs. Secondary outcomes included the components of the composite outcomes and the time taken to lose 25%, 75%, and 100% of the benefit of optimization based on the composite outcome. Outcomes were evaluated weekly for 12 weeks following the washout period.	The study included 34 ADC cabinets across 12 patient care units providing varying levels of care: medical-surgical, intermediate, and intensive care. A total of 154 medications were removed from the ADC inventory, 1,324 medications had their PAR levels adjusted, and 313 medications were identified for addition to the ADC inventory during optimization. The baseline for the composite outcome was calculated at 1,971 fills per week from the central pharmacy. Following the washout period, the composite outcome decreased to 1,648 fills requested (a 16.4% reduction). The lowest weekly composite was recorded in week 10 with 1,598 fills requested (an 18.9% reduction). The average number of fills requested weekly for the primary outcomes was 1,720 (a 12.7% reduction). The primary outcome was reached in week 7 of the study period. The secondary endpoints of 75% and 100% loss of benefit were not achieved during the study period.	The benefits of ADC inventory optimization reported in the literature are replicated in this study, with reductions in the number of fills from central pharmacy areas. The primary outcome was achieved in week 7 due to a shipment failure of piperacillin/tazobactam 4.5 gram vials, while the composite outcome returned the following week, aligning with the trend observed in weeks 3 through 6. The average of the composite outcome remained below the primary endpoint for the entire study period, indicating that the benefits of optimization were sustained. An uptrend in the composite outcome from weeks 10 through 12 may suggest that re-optimization should occur quarterly. Limitations of this study include the comparison period not aligning with the study period and the physical space within the ADC cabinets, which constrained the optimization process.
Corry, Bethany	Corry.Bethany@mayo.edu	Mayo Clinic Florida	High-dose versus low-dose darbepoetin alfa for anemia following lung transplantation	Post-transplant anemia (PTA) is a common complication following solid organ transplant. Incidence of PTA after lung transplant has been reported in the literature to be 21%-65% and moderate to severe anemia has been associated with increased morbidity and mortality. The development of PTA is not well defined in lung transplant and is generally considered multifactorial. Factors that may contribute to development of PTA include gender, age at time of transplant, indication for transplant, renal function following transplant, and dosing of antiproliferative and anti-viral medications after transplant. Darbepoetin alfa is an erythropoietin-stimulating agent (ESA) commonly used in the management of anemia. Much of the existing literature supports its use in anemia related to anemia due to chemotherapy, myelodysplastic syndrome, or chronic renal failure. The use of darbepoetin alfa in the management of anemia in lung transplant recipients has been extrapolated from data in kidney transplant recipients. Initial FDA-approved darbepoetin dosing in end-stage renal disease is 0.45 mcg/kg weekly, whereas dosing following chemotherapy and bone marrow suppressants is 2.25 mcg/kg weekly. Due to the multifactorial nature of PTA and lack of literature on darbepoetin alfa for this indication, dosing remains controversial in this patient population.	This was an IRB-approved, retrospective study evaluating darbepoetin alfa dosing in lung transplant recipients at a large academic medical center. Patients were included if they were adults > 18 years old, received a lung transplant at our center from October 6, 2018 to March 1, 2024, and received at least one dose of darbepoetin alfa for treatment of post-transplant anemia. Patients were excluded if they received combined lung-kidney or heart-lung transplants, were deceased or re-transplanted at first 4-week follow-up or started darbepoetin alfa more than 400 days from transplant. Patients were divided into low-dose (1 mg/kg) groups based on initial darbepoetin dose. The primary outcome was achievement of goal hemoglobin (Hgb) concentration > 10 g/dL at 12 weeks after darbepoetin alfa initiation. The following secondary outcomes were assessed: time to goal Hgb, dose of darbepoetin alfa needed to reach goal Hgb, incidence of Hgb > 11 g/dL, incidence of myocardial infarction (MI), cerebrovascular accident (CVA), venous thromboembolism (VTE), and mortality within 6 months of darbepoetin initiation. Statistical analysis was performed using BluSky Statistics version 10.3.4. Continuous data was analyzed using Mann-Whitney-Wilcoxon test and categorical data was analyzed using Fischer's exact test.	Sixty-one lung transplant patients were included for analysis. Twenty-eight patients were included in the low-dose group and thirty-three patients in the high-dose group. Baseline demographics are shown in Table 1 and were overall similar, except for patients in the high-dose group having greater median intraoperative blood loss. For the primary endpoint, 60.7% of patients in the low-dose darbepoetin alfa group and 57.6% of patients in the high-dose group achieved a goal hemoglobin > 10 g/dL at 12 weeks follow-up. Patients in the high-dose group had a shorter median time to goal hemoglobin at 15 days compared to 27 days in the low-dose group, but this difference was not statistically significant. However, this did not result in a sustained hemoglobin above goal for patients in the high-dose group as shown by the similar rates of patients who met the primary endpoint at 12 weeks. Patients in the high-dose group had a higher incidence of venous thromboembolism at 6 months, shorter times to thrombotic events and had higher numbers of thrombotic events per patient, but these differences were not statistically significant. Similarly, there were no statistically significant rates of or time to myocardial infarctions, cerebrovascular accidents or mortality shown in Table 2.	In this retrospective study evaluating darbepoetin alfa dosing for anemia after lung transplantation, no statistically significant differences in effectiveness or safety were observed in patients receiving initial weight-based doses < 1 mg/kg versus patients receiving > 1 mg/kg. Patients receiving higher darbepoetin alfa doses reached a goal hemoglobin sooner, but this difference was not statistically significant or sustained at 12 weeks.
Cossin, Samantha	samcossin@gmail.com	Boca Raton Regional Hospital	Assessing the implementation of a pharmacy-driven home medication reconciliation in admitted surgical patients	Medication reconciliation errors during hospital admission can lead to adverse outcomes, particularly among surgical patients. At Baptist Health Boca Raton Regional Hospital (BRRH), surgical patients' home medication histories are collected by Pre-Admission Testing (PAT) nurses, while emergency department (ED) admissions utilize trained pharmacy technicians. This quality improvement project aimed to compare the accuracy of nurse-led versus pharmacy-led medication history collection.	A single-center, retrospective and prospective pre/post-intervention study was conducted at BRRH. Adult patients admitted through the ED (pre-intervention group, n=121) from January 2022 to September 2024 were compared with surgical patients (post-intervention group, n=121) from November 2024 to March 2025. The primary outcome was the rate of admission medication reconciliation discrepancies. Secondary outcomes included discrepancy types, incidence of discrepancies reaching patients, and pharmacist intervention time.	The surgical group experienced a significantly higher discrepancy rate (22.98%) than the ED group (7.42%, p<0.001), with 81% of surgical patients having at least one discrepancy compared to 34% in the ED group (p<0.001). Frequency and omission discrepancies were most common. Pharmacist interventions for surgical patients totaled 950 minutes, averaging 7.9 minutes per patient.	Pharmacy-driven home medication history collection demonstrated significantly fewer discrepancies than nurse-led collection in the surgical setting. Integrating pharmacists or pharmacy technicians into the PAT process may enhance medication safety and reduce pharmacist intervention time post-admission. Future efforts should explore cost-effective pharmacist involvement or enhanced nurse training to optimize preadmission medication reconciliation.
Coughlin, Alexander	acoughlin@tgh.org	Tampa General Hospital	Impact of Midodrine on Vasopressor Use in Spinal Perfusion Augmentation	Spinal cord injury (SCI) affects approximately 700,000 to 1.2 million people globally each year, with 81,000 to 148,000 cases in the United States. SCI can result from direct injury to the spinal cord or damage to surrounding tissues, leading to impaired perfusion and secondary ischemic injury. To optimize spinal cord blood flow and improve neurologic outcomes, current guidelines recommend to elevate MAP to 85- 90 mmHG for the first 5 - 7 days following an injury. Intravenous (IV) vasopressors such as norepinephrine and phenylephrine are commonly used for MAP augmentation and often necessitate intensive care unit (ICU) or step-down admission, increasing healthcare costs and risks of adverse effects. Midodrine, an oral alpha-agonist, has been investigated to reduce vasopressor requirements in other ICU populations, but its role in SCI management remains unclear. This study evaluates whether midodrine facilitates earlier discontinuation of IV vasopressors in patients with SCI or post spinal surgery.	This retrospective, single-center cohort study was conducted at a level 1 trauma academic medical center, including adult patients (≥18 years) admitted between January 1, 2018, and March 1, 2024. Patients with SCI or post-spinal surgery requiring MAP augmentation with vasopressors were identified via ICD-10 codes. Exclusion criteria included pregnancy, prisoners, fludrocortisone use, death during MAP augmentation, or vasopressor use	Of the 153 identified patients, 62 met inclusion criteria. The cohort was divided into two groups: vasopressors plus midodrine (VM; n=27) and vasopressors alone (VA; n=35). Baseline characteristics, including age, sex, injury mechanism, and comorbidities, were similar between groups. The median time to vasopressor discontinuation in the VM group was 4.3 days (IQR 3.4–5.2) compared to 3.0 days (IQR 2.2–4.4; p=0.01. Secondary outcomes showed no significant differences. Median norepinephrine equivalent doses were higher in the VM group (117.5 mcg/kg/day [IQR 75.2–203.4]) than in the VA group (70.7 mcg/kg/day [IQR 47.7–163.9]); p=0. 13. ICU LOS was comparable (6 days [IQR 5–13] VM vs. 8 days [IQR 5–19] VA); p=0.62. Functional outcomes, measured by AM-PAC scores, were similar between groups (median 6 [IQR 6–7] VM vs. 6 [IQR 6–11] VA; p=0.21). In the VM group, midodrine was administered for a median of 58 hours (IQR 21–83.6), with a median daily dose of 26.5 mg (IQR 17.8–30.8). Dose escalation of midodrine in the VM group occurred in 37% of patients. Bradycardia was a rare occurrence (3.7%) in the VM group, with a median lowest heart rate of 54 bpm (IQR 49–68). When stratified based on location of injury, median time to vasopressor discontinuation for cervical injuries was 4.3 days in the VM group and 3.5 days in the VA group; p=0.07, and for thoracic injuries, it was 2.8 days in the VM group and 2.6 days in the VA group; p=0.17. Patients with American Spinal Injury Association Impairment Scale (AIS) scores of A received vasopressors for 3.6 days in the VM group and 3.2 days in the VA group; p=0.51. Patients receiving midodrine doses above 45 mg/day received vasopressors for 4.8 days and 3.0 days when compared to vasopressors alone; p= 0.004. When patients were grouped by MAP goal days (mostly 3 or 5 days), no significant difference was found in vasopressor use. For 3-day goals, median times were 3.0 (VM) and 2.6 (VA) days; p= 0.16. For 5-day goals, median times were 4.8 (VM) and 3.6 (VA) days; p= 0.06.	In this study, the use of midodrine in patients with SCI or post-spinal surgery was not found to be associated with a reduction in time to IV vasopressor discontinuation, decreases in vasopressor requirements, ICU LOS, or improvements in functional outcomes. These results suggest that midodrine may not consistently offer a benefit for vasopressor weaning in this population. Given the variability in prescribing practices and the retrospective nature of this study, midodrine use should be tailored for each patient with SCI, weighing the potential risks and benefits of therapy.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Cowden, Jessica	jessica.cowden@mylrh.org	Lakeland Regional Health	Impacts of standardized compassionate terminal extubation order set implementation	Palliative care focuses on providing symptom relief for patients with terminal or life-limiting illnesses, beginning at diagnosis and continuing through the disease's progression, including the end stages. In the terminal phase, patients may transition to "comfort measures only" (CMO), which involves discontinuing life-sustaining treatments like intravenous fluids, antibiotics, and ventilatory support, while prioritizing symptom management for comfort. Many healthcare institutions have implemented CMO order sets to improve the availability of essential medications to manage common end-of-life symptoms such as pain, dyspnea, excessive secretions, anxiety, and agitation. Following these multi-modal protocols has been shown to increase patient comfort and support a peaceful end-of-life experience. For patients who are mechanically ventilated or receiving high-flow oxygen (e.g., BiPAP, high flow nasal cannula), compassionate terminal extubation may be considered. This process involves administering multi-modal medications (e.g. morphine, glycopyrrolate) before withdrawing ventilatory support. These adjuvant medications play a crucial role in alleviating symptoms like dyspnea and anxiety during this transition, ensuring a more peaceful and comfortable process. In 2019, the study institution, a 1,000-bed tertiary medical center, developed a dedicated order set for compassionate terminal extubation. This protocol includes the use of opioid and adjuvant symptom-management therapies before and after extubation. Prior to this, the process was largely guided by provider preference. The goal of the study is to assess the impact of this structured compassionate terminal extubation order set on stabilizing patients during the end-of-life phase.	This study was an IRB-exempt, single-center, retrospective cohort evaluation. The primary objective was to assess differences in morphine milligram equivalents (MME) consumption before and after the implementation of the compassionate terminal extubation order set. Secondary outcomes included the utilization of anticholinergics, antipsychotics, and benzodiazepines in patients before and after the intervention. Data for the pre-intervention group were obtained from an electronic medical record (EMR) report spanning June 1, 2017, to June 1, 2019, while the post-intervention group was identified through a report from June 1, 2022, to June 1, 2024. The pre-intervention cohort consisted of CMO patients who underwent removal of mechanical ventilation, whereas the post intervention cohort included patients who had the compassionate terminal extubation order set and underwent removal of mechanical ventilation, BiPAP, or high-flow nasal cannula. Exclusion criteria included patients who met brain death criteria, underwent organ donation after circulatory death, were discharged from the hospital after orders were placed, had illicit drug use or chronic opioid use, or were extubated in the emergency department. Sample size calculations estimated that approximately 150 patients would be needed to detect a 12% difference in the primary outcome, with an alpha level of 0.05 and 80% power. The primary outcome was analyzed using a Mann-Whitney U test, while chi-squared tests of independence were used for secondary outcomes.	Patients were screened for inclusion in reverse chronological order. The pre-intervention group screened 217 patients, of which 150 were included, while the post-intervention group screened 141 patients, with 101 ultimately included. Baseline characteristics (see Table 1) showed similar distributions of age and sex between the groups. However, all patients in the pre-intervention group were mechanically ventilated, whereas the post-intervention group also included patients receiving high-flow nasal cannula and BiPAP. The median morphine milligram equivalent (MME) consumption prior to oxygen removal, after oxygen removal, and over a 24-hour period showed minimal differences between the two groups. However, the post-intervention group demonstrated more consistent use of opioid pushes, anticholinergics, and benzodiazepines before oxygen removal. Specifically, 30% more patients in the post-group received opioid pushes, 39% more received anticholinergics, and 53% more received benzodiazepines. Additionally, the use of glycopyrrolate after oxygen removal decreased by 20%, though there were no statistically significant differences in the use of other adjuvants.	After the implementation of the compassionate terminal extubation order set, the total MME consumption between the two groups did not show a statistically significant difference. This lack of difference may be attributed to the study's power limitations. However, there was an increase in the use of adjuvant medications- including opioid pushes, benzodiazepines, and anticholinergics- prior to oxygen removal in the post-intervention group. Additionally, the post group showed a decrease in the use of glycopyrrolate after oxygen removal. The creation of the compassionate terminal extubation order set has promoted a multi-modal approach to symptom management prior to oxygen removal, which likely improves patient comfort during the end-of-life process in the hospital setting.
Cruz, Claudia	cc2875@mynsu.nova.edu	Miami Veterans Affairs Healthcare System	Improving SGLT2 inhibitor utilization in chronic kidney disease patients with or without diabetes: a quality improvement initiative	The EMPA-KIDNEY trial found that the use of sodium glucose cotransporter-2 inhibitors (SGLT2i) led to reduced risk of kidney disease progression. Following these findings, the use of SGLT2i have been incorporated into the Kidney Disease Improving Global Outcomes (KDIGO) guidelines as a 1A recommendation. Despite these recommendations, there is a lag in the addition of SGLT2i in this population in practice. Therefore, this study was designed to identify patients with chronic kidney disease (CKD) with or without type 2 diabetes (T2DM) that would benefit from the addition of an SGLT2i to assist in the risk reduction of CKD.	In this study, data from a population management tool was collected and assessed retrospectively. Patients identified meeting the set criteria will be reviewed by a clinical pharmacist for appropriate addition of an SGLT2i to therapy. Patients will be required to meet the criteria for CKD with or without T2DM with an eGFR ≥ 20 ml/min per 1.73 m2 and, urine ACR ≥ 200 mg/g if CKD is present without T2DM. Once appropriateness is determined, an intervention will be made to refer the patient to a clinical pharmacy practitioner (CPP) for the addition on an SGLT2i to optimize pharmacotherapy. Subsequently, three months after the intervention is made an analysis will be conducted to assess if the implementation was done. Patient specific factors will be collected from the computerized patient record system (CPRS), including eGFR, serum creatinine, ACR, age, gender, race, medications, and A1C.	The preliminary results of this study identified a significant number of patients that may benefit from interventions to optimize medication management for CKD. The final study population resulted in 72 patients eligible for potential intervention by a CPP. Further collaboration between providers and CPP would result in improved prescribing and monitoring practices to optimize patient care.	It was identified that there are opportunities for utilization of Pharmacy Service in this area. These potential interventions and prescribing of guideline directed therapy by CPPs will include patient education on the benefits of SGLT2i in CKD and prevention of disease progression, renal dose adjustment, and potential side effects. The impact of pharmacist interventions is currently being collected.
Culley, Rachel	rachculley1011@gmail.com	St. Anthony's Hospital	Ceftriaxone dosing in obese patients with bacteremia	Ceftriaxone is a third-generation cephalosporin antibiotic that is used frequently for the treatment of bacteremia commonly caused by gram-negative organisms such as E. coli, Klebsiella spp., and H. influenzae and some gram-positive organisms such as S. pneumoniae. The pharmacokinetics of cephalosporin dosing, specifically ceftriaxone, in the obese population has been a topic of uncertainty. A small study in 2020 looked at ceftriaxone dosing in the obese population for many types of infections and found that the obese population was more likely to experience treatment failure with traditional ceftriaxone dosing compared to non-obese patients. The goal of this study is to determine if there is a need for alternative ceftriaxone dosing strategies to prevent treatment failure in obese patients with bacteremia.	This is a retrospective chart review including patients that were admitted to St. Anthony's Hospital between January 2021 and December 2023. The primary objective of this study was to evaluate the efficacy of ceftriaxone dosing for the treatment of bacteremia in the obese population. The inclusion criteria were as follows: age ≥ 18 years old, one positive blood culture to a ceftriaxone susceptible pathogen and on ceftriaxone treatment for ≥ 72 hours. Patients were included in the obese group for BMI ≥ 30 kg/m2. The primary endpoint was clinical failure defined as a composite of: change in antibiotic therapy, persistent leukocytosis (WBC > 10 x 103), and persistent fever (tmax > 100.3° F). The secondary outcomes included all-cause in-hospital mortality and 30-day hospital readmission. Subgroup analyses were conducted to compare outcomes across different dosing strategies. Descriptive statistics were used for demographic data and discrete variables. Fisher's exact test was used for categorical data and presented with 95% confidence intervals. An alpha of 0.05 or less was deemed significant.	The median age in the non-obese group was 76 compared to 67 the obese group. This was the only patient characteristic that was found to be statistically different between the two groups (95% CI -8[-13, -4], p-value 0.000). All other baseline characteristics were similar between groups. The primary outcome of treatment failure occurred in 37.7% in the non-obese group and 50% in the obese group (95% CI -0.12[-.028, 0.03], p-value 0.175). There were no significant differences or noteworthy trends seen in the secondary outcomes. In the subgroup analyses, 58.1% of patients in the obese group that were on 2g q24h failed, compared with 39.3% of patients in the non-obese group on the same regimen (95% CI -0.19[-0.40, 0.03], p-value 0.121).	There was not a statistically significant difference in treatment failure between the obese and non-obese group. There was however, a trend toward treatment failure in the obese group based on percentage. The reason for this percent increase in treatment failure is unknown. However, an explanation could be due to the pharmacokinetic differences of ceftriaxone in obese patients compared to non-obese patients. There was not a significant difference in either secondary outcome. In the subgroup analysis, a trend toward treatment failure was seen in the 2g q24h group versus the 1g q24h group. It is hypothesized that the reason for this trend was due to the underlying types of infections being treated. Theoretically, providers may have been using 1g q24h regimens to treat bacteremias that were rooted in less severe infections such as urinary tracts infections. This in turn, would put them at a higher likelihood of treatment success based on the underlying problem. Although the results of this study were not deemed significant, the high percentage of treatment failure in the obese group does pose the question of whether or not ceftriaxone is an appropriate agent to be used in this patient population. A larger sample size would be needed to show any significance in the primary outcomes.
Dean, George	george.dean@hf.org	Health First Holmes Regional Medical Center	Implementation of a naloxone take-home kit program for patients discharged from emergency departments across a four-hospital health-system	Opioid overdose is a major, rising cause of drug-related mortality in the United States, accounting for 80,411 of 106,699 (75%) of overdose deaths in 2021. This is an increase from 42,249 of 63,632 (66%) overdose deaths in 2016. Naloxone is a lifesaving pure opioid antagonist with U.S. Food and Drug Administration (FDA) approval for the reversal of known or suspected opioid overdose and is available in intranasal and injectable formulations. Historically, a prescription was required to obtain naloxone for outpatient use. Hardin and colleagues found that only 18.2% of prescriptions for naloxone provided over a 7-month period were filled. In this study, the most cited barriers to accessing naloxone were a lack of money, insurance, or transportation. In September 2022, the state of Florida issued a standing prescription under the Florida surgeon general to distribute intranasal and intramuscular naloxone to emergency responders for administration to persons who may be at risk for opioid overdose. In March 2023, the FDA approved naloxone 4mg intranasal (Narcan®). for over the counter, nonprescription use, opening avenues for public health programs to curb the overdose epidemic via naloxone distribution to the public. This study aims to continue working to reduce barriers to obtaining naloxone.	A naloxone take home kit (NTHK) program was started in a four-hospital health-system in October of 2024. Kits were approved to be given to patients being discharged from the ED who were treated for an overdose that was reversed with naloxone, had a history of naloxone reversal, had a risk for need of future naloxone reversal, requested a kit, or were otherwise deemed appropriate for a NTHK by a provider. Plan-Do-Study-Act (PDSA) cycles were implemented over a 5-month period to improve the new NTHK program across the health system. Each cycle was reviewed monthly by the research team to assess process measures, barriers, and to propose solutions for implementation in the next cycle. The primary endpoint was the change in the number of kits distributed. Secondary endpoints were all cause readmissions in patients who received a naloxone kit, opioid overdose readmission rates in all hospital patients, hospital nonfatal and fatal overdoses, and county nonfatal and fatal overdoses. Retrospective patient data including kit use was collected using the institution's electronic health record.	Over the initial 4 months, 132 kits were distributed (Table 1) with a mean of 33 per hospital. The mean number of kits distributed across all four hospitals was 8.25 per month. 17/132 (12.9%) kits were given to patients treated for an overdose, 104/132 (78.8%) were for patients discharged with an opioid prescription and 3/132 (0.02%) were via patient request.	The primary qualitative measure that the research team became aware of throughout the study was a lack of physician and nursing knowledge of the process of ordering or pulling the naloxone kits from the automated medication cabinets. The response to this deficit was added educational signage for physicians and nursing in common areas in addition to directly educating staff when patients that may benefit were recognized. The average number of kits distributed was lower than predicted. Some providers were outliers with far higher or lower numbers of kits ordered than others, skewing results between hospitals and making the impact of implemented interventions difficult to assess. This is suggestive that provider buy-in is more important than originally assumed. One way to control for this in a future study would be to establish a program requiring that patients who meet criteria will automatically receive a kit unless declined by providers or the patient. Our electronic health record did not allow for this level of automation, which would be considered a study limitation. An initial lack of workflow knowledge by hospital staff would be another major limitation. This study was conducted in a large and diverse ED population, lending to the generalizability of our results. This program is soon to see expansion into the hospital's obstetric population, further broadening the scope and impact that it may have.
Denny, John	john.denny@leehealth.org	Lee Health Gulf Coast Medical Center	Levetiracetam effects on clinical and safety outcomes in patients with extra-axial versus intra-axial intracranial hemorrhages	Levetiracetam is commonly used off-label for seizure prophylaxis for both traumatic and non-traumatic brain injuries to reduce the risk of the development of post-traumatic seizures and subsequent post-traumatic epilepsy. Intracranial hemorrhages can be classified into two different types depending on location of the bleed: extra-axial occurring around the brain tissue and intra-axial occurring within the brain tissue. Guidelines recommend utilization of anti-seizure prophylaxis for traumatic brain injury, skull fractures, and intracerebral hemorrhages. At Lee Health, the prescribing of anti-seizure medications after intracerebral hemorrhages is prescriber specific despite available guideline recommendations. The purpose of this study was to assess the efficacy and safety impacts of levetiracetam prescribing for seizure prevention in patients presenting with extra-axial versus intra-axial intracranial hemorrhages.	This retrospective cohort study was conducted between January 1, 2022 and January 1, 2024, at a community health system comprised of four adult acute care hospitals. Eligible patients were at least 18 years of age, admitted to a Lee Health adult acute care hospital with an intracranial hemorrhage and received at least one dose of levetiracetam for seizure prophylaxis. Patients presenting with a mixed hemorrhage classification were classified as having an intra-axial hemorrhage. Patients were excluded if they had a history of seizures or epilepsy prior to hospital presentation, prescribed levetiracetam or any other antiseizure medication for any indication prior to hospital presentation, a suspected or confirmed central nervous system malignancy, and those were started on levetiracetam post-cardiac arrest. The primary outcome was the incidence of seizure activity in patients with extra-axial versus intra-axial intracranial hemorrhages receiving prophylactic levetiracetam. Secondary outcomes included incidence of discontinuation of levetiracetam for adverse effects, time to first seizure post-injury, intensive care unit (ICU) length of stay, hospital length of stay, levetiracetam duration of therapy, documentation of seizure activity 90 days post-discharge and in-hospital all-cause mortality. Subgroup analysis was completed between traumatic and non-traumatic injury presentations determined by the activation of trauma services upon emergency department presentation.	A total of 150 patients were included in analysis with 44 patients and 106 patients classified as having intra-axial hemorrhages and extra-axial hemorrhages, respectively. Majority of the patients included were male with a mean age of 63 years old. Subdural and subarachnoid hemorrhages were most common in the extra-axial hemorrhage group and intraparenchymal hemorrhages were most common in the intra-axial hemorrhage group. Forty-nine patients presented with a multi-hemorrhage injury. Trauma services were activated for 29% of the patients (44/150 patients). The most common dose of levetiracetam prescribed was 500 milligrams twice daily. The primary outcome of documented seizure activity occurred in 4 patients and 9 patients who experienced an intra-axial and extra-axial hemorrhage, respectively. Secondary outcomes including discontinuation due to adverse effects, time to first seizure post-injury, ICU and hospital lengths of stay, levetiracetam duration of therapy and seizure activity 90 days post-injury were not statistically different amongst the two groups. In-hospital all-cause mortality was statistically higher in patients presenting with intra-axial hemorrhages compared to the extra-axial group (13 patients versus 7 patients). Subgroup analysis showed no significant differences except for in-hospital all-cause mortality with intra-axial hemorrhages accounting for a statistically significant increase in mortality compared to extra-axial hemorrhages.	Intra-axial hemorrhages were not associated with a significant difference in seizure occurrence despite increased mortality. Levetiracetam was discontinued due to adverse effects in 2 patients indicating the medication therapy was generally well tolerated. with only two incidences of discontinuation due to adverse effects. Despite levetiracetam being prescribed outpatient more frequently for extra-axial hemorrhages, patients with intra-axial hemorrhages had longer durations of therapy. Based on the results of this study, it may be reasonable to discontinue seizure prophylaxis after 7 days as less than one percent of patients experienced a seizure after 7 days post-injury. Strengths of this study include the contribution to limited literature related to hemorrhage classification and seizure rates, the accounting for confounding seizure factors including hyponatremia and alcohol withdrawal, and subgroup analysis between traumatic and non-traumatic injuries. Limitations include the retrospective nature of this study, the inability to access records from other health systems, the unequal group distributions with respect to primary analysis, and the failure to account for mechanism of injury. Future studies should be developed to assess hemorrhages broken down by mechanism of injury.
Drouin, AlexAnn	dalexiann@gmail.com	Baptist Medical Center/ Wolfson Children's Hospital	Optimal duration of insulin post-open-heart surgery	Hyperglycemia is a common issue following open-heart surgery impacting both diabetic and non-diabetic patients.1 Current guidelines suggest using an intravenous (IV) insulin infusion for managing blood glucose levels, but there is no clear consensus on the optimal timing for transitioning to subcutaneous insulin postoperatively.2 This study seeks to address this uncertainty by evaluating the duration of IV insulin infusion and its effect on patient outcomes, focusing on glycemic control, hospital length of stay, intensive care unit (ICU) length of stay, and the incidence of dysglycemic events.	This study was a single-center, retrospective chart review that evaluated the optimal transition time from IV to subcutaneous insulin after open-heart surgery. This study included patients who received an IV insulin infusion and then were subsequently transitioned to subcutaneous insulin after open-heart surgery between October 2023 and September 2024. Patients were excluded if they were on insulin U500, used an insulin pump prior to or after surgery, or did not receive at least one dose of long-acting subcutaneous insulin when transitioning from IV to subcutaneous insulin. Patients were initially grouped by postoperative day (POD) of IV-to-subcutaneous insulin transition (POD 1, 2, 3, or >4). Sample size calculations, assuming a medium effect size (0.25), recommended 180 participants (45 per group) for 80% power. However, no patients met criteria for POD >4, thus power was redistributed into the remaining three groups (60 per group). The primary outcome assessed the percentage of patients experiencing dysglycemic events, defined as blood glucose levels below 70 mg/dL (hypoglycemia) or above 180 mg/dL (hyperglycemia). Secondary outcomes included the incidence of hypoglycemia, hyperglycemia, percentage of blood glucose levels out of the target range (90-140 mg/dL), length of ICU stay, length of hospital stay, and the incidence of sleep disturbances. A multivariate logistic regression was performed to identify the predictive variables influencing the primary outcome. Blood glucose data was assessed both during the total time on IV insulin and for 24 hours after transition to subcutaneous insulin, and a subgroup analysis was conducted for each of these groups. Epi 7™ was used for all statistical analyses including Kruskal-Wallis test and logistic regressions.	A total of 60 patients were included in each group. Baseline characteristics are summarized in Table 1. Notable differences included A1c levels, diabetes history, and type and use of outpatient diabetes medications. The results of the primary, secondary, and subgroup analyses are summarized in Table 2. For the primary outcome, the percentage of dysglycemic events was lower in the POD 1 group (0 [0, 4.76]) compared to POD 2 (3.36 [0, 9.04], p < 0.01) and POD 3 (5.36 [2.99, 8.64], p < 0.01). Both hyperglycemic and hypoglycemic events differed amongst the groups, showing less events in the POD 1 compared to POD 3. The total percentage of patients achieving target glucose levels while on subcutaneous insulin differed in the subgroup analysis with POD 1 having a higher percent of target glucose compared to POD 3. ICU length of stay was longer in PODS (70.83 [66.9, 78.4]) compared to POD2 (48.6 [43.9, 62], p < 0.01) and POD1 (49.6 [44.1, 72.7], p < 0.01). No significant differences were observed in total length of stay or the initiation of new sleep medications. In the multivariate analysis, predictors of hypoglycemia included elevated A1c (7.5-8%) (OR 5.66, 95% CI 1.36–15.79) and chronic kidney disease (OR 3.65, 95% CI 1.46–9.13), while predictors of hyperglycemia were diabetes history (OR 2.94, 95% CI 1.08–7.96) and a heart-healthy diet at transition (OR 2.93, 95% CI 1.37–6.2).	Transitioning off the insulin drip on POD 1 is feasible, with fewer dysglycemic events, lower percentage of hypoglycemic events, higher percentage in target goal range when transitioning to subcutaneous insulin, alongside a shorter ICU stay compared to a longer transition duration, particularly for patients without diabetes or an A1c < 7%. Limitations include POD 3 having a higher proportion of patients with diabetes, higher A1c, history of outpatient diabetes medication use, and possible prescribing bias. Multivariate analysis indicated that a history of diabetes increased the risk of hyperglycemic events. 85% of patients in the POD 3 had history of diabetes. These results suggest longer durations of insulin infusion did not equate to less dysglycemic events or a more successful transition to subcutaneous insulin based on percentage within target glucose range. In conclusion, the results of this study will inform the development of a standardized protocol to guide and enhance the insulin transition process and may allow for an earlier transition in certain patient populations.
D'Silva, Danielle	danielle.dsilva10@gmail.com	Memorial Hospital West	Evaluation of Initial Intravenous Loop Diuretic Dosing in Diuretic-Naive Patients with Acute Heart Failure	Acute heart failure (AHF) is one of the leading admission diagnoses per year in the US, associated with high morbidity and mortality, as well as frequent re-hospitalizations. Patients admitted for AHF present with clinical signs of congestion and/or poor organ perfusion. Intravenous (IV) loop diuretics are a mainstay of therapy by providing prompt diuresis and relief from congestion and volume overload. The 2022 AHA/ACC/HFSA Guidelines for the Management of Heart Failure do not provide a recommendation for initial diuretic dosing in patients with AHF who were not on chronic diuretic therapy prior to admission (diuretic-naive patients). Current literature lacks clear recommendations for optimal diuretic dosing in diuretic-naive AHF patients. This study aimed to assess the clinical outcomes of initial IV loop diuretic dosing based on the admission serum creatinine (SCr) level cutoff on diuretic-naive patients admitted with AHF.	A multicenter retrospective chart review study conducted at Memorial Healthcare System (MHS) included all diuretic-naive AHF patients admitted to MHS adult acute care hospitals between January 1, 2023, and August 31, 2024. "Diuretic-naive" was defined as not receiving chronic oral loop diuretic therapy prior to hospitalization regardless of prior IV diuretic use. Diuretic-naive adult patients (≥ 18 years old) with a confirmed diagnosis of AHF (documented ICD-10 codes for acute heart failure and/or acute on chronic heart failure) on admission were included. Patients who received an optimal initial IV loop diuretic dose (defined as defined ≥40 mg IV furosemide (or equivalent dose) for patients with initial SCr < 2 mg/dL or ≥60 mg IV furosemide (or equivalent dose) for patients with initial SCr ≥ 2 mg/dL) were compared to those who received doses below these thresholds in the emergency room prior to admission. Primary outcomes were hospital length of stay and need for escalation of care within 24 hours of initial diuretic dose administration. Secondary outcomes included 30-day AHF hospital readmission and worsening renal function (peak increase in SCr ≥ 0.3 mg/dL within 72 hours of initial diuretic dose). Categorical data were analyzed using chi-square tests, and continuous variables were analyzed using Mann-Whitney U or t-tests, depending on data distribution. An a priori power calculation found 384 patients were required (192 per group) to achieve 80% power, utilizing two-sided alpha of 0.05 and hospital length of stay difference of one day. All data were collected by one investigator via Microsoft Excel, and all analyses were completed with Social Science Statistics online statistical software.	A total of 422 patients (206 patients in the optimal dosing group, 216 patients in the suboptimal dosing group) were included in this study, meeting study power. Most baseline characteristics were similar between the two groups: average age 75 years old, 54% female, median LVEF 50% on admission. However, there was a statistically significant difference in HF classification by LVEF between the two groups (p= 0.04). Over 90% of patients had an initial SCr < 2 mg/dL at baseline. The suboptimal group had a statistically higher incidence of new onset heart failure compared to the optimal group (40% vs 30%, p= 0.02). Admission NT-proBNP was higher for the optimal dosing group, 4430 (IQR 2330- 8000) versus 3450 (IQR 2000-5690) pg/mL (p= 0.02) in the suboptimal group. The optimal dosing group was also more likely to be on mineralocorticoid receptor antagonist on admission (14% versus 7%, p= 0.04). Median initial diuretic doses of the optimal and suboptimal dosing groups were 40 and 20 mg of IV furosemide, respectively. Hospital length of stay in the optimal and suboptimal dosing groups were similar (6.24 ± 5.80 days versus 5.44 ± 6.03 days, respectively, p= 0.11). Incidence of escalation of care within 24 hours of initial diuretic administration also did not differ between the optimal versus suboptimal dosing groups (5.3% versus 7.9%, p= 0.30). The incidence of worsening renal function within 72 hours was 23.7% and 19% for the optimal and suboptimal dosing group respectively (p = 0.23). The optimal dosing group was trending toward reduced 30-day heart failure hospital readmission compared to the suboptimal dosing group (5.8% versus 8.3%, p= 0.31), but this did not reach statistical significance.	In this cohort of diuretic-naive patients with AHF, there were no statistically significant differences between optimal versus suboptimal initial diuretic dosing in hospital length of stay, need for escalation of care, worsening renal function, and 30-day AHF hospital readmission. Larger studies are needed to establish further guidance on initial IV diuretic dosing in this target population to optimize clinical outcomes.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Duckett, Molly	mollyduckett24@gmail.com	Walgreens and Florida A&M University	Community Pharmacy Outreach Program to Promote RSV Vaccination in Eligible Older Adults and Improve Vaccination Rates	Along with influenza and COVID-19, respiratory syncytial virus (RSV) is one of the most common causes of acute respiratory tract infection in adults. Patients that are elderly or otherwise immunocompromised are at risk for disease progression into the lower respiratory tract, which is typically more severe with a greater potential for adverse patient outcomes (respiratory distress, respiratory failure). Three vaccines have been approved in the United States to prevent RSV infection (Abrysvo, Arexvy, and mRESVIA), and each have an efficacy around 80% at preventing lower respiratory tract disease (LRTD). The Centers for Disease Control Advisory Committee on Immunization Practices (CDC ACIP) recommend RSV vaccination for pregnant persons, adults 75 years of age and older, and adults 60 – 74 years of age who are at high risk for LRTD (heart/lung disease, immunocompromised).	RSV vaccination rates were compared at different community-based pharmacies within the same pharmacy chain during the winter respiratory season. Eligible patients were identified at the beginning of each week during the 3-month study period using a report of the prescriptions ready for pick-up at the study pharmacy in Jacksonville, Florida. Medication history consistent with treating comorbid conditions (heart/lung disease, immunosuppressing medications/conditions) was evaluated for patients between 60 and 74 years of age. Eligible patients were contacted up to 3 times to promote and educate on the importance of RSV vaccination. The total number of RSV vaccinations administered at the study pharmacy during the 3-month period of the 2024-2025 respiratory season was compared to the number of RSV vaccinations administered during the same 3-month period in the 2023-2024 respiratory season. Five pharmacies within the same chain with similar prescription filling volumes (identified through the pharmacy chain's financial metrics) were used as controls, and the change in RSV vaccinations between the two 3-month periods were compared to the change in RSV vaccinations noted at the study pharmacy. A student's t-test was used to assess for statistical significance in the changes noted.	A total of 173 patients were contacted at the study pharmacy (Walgreens Store 2220). Of this, 37 patients were willing to come to the study pharmacy to be vaccinated against RSV. The researcher was able to schedule 7 vaccine appointments. Compared to the 2023 – 2024 season, the study pharmacy administered 25 less RSV vaccinations during the study period, with an average weekly difference of -2.09 vaccines/week. The 5 comparator pharmacies also had a universal decrease in RSV vaccinations during the study period, and these changes were not statistically different from the changes noted at the study pharmacy. The mean changes in weekly RSV vaccination rates at the comparator pharmacies ranged from -0.55 to -1.91, with p-values between 0.3153 and 0.9091. Of note, many of the patients that did not agree to be vaccinated against RSV at the pharmacy stated that they wished to discuss their need for the vaccine with their primary care physician before being vaccinated. Every pharmacy used in this study had a decrease in total number of RSV vaccinations from the 2023-2024 respiratory season to the 2024-2025 respiratory season.	The decrease in RSV vaccinations between the two respiratory seasons at the study pharmacy was not significantly different from the decreases observed at the comparator pharmacies. Although the data do not show a meaningful increase in RSV vaccinations administered after implementation of the community pharmacy-based outreach program, the researchers were able to provide education on the importance of RSV vaccination for patients, giving them helpful information to make decisions about their own healthcare. This study relied on contacting patients during business hours with the phone number on file at the pharmacy, so many patients were not able to be reached at all. The RSV vaccine was approved and available in the United States shortly before the start of the 2023-2024 months used for comparison in this study, which may explain the universal decrease in vaccinations during the 2024-2025 respiratory season. Additionally, during the study period (January 2025), the Food and Drug Administration required that a warning be added to the RSV prescribing information for Guillain-Barre Syndrome (GBS), which could have added to vaccine hesitancy in the patient population.
Echevarria Munoz, Brenda	brendaemunoz97@gmail.com	Broward Health Medical Center	Comparison of beta-blocker use to no beta-blocker use in patients with traumatic brain injury at an urban trauma center	Traumatic brain injuries (TBI) are a major cause of morbidity, mortality, and disability. Secondary injury occurs with further tissue and cellular damage after a primary injury caused by an initial insult. Early administration of beta-blockers (BB) to patients with traumatic brain injury (TBI) may mitigate the increased sympathetic activity that results in excessive catecholamine release possibly worsening patient outcomes. The Eastern Association for the Surgery of Trauma (EAST) guidelines, recommend BB only under specific conditions. However, clinicians still use BB as part of TBI management despite a lack of clear guidance, due to the possible benefit of improving outcomes. This study compared the use of BB to no BB use in patients with TBI in the intensive care unit (ICU) at a trauma center.	A retrospective chart review was conducted of all adult patients who were admitted to the ICU with a TBI between November 1st, 2018 and June 30th, 2024. Patients were identified using the institution's trauma registry. Those who received at least two doses of any BB were compared to those who did not receive any BB doses. Patients who were transferred from or to an outside hospital, were pregnant, had a BB start more than 30 days after admission, or received PRN doses of BB, continuous infusions of BB, or different concomitant scheduled BB were excluded from the study. The primary outcome was in-hospital mortality. Secondary outcomes were mean hospital and ICU length of stay, rate of 28-day mortality, and discharge disposition. Safety outcomes were the incidence of bradycardia (HR less than 60 bpm), hypotension (MAP less than 60 mmHg), or the use of vasopressors following any BB administration.	A total of 1194 patients were included in the study, of whom 374 received at least two doses of a BB. The majority of patients were male (71.3%) and Caucasian (66.6%), with a mean age of 54.9 years. Most injuries (95.4%) resulted from blunt trauma. The most common types of brain bleeds were mixed (28.4%), subdural (25.5%), and subarachnoid hemorrhages (21.6%). Severe traumatic brain injuries (TBI) occurred more frequently in the BB group than the no BB group (37.3% vs. 20.8%; p < 0.001). The average time to BB initiation was 4.9 ± 5.7 days, with 37.3% of patients receiving a BB within two days of admission. The most frequently initiated BBs were propranolol (42.1%), metoprolol (32.3%), and carvedilol (12.5%), with an average total BB duration of 17.3 ± 27.4 days. There was no difference in in-hospital mortality (13.1% of patients in the BB group vs 11.9% in the no BB group, p-value = 0.319) or 28-day mortality (16.2% vs 18.1%, p-value = 0.292). However, both ICU length of stay (10.8 ± 10.3 days vs. 3.4 ± 5.5 days; p < 0.001) and hospital length of stay (29.6 ± 48.8 days vs. 7.5 ± 16.0 days; p < 0.001) were significantly longer in the BB group. This difference is likely attributable to the higher proportion of severe TBIs in the BB group. The most commonly observed safety outcome was bradycardia, which occurred more frequently in the no BB group (49.6%) than in the BB group (37.1%). It is possible that pre-existing bradycardia contributed to some patients being excluded from receiving BB therapy. Similarly, the incidence of hypotension differed significantly between groups, with a higher rate observed in the no BB group compared to the BB group (23.8% vs. 6.4%; p < 0.001).	Overall, adding a beta-blocker after a TBI did not significantly affect in-hospital or 28-day mortality but demonstrated an increase in ICU and hospital length of stay.
El-Mcharfie, Layali	lnelmcharfie@browardhealth.org	Broward Health Medical Center	Acetazolamide versus metolazone in acute heart failure	Heart failure is a chronic disease state impacting 64 million people world-wide. Exacerbation and retention of fluid is a common sign of disease progression and diuretic therapy may be warranted for decongestion. The addition of metolazone in patients who develop diuretic resistance is widely supported by literature and recent studies have shown acetazolamide to be an appropriate alternative for add-on therapy; however, data comparing both agents is lacking. The objective of this study is to compare the efficacy and safety of metolazone versus acetazolamide in patients with acute decompensated heart failure.	This study is a retrospective chart review of adults admitted to Broward Health Medical Center with acute decompensated heart failure between January 1st, 2019, and December 31st, 2023. Electronic medical records were used to collect all relevant data points. Adults 18 years of age or older admitted for acute decompensated heart failure who received loop diuretics and acetazolamide or metolazone were included in the analysis. Pregnant patients and those receiving hemodialysis were excluded. The following data points were collected: total urine output within three days of initiation, degree of edema present on day three, congestion present on X-ray on day three, in-hospital mortality, hospital length of stay, 30-day readmission, and serum creatinine and hypotension upon study drug initiation. Baseline characteristics obtained include the following: age, gender, race, weight, heart rate, blood pressure, average home and inpatient diuretic doses, B-natriuretic peptide levels, and sodium-glucose cotransporter 2 inhibitor use. The desired sample size is set at 200 patients. Unpaired t-tests were used for continuous variables, and chi-squared tests for nominal data. Demographic data is displayed as means and standard deviations for numeric data and as frequencies and percentages for categorial data. This study was approved by the institution's IRB.	A total of 71 patients were included in the final analysis, and 11 patients were excluded from the analysis due to early discharge and the inability to adequately assess outcomes. Baseline characteristics across both groups were comparable with the exception of the larger average inpatient diuretic dose required for adequate decongestion with metolazone. There was no statistically significant difference in overall decongestion between acetazolamide and metolazone (78% vs 57%, p = 0.2713). However, metolazone was associated with a higher incidence of hypotension (65.1% vs 76.9%, p = 0.0408) and a higher serum creatinine on day 3 (1.12 vs 1.34, p = 0.0289). Despite the lack of statistical significance, acetazolamide showed higher rates of edema resolution compared to metolazone.	The results of this study brings to light the potential benefits of use for acetazolamide. The increased incidence of hypotension and the associated serum creatinine elevations with metolazone offer a benefit for acetazolamide use in certain patients. However, no concrete conclusions can be made, and further research is required to establish a distinction in place of therapy between these two agents.
Elmore, Hannah	Hannah.N.Elmore2000@gmail.com	AdventHealth Celebration	Impact of a Pharmacist-Initiated Perioperative Management Plan Within an Anticoagulation Management Service	Warfarin interruption for surgical procedures is a critical consideration due to the potential risks of perioperative bleeding and thrombotic events. Previous studies have demonstrated a pharmacist's ability to successfully manage warfarin in the periprocedural setting, however updated guidelines cause changes to clinical practice and warfarin management. The objective of this study was to compare perioperative management plans within a pharmacist-run Anticoagulation Management Service vs physician -initiated plans in relation to updated clinical guidelines.	This study was a retrospective chart review of adult patient's enrolled in a pharmacist-run Anticoagulation Management Service who underwent a procedure between April 2023 and December 2024. Patients were excluded if they were admitted for a surgical procedure >48 hours, were nonadherent to the healthcare professional's directions, were on dialysis, resided in an inpatient rehabilitation or skilled nursing facility, or, were lost to follow -up. The primary endpoint was the number of perioperative management plans which aligned with the 2022 American College of Chest Physicians Clinical Practice Guidelines on the Perioperative Management of Antithrombotic Therapy. The secondary endpoint was the time to reach therapeutic range for patients who had warfarin interruption. Safety was assessed by adverse event reporting in the electronic health record.	A total of 79 perioperative management plans were initiated during the study time period. Of the 46 plans that met the inclusion criteria, 36 plans were initiated by a pharmacist, and 10 plans were initiated by a physician. At baseline, patients had a mean (+/- SD) age of 69.4 (+/- 12.3) years with the most common ethnicity reported as Caucasian (n=34; 74%). Over half of the indications for anticoagulation therapy consisted of either atrial fibrillation (n=20; 30%) or deep vein thrombosis (n=17; 25.3%). A total of 89.2% of patients underwent procedures classified as either low or intermediate risk, with colonoscopies making up 28.2% of the procedures performed. Thirty-six (100%) of the pharmacist-initiated management plans vs 4 (40%) of the physician-initiated management plans aligned with the CHEST guidelines. Of the 29 plans that had warfarin interruption perioperatively, 3.4% were at goal INR range within 7 days postoperatively, 44.8% were at goal INR range within 14 days , and 89.6% were at goal INR range within 21 days postoperatively.	A pharmacist-initiated periprocedural management plan was associated with improved adherence to clinical guidelines compared to physician-initiated plans. These findings suggest that pharmacists can serve as a vital member of the interdisciplinary team and are well-positioned to manage warfarin therapy in the perioperative setting with outcomes comparable to, or potentially better than, physician-managed care.
Espeut, Jeremy	jeremyespeut9650@gmail.com	Baptist Health	Impact of a pharmacy centralized distribution center on health system procurement, compliance & optimization	A Centralized Distribution Center (CDC) optimizes pharmacy procurement, compliance, and operational efficiency by streamlining purchasing, inventory management, and medication distribution. This study evaluates the impact of the CDC at Baptist Health South Florida (BHSF) on cost reduction through procurement, regulatory adherence, and workforce optimization.	A pre-post intervention analysis assessed changes in drug cost per pharmacy-adjusted patient day (PAPD) by case mix index (CMI), inventory valuation, compliance, and pharmacist workload distribution using financial reports, procurement analytics, and clinical intervention tracking.	Drug costs PAPD decreased by 10% ($86.62 to $77.95), with $11.4 million in savings. Key contributors included NDC standardization ($8.48M) and strategic purchasing ($1.36M). Inventory valuation decreased by $2.68M, and 10.0 FTEs were reallocated, leading to a 54% increase in pharmacist-led interventions.	The pharmacy CDC improved cost efficiency through procurement, DSCSA/340B compliance through standardization, and enhanced direct patient care by reducing onsite non-clinical tasks, demonstrating a high-reliability model for health system pharmacy operations.
Eubanks, Jennifer	jennifemeubanks@gmail.com	James A. Haley Veterans' Hospital	Expanding the role of pharmacy residents during weekend staffing	The purpose of this project is to evaluate the current practice of intravenous (IV) to oral (PO) medication conversion at James A. Haley Veterans' Hospital and optimize this service through the implementation of a newly approved, pharmacist-led IV to PO Automatic Medication Conversion policy. With the increasing role of pharmacists in clinical services, the policy formalizes the conversion process and aims to improve patient care by reducing medication errors, hospital-acquired infections, and length of stay. Additionally, by involving pharmacy residents during weekend staffing, this project seeks to expand clinical pharmacist-led services and enhance resident training, ensuring consistent, high-quality patient care during all shifts.	This study utilized retrospective chart review to assess the frequency of appropriate IV to PO medication conversions in eligible patients at James A. Haley Veterans' Hospital from July 1, 2024, to September 30, 2024, prior to the implementation of the approved IV to PO automatic conversion policy. Appropriateness of IV to PO conversion was defined as the respective intravenous medication converted to the equivalent oral formulation as defined in the IV to PO policy, within 48 hours of the patient's first eligibility. Patients met inclusion criteria based on their hospital admission status, active intravenous medication orders, and clinical eligibility for conversion to oral medications. Patients with specific gastrointestinal (GI) tract functionality and hemodynamic stability were included, while those with contraindications such as nothing-by-mouth (NPO) status, severe GI conditions, or active infections were excluded. Patients admitted into intensive care units or hospice units were excluded. The date of first eligibility, defined as on a weekday or weekend, was documented to assess the incidence of eligibility during weekend hours, when clinical pharmacy services are limited. Following facility-wide approval of the IV to PO policy on March 12, 2025, implementation of this project included the development of pharmacy resident workflow procedures during weekend inpatient pharmacy staffing as well as the delivery of education to the pharmacy department. A prospective chart review was conducted with the onset of implementation, beginning March 13, 2025, to evaluate the frequency and date, defined as weekday or weekend, of appropriate IV to PO conversions, and the occupation title of the converting staff member. Adjustments in the pharmacy resident-led workflow procedures during inpatient weekend staffing were implemented as needed for improvement of functionality, based on the receipt of feedback from associated stakeholders.	One hundred and fifty-one patients admitted from July 1, 2024, to September 30, 2024, were screened for eligibility in the pre-implementation cohort. One hundred and nineteen patients were excluded for various reasons, including presence of severe infection, hemodynamic instability, and lack of functioning GI tract. Thirty-two patients met inclusion criteria. The most common IV medication order in the pre-implementation cohort was ampicillin-sulbactam, followed by ondansetron and levofloxacin. Of the 32 included patients, 19 were converted to PO orders within 48 hours of eligibility. All conversions were completed appropriately according to the approved IV to PO conversion policy. Seventeen (94%) of the conversions occurred within 24 hours of eligibility. The remaining 14 patients were not converted from intravenous to oral therapy within 48 hours of eligibility. Nine (64%) of the patients not converted did not have chart documentation describing the reason for continued intravenous therapy. Eight patients, who were not converted to oral therapy when eligible, received 2-4 days of unnecessary IV therapy, and the remainder received 8 or more days of unnecessary IV therapy. Five (36%) patients not converted when eligible were first eligible on weekend days. Thus far, 26 patients admitted from March 13, 2025, to April 7, 2025, were screened for eligibility in the post-implementation cohort. Twenty of those patients were screened by pharmacy residents during weekend staffing. Seven patients met inclusion criteria, and 6 of those patients were converted to PO therapy within 48 hours of eligibility. One patient's IV therapy was discontinued during the period of conversion eligibility. Three pharmacist-led IV to PO conversions have been completed, all of which were performed by the pharmacy resident during weekend staffing. All pharmacist-led conversions were performed appropriately according to policy. The other conversions were completed by physicians.	Pharmacist-led daily monitoring of patients on intravenous medications for potential oral conversion is needed to improve patient care, shorten length of hospitalization, and reduce associated costs. Limited clinical pharmacy services during weekend hours presents as a barrier to continuous patient care in this area. A pharmacy resident-led IV to PO conversion service during required weekend staffing is a viable option to close the gap in patient care. Optimization of this service is currently in progress.
Evans, Payton	payton.evans@hcahealthcare.com	HCA Florida Fort Walton-Destin Hospital	Impact of Computerized Provider Order Entry (CPOE) on the Adherence of Guideline-Directed Medical Therapy (GDMT) for Urgent Therapy Antiepileptics in Status Epilepticus (SE)	Status Epilepticus (SE) is a neurological emergency defined as a seizure lasting for more than 5 minutes OR two or more sequential seizures without full recovery of consciousness between seizures. According to the Centers for Disease Control and Prevention (CDC) in 2015, between 50,000-150,000 Americans have SE with rates of death up to 30% for adults. The American Epilepsy Society recommends weight-based dosing for urgent antiepileptics. Barriers to following these weight based GDMT includes limited time due to clinical responsibilities, complexity of guidelines, and high number of conditional recommendations. A process improvement plan was implemented by creating order string updates through CPOE to implement relevant guidelines during patient care which helps to streamline and standardize order sets and protocols. The objective of this study is to assess the pre/post adherence of guideline-directed weight-based dosing of antiepileptics within an emergency department (ED) for SE after a CPOE order string update of IV levetiracetam and valproic acid.	No approval from the Institutional Review Board (IRB) will be needed for this study. Retrospective study design in a single center at a Level II Trauma center within the ED. Data was collected from electronic health records including a pre-implementation period of August 31, 2021 to February 11, 2024 and post-implementation period of February 12, 2024 to November 12, 2024. Inclusion criteria included patients 18 years or old, diagnosis of SE by an ICD-10 code, and received IV levetiracetam or valproic acid. During the original build of the CPOE order set, a significant amount of time was dedicated to educating the ED staff including trauma interprofessional team, nursing staff, ED physicians, and other interprofessional team members which is a limitation to take into consideration. However, it is also a strength as the relationship between pharmacy and the ED was strengthened through this process.	A total of 71 patients met inclusion during the pre-implementation period and 13 patients during the post-implementation period. During the pre-implementation period, 69 patients received IV levetiracetam urgently with 4 doses (6%) meeting GDMT of 60 mg/kg dosing per The American Epilepsy Society. During the pre-implementation period, 2 patients received IV valproic acid with 0% following GDMT of 40 mg/kg. During the post-implementation period, 13 patients received IV levetiracetam with 6 (46%) doses being properly dosed per the weight-based dosing by The American Epilepsy Society. There were 0 patients in the post-implementation period who received IV valproic acid.	Comparing the pre-implementation period before the new order strings were put into place for IV levetiracetam and IV valproic acid and post-implementation period, there was an increased adherence to GDMT. The alpha value was set at 0.05 with a p-value of 0.00074 for levetiracetam showing a statistically significant difference. Even though there were no doses of IV valproic acid during the post-implementation period, there is still a positive increase in adhering to the weight-based dosing in patients presenting with SE.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Fekete, Rosie	rosie.df.wilmot@gmail.com	Morton Plant North Bay Hospital	Use of Procalcitonin on the Reduction of Antibiotic Duration in Sepsis and Septic Shock Following a Health System Initiative; a Pre-Post Evaluation	Procalcitonin (PCT) is a biomarker that can be utilized as a tool to help guide antibiotic de-escalation when serial levels are monitored using institution-specific algorithms. However, it is often ordered incorrectly and misinterpreted. As a quality improvement antimicrobial stewardship initiative evaluation, the purpose of this study is to analyze if the length of antibiotic duration in sepsis is shortened while using procalcitonin as a biomarker of infection along with clinical judgement to de-escalate therapy after the implementation of a guided CareSet for proper ordering and interpretation of PCT for the setting of sepsis. Utilizing the results of this study could help determine the effectiveness of utilizing procalcitonin on top of clinical judgement to help guide antimicrobial therapy.	This an institutional review board approved, multicenter, pre-post cohort evaluation of the usage of procalcitonin as an infection marker to guide antimicrobial therapy in hospitalized patients with a primary diagnosis of sepsis or septic shock. The data collection time frame is October 1, 2023 - February 29, 2024, and October 1, 2024 – February 28, 2025. The primary outcome is the length of antibiotic duration (days) while using procalcitonin levels as infection markers along with clinical judgement before and after the implementation of the initiative. Secondary outcomes include number of modifications of antibiotics, hospital and intensive care unit (ICU) length of stay, time from follow up PCT to antibiotic de-escalation, and composite of mortality and hospice referral. Based on previous published studies, an antibiotic length duration decrease threshold of 2 days was used to evaluate the difference that using procalcitonin as an infection marker to guide antibiotic therapy, resulting in a sample size of 64 per group to reach a power of 80% and an α of 0.05. A Two-proportions test is utilized to evaluate categorial data, and Mann Whitney or Moods Median tests are used for continuous data. Descriptive data is reported as a median with IQR.	A total of 156 patients are included in this study, with 80 in the pre-PCT initiative group and 76 in the post-PCT initiative group. The groups are similar in baseline characteristics, except that the post group has signifcantly fewer male patients (33% vs. 50%, P=0.04) and less need for vasopressors (24% vs. 44%, P=0.01). For the primary outcome, there is no statistically significant difference in the antibiotic duration time between the pre- and post-initiative groups (5.8 [IQR:3.5-8.7] vs. 5.6 [IQR:3.6-8.4], P=0.800). For key secondary outcomes, the hospital length of stay (7.0 [IQR 3.8, 9.8] vs 5.9 [4.1, 10.0], P=0.67), modifications to antibiotics (4 [IQR:1, 6] vs. 3 [IQR:2,3], P=0.75), and time from follow up PCT to antibiotic de-escalation (1.3 [IQR:0.1, 2.5] vs. 1.8 [IQR 0.2, 4.4], P=0.06) are not statistically significant. However, the ICU length of stay is statistically shorter in the post group (2.2 [0, 1.9] vs. 4.0 [IQR:0, 1.2], P=<0.05) and the composite mortality is lower (11% vs. 23%, P=0.05) after the PCT initiative was implemented.	There is no difference in antibiotic duration, hospital length of stay, time from follow up PCT to antibiotic de-escalation, or number of modifications to antibiotics between before and after the implementation of a guided CareSet for the proper ordering and interpretation of PCT in the setting of sepsis. However, there is a significant reduction in ICU length of stay and composite mortality after the implementation of the CareSet.
Fernandez, Jeyma	jeyma.fernandez@baptisthealth.net	South Miami Hospital	Implementation of a Pharmacist-Led Anti-methicillin-resistant Staphylococcus aureus Therapy Bundle	Methicillin-resistant Staphylococcus aureus (MRSA) is classified by the Centers for Disease Control and Prevention (CDC) as a serious antimicrobial resistance threat. Unnecessary use of anti-MRSA therapy can lead to an increase in resistance development and adverse drug effects, such as acute kidney injury, rhabdomyolysis, thrombocytopenia, etc. The CDC Core Elements for Hospital Antibiotic Stewardship Programs highlight the importance of pharmacy expertise, action, and education. Literature has shown that having pharmacists as part of the healthcare team can help facilitate de-escalation and discontinuation of broad-spectrum antibiotics and improve outcomes. The aim of this quality improvement project was to evaluate the impact of an anti-MRSA therapy bundle implementation on pharmacist interventions and the use of anti-MRSA therapy.	This single-center retrospective quality improvement project evaluated pharmacist impact before (January 1st–March 31st, 2024) and after (January 1st–March 31st, 2025) implementing an anti-MRSA therapy bundle. The bundle consisted of reassessment and creation of additional VigiLanz® (an electronic clinical surveillance program) alerts, promoting MRSA nasal polymerase chain reaction testing for pulmonary and non-pulmonary indications, creation of an "Antibiotic Time-Out Tool: MRSA" document with pharmacist education, and a daily report generated using VigiLanz® "Pharmacy Orders" search of active orders for daptomycin intravenous (IV), linezolid IV/by mouth (PO), and vancomycin IV daily during weekdays. Designated pharmacists (a pharmacy resident, a critical care pharmacist, and an antimicrobial stewardship pharmacist) assessed the patient list for anti-MRSA therapy appropriateness and opportunities for intervention. Adult patients who were admitted to the hospital with orders for scheduled daptomycin IV, linezolid IV/PO, or vancomycin IV were included. Exclusion criteria consisted of patients who had orders for "pre-op," "on-call," or "once" frequencies, indication for surgical prophylaxis or Group B Streptococcus (GBS) prophylaxis, patients on chronic suppressive or prophylactic antimicrobial therapy, hospice care and comfort measures only, incarcerated patients, and pregnant patients. The primary outcome was the number of patients who received at least one pharmacist intervention associated with daptomycin, linezolid, or vancomycin related to anti-MRSA therapy de-escalation, discontinuation, or optimization. Secondary outcomes included the total number of pharmacist interventions related to anti-MRSA therapy de-escalation, discontinuation, or optimization, pharmacist antibiotic intervention details, pharmacist intervention acceptance rate, VigiLanz® adult hospital-wide inpatient days of therapy per 1000 patient days, hospital length of stay, incidence of medication-related adverse drug events, and 30-day all-cause mortality rate. This project was deemed exempt from Institutional Review Board review.	During the active intervention period, 182 patients were assessed for appropriate anti-MRSA therapy with 134 patients receiving at least one intervention and a total of 175 interventions completed. A total of 200 patients were included in the outcome assessment, with 100 patients per group. Baseline characteristics were evenly distributed. The number of patients who received at least one pharmacist intervention was 40% compared to 73% in the post-implementation group (p< 0.0001). A total acceptance rate of 93% and a per-protocol completion rate of 14% was observed in the post-implementation group. There was a total of 48 pharmacist interventions in the pre-group and 100 pharmacist interventions in the post-group. Compared to the pre-implementation group, the post-implementation group had significantly higher rates of antimicrobial de-escalation (4% versus 14% versus, p=0.02), anti-MRSA agent change (8% versus 21%, p=0.009), IV to PO conversion (0% versus 6%, p=0.03), and MRSA PCR ordering (5% versus 15%, p=0.02). While hospital-wide adult inpatient days of therapy per 1000 patient days was 196 versus 205 (p=0.62), a decrease was observed in vancomycin days of therapy per 1000 patient days (122 versus 87, p=0.04). Hospital length of stay was 7 days for both groups (p=0.35). Incidence of medication-related adverse drug events and 30-day all-cause mortality were 0% in both groups (p=1.00).	Implementation of a pharmacist-led anti-MRSA therapy bundle can lead to a significant increase in pharmacist interventions related to de-escalation, discontinuation, and optimization, with a high provider acceptance rate.
Fernandez, Katherine	katherinefernandez96@gmail.com	Baptist Hospital of Miami	Evaluation of a Low Dose Norepinephrine Protocol for Management of Septic Shock in a Progressive Care Unit	Norepinephrine is a potent vasopressor commonly used for the management of acute hypotension, particularly in cases of septic shock. Norepinephrine stimulates alpha-adrenergic receptors, resulting in vasoconstriction and an increase in systemic vascular resistance, which elevates blood pressure. The Surviving Sepsis Guidelines emphasize early fluid resuscitation (up to 30 mL/kg) in septic patients with lactic acid greater or equal to 2 and early administration of vasopressors to minimize target organ damage. Norepinephrine is recommended as the first line vasopressor in patients unresponsive to fluid resuscitation. Dopamine stimulates both adrenergic and dopaminergic receptors in a dose dependent manner and is only recommended as an alternative to norepinephrine in septic shock patients with bradycardia who have a low risk of tachyarrhythmias. Baptist Hospital of Miami (BHM) allows dopamine to be utilized as a non-titratable infusion at ≤ 5 mcg/kg/min in the progressive care unit (PCU) but titratable in the intensive care unit (ICU) up to 20 mcg/kg/min. All other vasopressors (Norepinephrine, Phenylephrine and Epinephrine) are restricted for use only in the ICU titratable to goal mean arterial pressure. This project aims to evaluate the impact of implementing non-titratable low dose norepinephrine infusions in the PCU on patient outcomes	Single site, pre-implementation versus post-implementation review at BHM. The pre-implementation phase included a retrospective review of patients who received dopamine empirically for septic shock in the PCU between January and May 2024. A Non-titratable low dose norepinephrine protocol was implemented in February 2025, followed by a prospective review of patients receiving norepinephrine empirically for septic shock in the PCU between February and April 2025. Adult patients admitted to the PCU who received norepinephrine or dopamine empirically for septic shock were included in the study and pregnant women and incarcerated individuals were excluded. The primary outcome was the number of patients transferred to the ICU pre/post implementation of a non-titratable low dose norepinephrine protocol and secondary outcomes included mortality, adverse effects, midodrine use, ICU length of stay, average time on vasopressors, and median vasopressor titrations.	The number of patients transferred to the ICU pre/post non-titratable low dose norepinephrine protocol implementation was 10 (24%) in the pre-implementation group vs 5 (18%) in the post-implementation group (p-value= 0. 26). Mortality remained consistent in both groups with a rate of 37% vs 35%. Adverse effects were observed in 24% of patients in the pre-implementation group compared to 7% in the post-implementation group (p-value= 0.03) with atrial fibrillation/tachyarrhythmias being the most common. Midodrine use also differed between groups with 56% of patients in the pre-implementation groups vs 29% in the post-implementation group (p-value=0.01) utilizing midodrine. The average ICU length of stay was 16 days in the pre-implementation group compared to 5 days in the post-implementation group (p-value= 0.03) with an average vasopressor duration of 25 hours vs 48 hours. Median vasopressor titrations were approximately 1 in the pre-implementation group vs 3 in the post-implementation group.	Implementation of a low dose norepinephrine protocol in the PCU showed no significant difference in the rate of ICU transfers, however there was a significant difference in the number of adverse effects, midodrine use and ICU length of stay between both groups. The small sample size was the main limitation in this study. Future directions include expanding norepinephrine use to all PCUs for confirmed sepsis cases to continue optimizing care for septic patients using first-line therapy.
Finch, Lauren	lauren.finch@ufhealth.org	UF Health - Shands Hospital	Evaluation of dosing strategies of ampicillin/sulbactam to treat Acinetobacter baumannii pneumonia	Ampicillin/sulbactam remains a first-line agent for Acinetobacter baumannii infections that are susceptible to the antimicrobial; however, it is unclear if high dose ampicillin/sulbactam should be employed in these infections. Strategies to optimize sulbactam dosage, the key pharmacologic component, include utilizing higher daily doses administered more frequently and the use of extended or continuous infusions. Our institution has integrated an order panel within the electronic health record that directs providers to implement high dose regimens of ampicillin/sulbactam for the treatment of A. baumannii infections. There are currently no studies directly evaluating the use of standard doses versus high doses of ampicillin/sulbactam for susceptible A. baumannii infections. This study aims to evaluate the utilization of high dose ampicillin/sulbactam compared to standard dosing regimens for A. baumannii pneumonia in critically ill patients.	This single center, retrospective cohort study assessed critically ill patients with A. baumannii pneumonia from January 2018 to June 2024. Patients were included if they were 18 to 89 years old, were admitted to an ICU, and had at least one bronchoalveolar lavage (BAL) culture with isolated A. baumannii that was susceptible to ampicillin/sulbactam (defined as a sulbactam minimum inhibitory concentration [MIC] of ≤ 4). Patients were excluded if they were treated with ampicillin/sulbactam for less than 72 hours or the isolated A. baumannii was intermediate or resistant to ampicillin/sulbactam. Dosing strategies were classified as either standard dose or high dose (defined as exceeding the recommended daily dose for renal function, as specified in the package insert). The primary outcome of this study was to describe the utilization of different dosing strategies of ampicillin/sulbactam and their correlation with clinical outcomes. Clinical cure was defined by the resolution of infectious symptoms, including temperatures ≤ 38°C, a white blood cell (WBC) count at or lower than baseline, and no additional antibiotics initiated within 48 hours after the completion of ampicillin/sulbactam therapy. Secondary outcomes included the duration of antimicrobial therapy, duration of mechanical ventilation, length of hospital and intensive care unit (ICU) stays, incidence of recurrent pneumonia, and 28- day mortality. Other factors that may have influenced ampicillin/sulbactam dosing, such as augmented renal clearance, sulbactam MIC, and renal impairment, were also evaluated.	A total of 17 patients met the inclusion criteria. Twenty-five patients were excluded due to not receiving at least 72 hours of ampicillin/sulbactam, inability to evaluate outcomes due to duration extending beyond hospital discharge, or having only received ampicillin/sulbactam prior to the positive BAL. Among the included patients, two (12%) received standard dose ampicillin/sulbactam, and 15 (88%) received high dose ampicillin/sulbactam. The average age in the standard dose cohort was 83 years, compared to 53.5 years in the high dose cohort (p = 0.0001). One patient in the high-dose group had concomitant A. baumannii bacteremia. Clinical cure was achieved in one (50%) patient in the standard dose cohort and eight (53%) patients in the high dose cohort (p = 1.0). Significant differences were observed in the secondary outcomes of duration of mechanical ventilation and ICU length of stay (LOS). The average duration of mechanical ventilation for the standard dose cohort was 11.5 days, while the high dose cohort had an average duration of mechanical ventilation of 29 days (p = 0.03) The average ICU length of stay (LOS) for the standard dose cohort was 12.5 days, while the high dose cohort had an average ICU LOS of 37 days (p = 0.001).	Within this cohort, high dose strategies were employed more frequently than standard doses of ampicillin/sulbactam. The increased use of high dose regimens may be attributed to the institution's order panel, as well as factors such as enhanced renal clearance or younger patient age. No significant difference in clinical cure rates was observed between patients who received standard versus high dose ampicillin/sulbactam for susceptible A. baumannii pneumonia. However, the study's small cohort size limits the interpretability of these findings. Future research should directly compare clinical cure rates and resistance outcomes between different dosing strategies for susceptible A. baumannii pneumonia to better assess any potential differences.
Flores Morales, Reynell	reynell.floresmorales@baycare.org	Turkey Family Health Center	Optimizing low-density lipoprotein cholesterol management in atherosclerotic cardiovascular disease patients: a pharmacist-physician collaborative protocol	Atherosclerotic cardiovascular disease (ASCVD) is a leading cause of morbidity and mortality globally. Targeting lipids is a major component of managing patients with clinical ASCVD. Studies have shown the impact of a physician-pharmacist collaboration in optimizing guideline-directed, lipid-lowering therapies and improving overall LDL cholesterol levels in patients, though evidence in the United States is limited, particularly through the implementation of a collaborative practice agreement. This study aimed to evaluate the impact of such collaboration within the Turkey Family Health Center and allowed pharmacists to expand the reach of clinical interventions and follow-up with patients more frequently.	This is a prospective, cohort, single-arm study, that required an initial review of patients 18 years and older who were seen in the clinic in the past two years, had documented clinical ASCVD , and an LDL-C ≥ 70 mg/dL. After identification, patients must be called to schedule a visit with the pharmacy team to discuss lipid-lowering therapy options. There will be either the addition of therapy or modification of current therapy by way of a collaborative practice agreement. Statin and non-statin therapy options will be assessed for appropriateness and individualized based upon patient factors as well as guideline-directed recommendations to ultimately attempt to lower LDL cholesterol. Patients will receive follow-up calls from the pharmacy team after the initial visit. A repeat lipid panel will be evaluated three months after the pharmacist intervention. Exclusions include patients under 18 years, initial LDL-C < 70 mg/dL, pregnancy, hepatitis, or other liver disease, those not seen at the clinic in the past two years, or those that have established care with a primary care provider outside of Turkey Family Health Center. The primary objective is to determine what percentage of study participants, once placed on guideline-directed lipid-lowering therapy, obtain LDL-C levels < 70 mg/dL. Secondary objectives include determining what percentage of study participants had changes in their lipid-lowering medication regimen or overall lipid profile after the pharmacist-physician intervention.	A patient list was obtained based on ICD-10 codes within the clinic EHR per the predetermined inclusion criteria. Data was pulled for lipid panels obtained from January 2023 to June 2024 for which a total of 348 patients were identified and screened for potential eligibility to meet with the pharmacy team. A total of 312 patients were excluded due to the following reasons: duplicate (147), exclusion criteria (162), not referred by PCP despite outreach (3). Of note, 3 patients not previously identified were referred to the pharmacy team by their PCP. A total of 40 patients qualified for this study and were outreached, however 35 patients were not managed by the pharmacy team due to following reasons: unsuccessful outreach (28), declined the outreach (8), the PCP modified the patient's lipid-lowering therapy (1). The pharmacy team successfully met with 5 patients; however, 1 patient was deceased during the study for reasons other than plaque rupture and coronary thrombosis. The remaining 4 patients completed the study. Study outcomes were as follows: 100% of patients obtained LDL-C levels < 70 mg/dL (primary), 100% of patients had changes in their overall lipid profiles (secondary), and 75% of patients had changes in their lipid lowering regimen (secondary). Exploratory analysis included the percentage of patients per pharmacist interventions, results were as follows: education was provided regarding importance to LDL-C lowering, adherence, or medications (100%), prevention of therapy duplication (25%), optimization of statin dose or medication (50%), initiated ezetimibe (25%), initiated PCSK9 mAb (50%), decreased medication costs (50%), and improved medication access (50%). Patient accrual was extremely limited due to the prospective nature of this study and practice setting, hence statistical significance could not be established and was the biggest limitation of this study. Other limitations include the ICD-10 codes utilized, as they were not exclusive to clinical ASCVD and resulted in many patients being excluded; patients' lack of buy-in, lack of provider referral to the pharmacy team, provider therapy management, and barriers to access due to lack of coverage or no coverage at all.	In secondary prevention of ASCVD through LDL-C lowering, this pharmacist-physician collaboration led to optimized patient care. Patients who participated in this study had at least one change in their medication therapy regimen leading to one or more of the following: improved lipid panels, medication access, and patient education, and/or decreased medication errors and cost. Given the setting of this study and the population at the Turkey Family Health Center, the required sample size was not met, and additional studies are needed to achieve robust results to showcase the importance and need for more pharmacist-physician collaborations to achieve improved patient outcomes.
Foster, Mikaela	caperdell@gmail.com	Winter Haven Hospital – BayCare Health	Assessing the effectiveness of tranexamic acid in angiotensin-converting enzyme inhibitor-induced angioedema	Angioedema is a common reason for emergency department (ED) visits. Causes may be hereditary, allergic, or induced by angiotensin-converting enzyme inhibitors (ACEI) secondary to bradykinin or histamine accumulation. Up to 40% of angioedema cases are due to ACEI use, and there are currently no FDA approved treatments. Tranexamic acid (TXA), an anti-fibrinolytic, can potentially prevent intubations and resolve ACEI- induced angioedema (ACE-IA) by decreasing bradykinin production. Further studies are needed to define the benefits of TXA in ACE-IA. This study investigates whether TXA administration helps to reduce the need for intubation in patients with ACE-IA compared to those who did not get TXA.	This is an IRB-approved, retrospective cohort study of patients that experienced ACE-IA and were admitted to EDs within a not-for-profit health care system comprised of 16 hospitals. The study period extended from January 1, 2019, to June 30, 2024, and patients were included in reverse chronological order until the goal sample size was met. The study was divided into two groups; one for patients diagnosed with ACE-IA and who were not treated with TXA (non-TXA group) and one for patients diagnosed with ACE-IA and who were treated with TXA (TXA group). Patients were included if they were aged 18 and older, diagnosed with angioedema and had been on an ACEI within the last 90 days. Patients were excluded if they had hereditary angioedema, had urticaria on presentation, received TXA outside of the ED, were on prophylactic TXA or intubated prior to arrival to the ED. The primary outcome was proportion of patients who required intubation due to ACE-IA, and secondary outcomes included resolution of angioedema symptoms, time to resolution of symptoms, ED length of stay (LOS), hospital LOS, proportion of patients with newly diagnosed thrombus within 48 hours of presentation and disposition from ED.	A total of 589 patients were screened, with 243 meeting the study criteria. Of those, 144 were included in the non-TXA group and 99 in the TXA group. Baseline characteristics are summarized in Table 1. Most patients were white and had a median age of 63 years. Among the evaluated outcomes, statistically significant differences were observed in three areas. The proportion of patients requiring intubation was higher in the TXA group (41% vs. 29%, p = 0.049). Similarly, ED disposition to the intensive care unit (ICU) was more frequent in the TXA group (63.6% vs. 45.1%, p = 0.004). One patient in the non-TXA group was transferred to the ICU directly from another hospital and therefore a disposition from the ED was not recorded. In contrast, admission to a non-ICU inpatient unit from the ED was more common in the non-TXA group (54.2% vs. 36.4%, p = 0.005). Other outcomes, including median ED and hospital LOS and resolution of angioedema symptoms, did not show statistically significant differences. Most patients in the TXA group received a cumulative dose of 1,000 mg; however, two patients received significantly higher doses (3,500 mg and 3,900 mg), contributing to the elevated mean dosage recorded. There were no reports of newly diagnosed thrombus within 48 hours of admission.	In patients presenting to the ED with ACE-IA, the proportion requiring intubation and ICU admission was significantly higher in the TXA group compared to those who did not receive TXA. These findings suggest that TXA may not effectively reduce the need for intubation in this population. Further research is needed to clarify TXA's role in ACE-IA management and identify patient populations that may benefit from its use. There were no reported thrombotic events suggesting that its use is safe in ACE-IA.
Fox, Kathryn	kathryn.fox@baycare.org	Winter Haven Hospital - BayCare (Ambulatory Care Setting)	Evaluating the impact of pharmacist-led transitions of care interventions on 30-day hospital readmissions	Hospital readmissions within 30 days of discharge are a significant concern among Medicare patients aged 65 and older, reflecting potential gaps in patient care continuity and contributing to increased healthcare costs and patient morbidity. Studies have demonstrated that pharmacist-led interventions at discharge and in the post-acute space are associated with a decrease in readmission rates. One strategy to reduce readmissions involves conducting discharge medication reconciliation (DCMR) during hospitalization and a targeted post-acute medication review (PMR) via telephone within five days of discharge to assess medication adherence, provide counseling, and improve patient understanding of disease management. The specific impact of transitions of care (TOC) pharmacists in conducting post acute medication reviews remains an area for further exploration. This study seeks to evaluate the impact of pharmacist-led PMRs on 30-day hospital readmission rates and determine the potential benefit of expanding the service to additional patient populations. By analyzing the effectiveness of this intervention, the study will contribute to optimizing care transitions and improving patient outcomes.	This was an IRB-approved, retrospective cohort study conducted at a large healthcare system comprising 16 hospitals. Patients aged 65 and older with Medicare or aged 18 to 64 who had been hospitalized within the past 30 days were included in the study, which analyzed discharges between April 2024 and December 2024. Patients were excluded if they were discharged to hospice, transferred to an outside hospital, left against medical advice (AMA), or discharged to a skilled nursing facility (SNF), inpatient rehabilitation, or long-term acute care facility (LTAC). Uninsured patients and those readmitted within three days of discharge were also excluded. The intervention group consisted of Medicare patients who received a PMR call from a transitions of care (TOC) pharmacist, while the non-intervention group included PMR eligible patients aged 18-64 who did not receive a call. An observed-over-expected (O/E) ratio was used to analyze the groups to minimize confounders, comparing the observed readmission rate with a risk-adjusted expected rate. The primary outcome was the 30-day hospital readmission O/E ratio following discharge from the index hospitalization. A subgroup analysis was conducted to compare readmission outcomes among patients with heart failure (HF), acute myocardial infarction (AMI), and chronic obstructive pulmonary disease (COPD) between the two groups. Secondary outcomes included an evaluation of the impact of PMR on condition specific readmission rates, including HF, AMI, and COPD.	Results are outlined in Table 1. A total of 59,817 patients were included in the analysis, with 27,995 patients in the PMR group and 31,822 patients in the non-PMR group. The overall observed-over-expected (O/E) 30-day readmission ratio was 0.85 in the PMR group and 0.92 in the non-PMR group. Among patients with heart failure, the O/E readmission ratio was 0.89 in the PMR group compared to 0.98 in the non-PMR group. For acute myocardial infarction, the O/E ratio was 0.79 in the PMR group versus 0.84 in the non-PMR group. For chronic obstructive pulmonary disease, the O/E ratio was 0.99 in the PMR group compared to 1.15 in the non-PMR group.	Patients who received a post-acute medication review (PMR) call had a lower-than-expected 30-day readmission ratio compared to those who did not receive the intervention. Both groups had fewer readmissions than expected overall, but the PMR group experienced a greater reduction in readmissions among a higher-risk population (15% vs. 8% in the non-PMR group). The greatest reductions in readmission risk were observed among patients with heart failure and acute myocardial infarction, while an impact on COPD patients was observed but less pronounced. These findings suggest that PMR calls may be an effective strategy for reducing 30-day hospital readmissions, particularly in high-risk populations. Further research is warranted to assess the long-term impact and cost-effectiveness of this intervention.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Freeland, Anna-Marie	annamarie.freeland@ascension.org	Ascension Sacred Heart Pensacola	Comparison of the safety and efficacy of therapeutic enoxaparin vs. unfractionated heparin in severe renal insufficiency	Anticoagulation therapy is frequently required for patients with coagulopathy due to various conditions, such as venous thromboembolism and atrial fibrillation. Literature suggests that unfractionated heparin (UFH) may be preferable for patients with significant renal insufficiency, though some sources offer no clear recommendations. As a result, it has been common practice to utilize UFH over enoxaparin at most institutions. At our institution there is no set standard or policy indicating the preference of one agent over the other. Through this study, we hoped to determine whether there are differences in safety and efficacy between the two agents in this patient population.	This retrospective chart review included adult patients (>18 years old) admitted to Ascension Sacred Heart Pensacola between October 2020 and October 2023. Eligible patients received at least 72 hours of continuous anticoagulation with either standard-dose UFH or therapeutic enoxaparin (1 mg/kg every 24 hours) and met one of the following criteria: chronic kidney disease stage 5 (with or without renal replacement therapy) or acute kidney injury with creatinine clearance 50, absence of heparin bolus orders at heparin initiation, and patients who were transitioned between drugs. The primary objective was to assess safety, defined by major bleeding events, while secondary objectives focused on efficacy, including cardiovascular (CV) events, recurrent venous thromboembolism (VTE), ischemic stroke, minor bleeding, anti-factor Xa activity for enoxaparin, and time to therapeutic heparin levels.	A total of 1165 patients were screened, and of those who met criteria 40 received enoxaparin while 18 received heparin. Baseline characteristics of the groups are presented in Table 1. Due to insufficient power, statistical significance could not be determined. There was no significant difference in major bleeding events between the two groups, although a 9.5% difference in favor of enoxaparin was observed. Three major bleeding incidents occurred: one in the enoxaparin group and two in the heparin group. Chi-squared analysis yielded p-values of 0.152 for major bleeding and 0.603 for minor bleeding. Minor bleeding events were more frequent in the enoxaparin group (4 vs. 1), indicating a 2.5% higher occurrence. Recurrent venous thromboembolism events or cardiovascular events were not observed in either treatment arm throughout the duration of the study.	The results suggest no major safety concerns for either anticoagulant, as both had low bleeding event rates. However, due to the small sample size, the study was underpowered, preventing definitive conclusions on the comparative bleeding risks. The observed trends support an acceptable safety profile for both enoxaparin and heparin, but further research with larger sample sizes is necessary to better assess the relative safety of these anticoagulants in preventing bleeding complications.
Gadalh, Thomas	thomas.gadalh@baycare.org	South Florida Baptist Health - BayCare	Bridging the Gap: Assessing Guideline Adherence and Clinical Impact of Simplified Sedation Goals.	Sedation management plays a key role in the care of mechanically ventilated intensive care unit (ICU) patients, as sedation depth directly impacts clinical outcomes. The 2018 Pain, Agitation, Delirium, Immobility, and Sleep guidelines recommend targeting light sedation to enhance patient outcomes. Studies indicate deeper sedation is associated with prolonged mechanical ventilation, increased ICU length of stay, and higher mortality. Conversely, maintaining light sedation may reduce delirium and promote early mobilization, although its effect on ventilation duration can vary based on patient-specific factors and sedation protocols. A 2021 medication utilization evaluation at our health system, involving 2380 patients, revealed considerable variability in sedation practices. Approximately one-third of patients received orders for moderate sedation (Richmond Agitation-Sedation Scale [RASS] -2 to -3), a range lacking robust beneficial evidence. To address this variability and align practices with guideline recommendations, a simplified sedation protocol was implemented. Previously, multiple sedation options existed without a standard target. Post-implementation, sedation choices were reduced, and the default target set to light sedation (RASS 0 to -1), consistent with evidence-based best practices . This study evaluates the impact of simplified sedation goals on mechanical ventilation duration in mechanically ventilated ICU patients, specifically assessing whether improved adherence to guideline-recommended sedation targets reduces ventilation duration and ICU length of stay.	This IRB-approved retrospective chart review evaluates sedation practices and patient outcomes before and after implementing simplified sedation goals. Employing a pre-post design, patient data from two cohorts—pre-implementation (January 1, 2022 – Feb 28, 2023) and post-implementation (March 1, 2023 – August 31, 2023)—were compared to assess changes in sedation practices and clinical outcomes. The sample size, based on historical data indicating a potential 12-hour reduction in mechanical ventilation duration, required 364 patients (182 per cohort) for sufficient statistical power. The primary outcome measured was mechanical ventilation duration. Secondary outcomes included ICU and hospital length of stay, average time-weighted RASS scores during the 48 hours before extubation, incidence of sedation-related complications (e.g., delirium, ventilator-associated pneumonia), and frequency of mismatched sedation goals in patients receiving multiple sedation infusions. Data extraction utilized electronic methods and manual medication administration record reviews. EMRs provided demographic data, APS scores, APACHE scores, hospital and ICU admission/discharge dates, ventilator timings, sedation orders, RASS scores, sedation duration, and relevant clinical outcomes. Patient data were randomized before analysis to minimize bias. Normality testing informed statistical methods: Paired t-tests for continuous variables, Chi-square tests for categorical variables, and regression analysis to identify predictors of mechanical ventilation duration.	A total of 364 patients were included—182 in the pre-implementation group and 182 in the post-implementation group—with no clinically meaningful differences in baseline age, sex, or APACHE II scores between cohorts. After the order set change, the proportion of patients with mismatched sedation goals (when two or more infusions were prescribed) fell dramatically from 38.8 % (71/183) to 2.2 % (4/182) (p < 0.001). Median time-weighted RASS in the 48 hours preceding extubation shifted toward the light-sedation target (-1.68 before vs -0.63 after; p < 0.001). The primary outcome—mechanical-ventilation duration—was slightly longer in the post-implementation cohort (median 91.9 h [IQR 57–140] vs 101.5 h [66–156]; W = 31 431., p = 0.041). ICU length of stay (median 5.95 d vs 5.83 d; p = 0.847) and hospital length of stay (11.3 d vs 12.9 d; p = 0.436) were unchanged. Documented delirium declined from 19.6 % to 6.0 % (p < 0.001), and ventilator-associated pneumonia fell from 11.5 % to 2.2 % (p = 0.001). In a multivariable linear model that adjusted for age, APACHE II score, and comorbidities, the post-implementation period was not an independent predictor of ventilation duration (β +3.1 h, p = 0.62), but remained strongly associated with lower odds of mismatched sedation orders (adjusted OR 0.04, 95 % CI 0.01–0.10; p < 0.001). These findings indicate that while the simplified protocol markedly improved ordering accuracy and reduced delirium and VAP, it did not shorten ventilation or length-of-stay metrics in this retrospective cohort.	Streamlining the sedation orders with guideline-recommended light-sedation targets, virtually eliminated mismatched orders and correlated with reductions in chart-documented delirium and ventilator-associated pneumonia. Despite these process and safety gains, ventilation duration increased, and length-of-stay metrics were unchanged, underscoring the influence of patient-level heterogeneity and factors beyond sedation depth alone. These findings support protocol simplification as an effective quality-improvement strategy for ordering accuracy, yet highlight the need for prospective studies that pair optimized sedation targets with early liberation bundles to translate adherence gains into measurable improvements in ventilator and hospitalization outcomes.
Gaidas, David	dgaidas96@gmail.com	HCA Florida Largo Hospital	Nursing-managed, pharmacist-directed extracorporeal membrane oxygenation (ECMO) analgosedation protocol	Analgosedation, as defined by the Society of Critical Care Medicine (SCCM), is either analgesia-first sedation (analgesic used before sedative to reach sedative goal) or analgesia-based sedation (analgesic used instead of sedative to reach sedative goal) 1. Critically ill patients on extracorporeal life support (ECLS) require both analgesia and sedation due to the invasive nature of the procedure. Further, altered physiology during critical illness as well as the direct effect ECLS has on PK/PD necessitate judicious drug selection to target desired levels of sedation. Failure to do so can lead to suboptimal sedation and life-threatening complications, i.e. cannula dislodgment 2. The medication use evaluation (MUE) Nursing-Driven Analgosedation Management in Patients on Extracorporeal Life Support (ECLS) During Day Versus Night Shifts sought to evaluate differences in nursing-driven sedation management strategies during AM (0700-1800) versus PM (1800-0700) shifts; this MUE graduated into a quality improvement (QI) project for the purpose of updating the current protocol. Discordance in analgosedative strategies can precipitate unintended outcomes, including increased demand for pharmacological hemodynamic support. The issue of inconsistent dosing practices is compounded by the facthat analgosedative agents are subject to pharmacokinetic alterations when used in ECMO. For example, fentanyl, and propofol, deemedextrinitive are each highly lipophilic and thus susceptible to sequestration 2, 3. Contrarily, drugs which are relatively less lipophilic (comparatively smaller coefficient logP) are less likely to be sequestered and extracted. Thus, this protocol considers the PK/PD properties of drugs and employs those which are less likely to be lost within ECMO circuitry and less likely to have therapeutic failure. For example, hydromorphone and morphine and preferable to fentanyl as analgesic agents since they are more hydrophilic and are less plasma protein-bound. Using the same logic for sedation, ketamine is preferable to propofol. Further, ketamine is a N-methyl-D-aspartate (NMDA) receptor antagonist and possesses analgesic properties which propofol lacks 4, 5. The data from the MUE alongside PK/PD considerations provided impetus to update the ECMO analgosedation protocol at our institution with the aim to streamline and standardize analgosedative drug selection and administration. The goal is to reduce bias, subjectivity, and consequent discordance between nursing shifts to ensure safety and efficacy of the therapy.	During the study period of August 1, 2023 to September 25, 2024, 51 ECMO patients were identified. The administration records of eight analgosedative drugs (dexmedetomidine, fentanyl, hydromorphone, ketamine, lorazepam, midazolam, morphine, propofol) administered intravenously (IV) were obtained. For each drug, the average dose per day and night shift was calculated. A T-test was performed for each drug to determine the difference relative to the sample between day and night shifts. The two main focuses of this updated protocol would be on the PK/PD parameters of each analgosedative agent and ensuring that analgosedation would be used uniformly. Agents were chosen from the eight drugs analyzed in the MUE. At our institution, hydromorphone and morphine are first line agents of ECMO sedation (hydromorphone for renal impairment) with lorazepam as second-line agent. Ketamine is the third-line option while fentanyl is fourth line. Fentanyl and propofol's comparatively high lipophilicity and plasma protein binding makes these drugs highly susceptible to sequestration and consequently treatment failure.	For dexmedetomidine, fentanyl, hydromorphone, ketamine, midazolam, and propofol, the mean dose per shift was greater during the night; only lorazepam and morphine had greater mean doses during the day shift. Based on a two-tailed p-value at a significance level (alpha) of 0.05, three drugs demonstrated statistical significance between shifts: hydromorphone (p = 0.0078), midazolam (p = 0.0001), morphine (0.0001).	The mean doses of hydromorphone and midazolam were greater at a statistically significant level during the night compared to the day shift. These findings warrant updating the ECMO analgosedation protocol; specifically, positioning agents with favorable PK/PD properties as drugs of choice and removing agents which are prone to sequestration and reduced efficacy. Pharmacists are situated ideally to direct this updated protocol since they can oversee and guide its implementation. Eliminating nursing bias will further serve to facilitate concordance between the day and night shifts.
Gamez, David	David.Gamez1@va.gov	VA-Miami, FL-Miami VA Healthcare System	Evaluating the appropriate use of continuous glucose monitoring systems for clinical outcomes	Diabetes ranks seventh among the leading causes of death in the U.S. and incurs nearly half a trillion dollars in annual healthcare costs nationwide. Traditional self-monitoring blood glucose (SMBG) lacks reliability in capturing daily glucose fluctuations. Continuous Glucose Monitors (CGMs) record interstitial glucose levels every five minutes, providing real-time data to clinicians via CGM apps/websites. This enables timely interventions and individualized diabetes management.	Retrospective data collected and reviewed for Type 2 (insulin-dependent) diabetic patients initiated on CGM before Dec. 31, 2023, treated exclusively at Miami VA. Patients required at least nine months of CGM use with A1C values recorded pre- and post-initiation. Primary endpoint: assessment of provider-driven CGM data analysis and subsequent interventions. Secondary endpoints: mean differences in A1C, blood glucose (BG), and identification of managing providers.	Final study sample size included 36 patients. 86.1% (n=31) of patients received appropriate provider follow-up; 13.8% (n=5) lacked follow-up. Mean reduction of A1C in patients with and without follow-up were -1.13% & -0.58%, respectively; difference of 52.46% between both groups. Total mean reduction of blood glucose pre- and post-CGM was -20.25 mg/dL. Pharmacists were the leading specialty referencing CGM data during patient encounters (n = 23 or 63.9%) and total interventions made per patient encounters (n = 22 or 95.65%).	Among appropriately followed patients, 93.5% experienced improvements in A1C, while those lacking follow-up showed little to no change in A1C or worsening BG levels. CGM use led to significant A1C and BG reductions, addressing SMBG limitations and enhancing individualized diabetes care.
Garcia Hernandez, Jackie	jackie.garciahernandez@leehealth.org	Lee Health	Comparing deviations from evidence-based dosing of apixaban and rivaroxaban for atrial fibrillation and the impact on adverse events	This study evaluated the incidence of clinically relevant bleeding and/or thromboembolic events between evidence-based and non-evidence-based dosing of apixaban and rivaroxaban for atrial fibrillation and identified contributing factors to these dosing deviations.	This was a retrospective cohort study within a multi-site hospital system from July 2022-July 2024. We included 600 patients with a primary diagnosis of atrial fibrillation and a prescription for apixaban or rivaroxaban at discharge. The primary outcome was a 30-day readmission for clinically relevant bleeding and/or thromboembolic events. Secondary outcomes included the frequency of non-evidence-based prescriptions and the frequency of dosing changes resulting from outpatient pharmacist interventions within our dispensing pharmacies.	Of the 600 patients, 583 (97.2%) received evidence-based dosing while 17 (2.8%) received non-evidence-based dosing. There was no statistically significant difference in the primary outcome or the secondary outcome. However, non-evidence-based dosing was more frequently observed among patients with reduced renal function, older age, and lower body weight.	While non-evidence-based dosing of apixaban and rivaroxaban was uncommon in the study population, the study included only patients with a primary diagnosis of atrial fibrillation. This resulted in many patients receiving cardiology consultations, likely leading to a higher overall percentage of evidence-based dosing. In addition, there was limited capability in capturing the health system's outpatient pharmacist interventions. This highlights the need for a future study evaluating dosing practices in those with other primary diagnoses and highlights a need for better systems for capturing outpatient pharmacist interventions within the health system.
Garcia, William	willie98garcia@gmail.com	Larkin Community Hospital	Comparison of pharmacist-driven vancomycin AUC-over-MIC therapeutic drug monitoring versus traditional vancomycin trough monitoring in a community teaching hospital	Vancomycin is a tricyclic glycopeptide antibiotic used to treat Gram-positive bacterial infections, specifically methicillin-resistant Staphylococcus aureus (MRSA). Vancomycin's bactericidal effect is contingent on the ratio of the area under the serum concentration versus time curve (AUC/MIC). Current vancomycin guidelines advise that vancomycin monitoring for confirmed or suspected serious MRSA infections should be done with AUC/MIC rather than traditional vancomycin trough-based monitoring. Furthermore, AUC/MIC levels within 400 – 600 mg·h/L have been found to improve efficacy and reduce rates of nephrotoxicity compared to trough monitoring. The purpose of this research is to compare different pharmacy-driven vancomycin dosing strategies for improved efficacy and safety outcomes in patients with confirmed or suspected MRSA infections.	The study features three phases: a retrospective pre-intervention assessment of vancomycin trough-based dosing, implementation of a pharmacy vancomycin AUC/MIC dosing protocol, followed by post-intervention assessment of the protocol. Each assessment period was 45 days. A Bayesian calculator was used to assess the patient's vancomycin regimen. Patients included in the study are those aged 18 years or older that were initiated on vancomycin and received at least two doses and had at least one vancomycin trough collected. Patients receiving vancomycin for surgical prophylaxis, on hemodialysis, acute kidney injury (AKI) on admission, and patients without a vancomycin trough collected were excluded from the study. The research protocol was submitted to the institutional review board. The vancomycin AUC/MIC dosing protocol was approved by Antimicrobial Stewardship and Pharmacy & Therapeutics Committees. The protocol implementation included in-services to pharmacy, family medicine, internal medicine, nursing, and laboratory personnel. Education was provided on vancomycin loading doses, scheduling of vancomycin concentration monitoring, and usage of the Bayesian calculator to determine the patient's AUC/MIC value. The primary outcome is the percentage of patients who achieved therapeutic vancomycin concentrations comparing the different dosing methods. Secondary outcomes include AKI incidence, incidence of supratherapeutic level, and time to therapeutic concentrations among the different vancomycin dosing groups. The two samples were compared using an F-test to determine equal variance. Chi-square test was used to analyze the incidence of outcomes. Two-sample t-test was used to evaluate average time to therapeutic vancomycin level. The significance level of the Chi-square test and t-test was a P-value less than 5 percent (p<0.05).	There were 78 patients screened for eligibility during the pre-implementation phase of trough-based monitoring and 97 patients screened for eligibility during the post-implementation phase of AUC/MIC monitoring. In the pre-implementation trough-monitoring group, 23 patients met inclusion criteria. In the post-implementation AUC/MIC group, 29 patients met inclusion criteria. There were 7 out of 23 patients (30.4%) in the pre-implementation trough-based vancomycin group that achieved therapeutic concentrations, with the average time to therapeutic value being 118.7 hours. In comparison, 20 out of 29 patients (69.0%) in the post-implementation AUC/MIC vancomycin group achieved therapeutic levels, with the average time to therapeutic value being 64.1 hours. The difference in incidence of therapeutic vancomycin levels was 38.6% and found to be statistically significant, favoring the AUC/MIC group (P-value = 0.006). The difference in time to the first therapeutic level was 46.6 hours and found to be statistically significant, favoring the AUC/MIC group (P-value = 0.037). Five out of 23 patients (21.7%) in the pre-implementation group experienced supratherapeutic vancomycin troughs. Comparatively, 5 out of 29 patients (17.2%) in the post-implementation group had supratherapeutic AUC/MIC. No statistical significant difference was found for incidence of supratherapeutic values (4.5%; P-value = 0.683). Incidence of AKI occurred in 2 out of 23 patients (8.7%) in the pre-implementation group and 2 out of 29 patients (6.9%) in the post-implementation group. No statistical significant difference was found for incidence of AKI (1.8%; P-value = 0.809).	Vancomycin AUC/MIC monitoring resulted in higher incidence of therapeutic vancomycin levels. Vancomycin AUC/MIC monitoring had quicker time to therapeutic levels compared to trough-based monitoring. There was no difference in incidence of supratherapeutic levels or AKI when comparing vancomycin AUC/MIC monitoring versus trough-based monitoring.
Gashti, Alexander	alexander.gashti@hf.org	Health First Holmes Regional Medical Center	The Impact of Gadopiclenol Dose on Myocardial and Left Ventricular Blood Pool T1 Shortening Times in Cardiac Magnetic Resonance Imaging	Gadopiclenol is a gadolinium-based contrast agent (GBCA) used in adult and pediatric patients for magnetic resonance imaging (MRI) to detect vascular lesions in the central nervous system (CNS) and body. However, its use in cardiac MRI (CMR) has not been extensively studied. Gadolinium exposure is associated with nephrogenic systemic fibrosis (NSF) and gadolinium deposition disease (GDD.) Due to its high relaxivity, gadopiclenol requires a lower total gadolinium dose to maintain image quality compared to traditional GBCAs for CNS and body imaging. However, the effective optimal dose of gadopiclenol for CMR remains undetermined. Given its reliability and reproducibility, T1 mapping is a robust method to quantify myocardial relaxation. This study evaluated the impact of gadopiclenol dose on T1 shortening time in the myocardium and left ventricular (LV) blood pool before and after contrast administration.	This observational, retrospective, cohort, pre-post comparison studied a total of 110 subjects (mean age: 65 years; 50 females, 60 males) from July 16, 2024 to September 3, 2024 with known or suspected cardiovascular lesions who underwent T1 mapping using a standardized imaging protocol Modified Look-Locker Inversion Recovery (MOLLI), scheme 3(3)3(3)5 on a 1.5 Tesla (T) General Electric Healthcare scanner. Native T1 maps were acquired in a single midventricular short-axis slice and repeated 20 minutes post-gadopiclenol administration. Native- and post-contrast T1 values were measured in the myocardium and LV blood pool.	The mean myocardial T1 shortening time from pre- to post-contrast was 608 + 58 msec at 1.5 T, a 60% reduction from baseline. The mean LV blood pool T1 shortening was 1,242 + 30 msec at 1.5 T, an 82% reduction from baseline. T1 shortening values were based on a 0.06 mmol/kg gadopiclenol dose for 95% of patients. Images were deemed technically adequate in 40% of CMR patients, while 60% were technically difficult to achieve. No infusion reactions were reported.	This study highlights gadopiclenol's potential as a lower dose alternative to traditional GBCAs in CMR. Its high relaxivity enables effective T1 shortening in both the myocardium and LV blood pool while minimizing overall gadolinium exposure. This could be especially advantageous for patients at risk of NSF or GDD. Since a small but measurable amount of free gadolinium dissociates from all GBCAs during contrasted MRI studies, the risk of GDD may increase for patients who have had multiple contrasted MRI studies in the past. The risk for GDD and cumulative gadolinium exposure in these patients must be weighed against the clinical value obtained from gadolinium contrast studies. Despite maintaining image quality, technical difficulties were reported in 60% of cases, primarily due to respiratory artifacts. This suggests the need for improved breath-hold coaching, motion correction techniques, or optimized imaging protocols to enhance feasibility. Extracellular volume (ECV) fraction measurement, though not the focus of this study, is another crucial aspect of CMR. Future research should assess whether gadopiclenol provides comparable accuracy in ECV quantification relative to conventional contrast agents, which could strengthen its role in myocardial tissue characterization. Additionally, studies at different field strengths, such as 3T MRI, may provide insights into gadopiclenol's performance. Beyond technical considerations, gadopiclenol's broader implications should be explored, which include its safety and efficacy in larger populations, particularly those with chronic kidney disease and a cost benefit analysis comparing gadopiclenol to traditional GBCAs should be conducted. If validated, gadopiclenol could become a safer, high-relaxivity alternative for CMR, reducing gadolinium burden while maintaining diagnostic accuracy.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Ghaderi, Sara	sghaderi20@gmail.com	Baptist Health Boca Raton Regional Hospital	Effectiveness of andexanet versus 4-factor prothrombin complex concentrate for factor Xa inhibitor-associated acute intracerebral hemorrhage	Intracerebral hemorrhage (ICH) while anticoagulated has very high morbidity and mortality, therefore guidelines recommend rapid reversal of anticoagulation. There is limited data directly comparing clinical outcomes between andexanet and 4F-PCC.	This is a retrospective chart review of patients at Baptist Health hospitals who received andexanet between April 2019 - October 2024 and 4F-PCC between January 2018 - November 2022 for direct oral factor Xa inhibitor related ICH. The primary outcome was hemostatic efficacy and was defined as: stable hematoma volume, less than 7-point increase in NIHSS score, and no receipt of rescue therapy within 12 hours. Safety endpoints were thrombotic events and in-hospital mortality.	A total of 82 patients were included in this review, 41 received andexanet and 41 received 4F-PCC. Hemostatic efficacy was achieved in 32 (78.0%) patients who received andexanet and in 27 (65.9%) patients who received 4F-PCC (P=0.325). Hematoma stability occurred in 87.8% of the andexanet group and 70.7% of the 4F-PCC group, while differences in LOS, mortality, readmission, and receipt of rescue therapy did not differ appreciably between the groups. Thrombotic events occurred in 1 (2.4%) patient who received andexanet and in 2 (2.8%) patients who received 4F-PCC.	Despite not reaching statistical significance, hemostatic efficacy was achieved in 78.0% of the andexanet group and 65.9% of the 4F-PCC group and there were no differences in thrombotic events.
Gichi, Deema	deemagichi@gmail.com	Cleveland Clinic Martin North Hospital	Evaluation of Treatment Approaches for ACEI/ARB-Induced Angioedema: Standard Allergy Protocol Compared to Tranexamic Acid and/or C1-Esterase Inhibitors and/or Fresh Frozen Plasma	Angiotensin-converting enzyme inhibitor (ACEI) and angiotensin receptor blocker (ARB)-induced angioedema represents a unique clinical challenge due to its bradykinin-mediated pathogenesis, which makes it poorly responsive to conventional antihistaminergic therapies. Bradykinin accumulation leads to vasodilation and increased vascular permeability, resulting in swelling that can affect the lips, face, tongue, and upper airway2. While most cases resolve within hours to days, more severe presentations may require ICU-level care or even airway intervention3. The cornerstone of acute management has historically included antihistamines, corticosteroids, and epinephrine. These agents are effective in histaminergic angioedema but are often insufficient for bradykinin-induced cases. Increasing attention has shifted toward more targeted interventions such as C1-esterase inhibitors (C1-INH), tranexamic acid (TXA), and fresh frozen plasma (FFP), all of which have been studied more extensively in the context of hereditary angioedema4. While mechanistically appealing, real-world data evaluating these adjunctive therapies in ACEI/ARB-induced angioedema remains limited. This study aims to address this gap by comparing standard allergy protocol alone to standard allergy protocol supplemented with TXA, C1-INH, or FFP, focusing on clinically relevant outcomes such as time to resolution, ICU admission, and airway management. Several small-scale studies and case reports have explored alternative therapies for ACEI/ARB-induced angioedema, highlighting potential benefits of agents like C1-esterase inhibitors (C1-INH), tranexamic acid (TXA), and fresh frozen plasma (FFP). In a case series by Grew et al., ten patients treated with IV C1-INH experienced faster symptom resolution without requiring airway intervention, suggesting a possible role for C1-INH in acute management5. Beauchêne et al. conducted a retrospective study of 33 patients treated with IV TXA, reporting that 27 patients improved with TXA alone and none required intubation, supporting TXA as a promising, accessible option6. Warrier et al. described a rapid clinical improvement in a patient with life-threatening angioedema following administration of IV FFP7. While these findings are encouraging, the existing literature is limited by small sample sizes, retrospective designs, and variability in treatment protocols, reinforcing the need for further investigation through larger comparative studies like the current protocol.	Study Design: This was a retrospective cohort analysis conducted at Cleveland Clinic Florida and Ohio sites. Patients were included if they presented to the emergency department with suspected ACEI/ARB-induced angioedema between January 1, 2023 and November 15, 2024, confirmed through diagnostic coding and manual chart review. Inclusion Criteria •Age ≥18 years •Diagnosed with suspected ACEI/ARB-induced angioedema based on ICD-10 codes and chart review Exclusion Criteria •Hereditary or idiopathic angioedema •Angioedema due to other drugs or conditions •Pregnancy •Transitioned to hospice, comfort care, or left against medical advice (AMA) •Contraindications to study medications Patient Selection and Randomization A total of approximately 1190 patients were initially identified through ICD-10 codes for angioedema. After applying inclusion and exclusion criteria and confirming suspected ACEI/ARB-induced cases through chart review, eligible patients were divided into two cohorts based on the treatment they received: those managed with the standard allergy protocol only and those who received adjunctive therapy in addition to the standard allergy protocol. From each group, 50 patients were randomly selected using Microsoft Excel's randomization function to ensure balanced group sizes for analysis while minimizing selection bias.	Overall Cohort (n = 100) Baseline characteristics were similar between both groups (see table 1). The median time to symptom resolution was 3.9 hours in the allergy group and 9.9 hours in the allergy+ group (p=0.120). ICU admissions were more common in the allergy+ group (38% vs 18%, p=0.026), and LOS was significantly longer (28 vs 5 hours, p<0.001). All four intubations occurred in the allergy+ group (p=0.117). No adverse effects were reported in any group. Although FFP was considered in the original study design, no patients in the final cohort received FFP during their emergency department visit and hospitalization. Patients receiving TXA alone had the most favorable trends with the shortest median time to symptom resolution and the lowest rates of ICU admission and intubation.	In this retrospective cohort study, adjunctive use of TXA or C1-INH or both did not significantly improve time to symptom resolution over the standard allergy protocol in patients with ACEI/ARB-induced angioedema. However, TXA showed promising trends, with shorter symptom resolution times and fewer escalations of care, suggesting it may be a reasonable option in selected patients. Further prospective research is warranted to validate these findings and develop a risk-stratified, evidence-based approach for this unique patient population.
Gildewell, Kayla	kaylagil2000@gmail.com	Morton Plant Hospital	Effect of beta-blocker use in pregnancy on hypoglycemia events in neonates during hospital stay	Beta-blockers are commonly used agents for hypertensive disorders of pregnancy. They are known to cross the placenta but are considered to be safe in pregnancy. Recent evidence has shown an association between beta-blocker use in utero and neonatal hypoglycemia. Hypoglycemia in neonates can lead to seizures, brain injury, and adverse neurodevelopmental outcomes. More evidence is needed to establish a definitive association with beta-blocker exposure and neonatal hypoglycemia and to determine if routine blood glucose monitoring is needed for these patients.	This was a multi-center retrospective, International Review Board approved, cohort study including neonates born to mothers 18 years of age or older who were admitted to a BayCare facility between the dates of January 1, 2022 and May 31, 2024. The primary outcome of this study is to determine the incidence of hypoglycemia in neonates exposed to beta-blocker therapy versus those who were not exposed to beta-blocker therapy. Hypoglycemia is defined as blood glucose 40 mg/dL or less during the first four hours of life and 45 mg/dL or less after the first four hours of life. Secondary outcomes include the incidence of neonatal intensive care unit admissions, length of stay, incidence based on class of beta-blocker, incidence of severe hypoglycemia (blood glucose 30 mg/dL or less), treatment of hypoglycemia received, incidence of bradycardia (heart rate less than 100 BPM), time to exposure (chronic use versus acute exposure of beta-blockers), and differences of hypoglycemia in patients born to diabetic mothers vs those born to mothers who are not diabetic. Paired t-Test was used to evaluate any descriptive or continuous data that is normally distributed. Mann-Whitney or Mood's Median test was used to evaluate any continuous data that is not normally distributed. Chi Squared or Fisher's exact testing was used for any categorical data.	A total of 178 newborn patients were included in the study with 89 patients in each group. Baseline characteristics were similar between groups, with the exception of a higher maternal age, hypertensive diagnosis, and BMI in the beta-blocker group and a higher gestational age and birth weight in the control group. For the primary outcome, there was no difference in incidence of hypoglycemia between the two groups. Hypoglycemia occurred in 47% of the beta-blocker group and 55% of the control group; p=0.29. For secondary outcomes, there was no difference in severe hypoglycemia between the beta-blocker group (12%) vs the control group (13%); p = 0.82. Thirty-six patients required treatment for hypoglycemia in the beta-blocker group and 44 in the control group; p=0.23. Five patients in both groups required treatment with intravenous (IV) dextrose or both IV dextrose and oral glucose gel. There is no difference in hypoglycemic events in those on long-term therapy (54%) and those only receiving beta-blockers during admission (42%); p=0.27. Bradycardia occurred in 6% of the beta-blocker group and 8% of the control group; p=0.55. Fifteen percent of patients in the beta-blocker group and 21% in the control group were admitted to the neonatal intensive care unit; p=0.34. The median length of stay for both groups was 2 days.	Exposure to beta-blocker therapy in utero did not increase the incidence of neonatal hypoglycemia. There were no statistically significant differences in hypoglycemia treatment, admission to neonatal intensive care unit, length of stay, or bradycardia between groups. There was no increased risk for hypoglycemia in those exposed to beta-blocker therapy long term.
Godefoy, Joshua	joshua.godefoy@msmc.com	Mount Sinai Medical Center	Impact of Multidisciplinary Interventions on Sepsis Outcomes: A Pre- and Post-Implementation Analysis	Sepsis is an acute medical emergency characterized by life-threatening organ dysfunction and high mortality rates. Due to the high health burden of this disease, numerous governmental organizations have called for advances in sepsis care through hospital sepsis improvement programs. One recommended core element of these programs is the use of multi-professional expertise to improve patient outcomes. However, studies examining how the specific collaboration of pharmacists with nurses and physicians affect patient outcomes are limited. Therefore, this study aims to assess how clinical and process outcomes are impacted by interventions jointly enacted by the aforementioned professions.	A retrospective, single- center, observational, pre- and post-implementation analysis of patients diagnosed with sepsis was conducted after receiving approval from the Mount Sinai Medical Center (MSMC) Institutional Review Board. Participants were included in the study if they had a sepsis diagnosis, as determined by International Classification of Diseases (ICD) code. To assess the impact of our multidisciplinary interventions, the following primary endpoints were evaluated: appropriateness of initial antibiotic selection, time to antibiotic verification, and time to antibiotic administration. Secondary endpoints included the proportion of patients transferred to the intensive care unit (ICU), 30-day readmissions, mortality, and hospital length of stay. Participant baseline characteristics were summarized using descriptive statistics and endpoints were assessed using comparative analyses.	A total of 300 participants were evaluated, of which 150 participants were in the pre-group and 150 participants were in the post-group. The appropriateness of initial antibiotic selection improved from 50.7% in the pre-group to 79.3% in the post-group (p<0.001). The median time to antibiotic administration and median time to antibiotic verification were similar between the pre-group and post-group (2.0 min vs 2.0 min, p=0.883; 21 min vs 22 min, p=0.683), respectively. The proportion of patients transferred to the ICU decreased from 50.0% to 34.0% (p=0.005). The percentage of patients readmitted within 30 days did not show a statistically significant difference between the pre-group and post-group (20.0% vs 19.3%, p=0.885). The mortality rate decreased from 14.7% in the pre-group to 12.7% in the post-group but was not statistically significant (p=0.614). The median hospital length of stay was not significantly different between the pre-group and post-group (5.70 days vs 5.96 days, p=0.889).	The implementation of a multidisciplinary sepsis response which incorporates pharmacists was associated with improved selection of appropriate initial empiric antibiotics and reduced ICU transfers.
Gonzales, Jalen	jalengonzales27@yahoo.com	Wolfson Children's Hospital	Retrospective study on sleep maintenance, sleep onset and treatment tolerability: other agents vs melatonin in pediatric psychiatry	Non-pharmacologic interventions are the first-line treatment for sleep disturbances, yet the hospital setting is often not ideal for restful sleep. There are no established guidelines for pharmacological interventions in pediatric sleep issues. Research on melatonin has shown its potential to reduce sleep latency by 18-60 minutes and improve sleep duration without significant side effects.1,2 Other pharmacological agents have been explored, but evidence of their efficacy in children is limited.3 To date, no studies have compared melatonin to alternative sleep medications in this population. This study aims to evaluate and compare the effects of melatonin to mirtazapine, trazodone, clonidine, and diphenhydramine on sleep onset, maintenance, and tolerability in pediatric patients in the behavioral health unit.	A retrospective chart review was conducted in a pediatric behavioral health unit. The study aimed to compare melatonin to other agents (mirtazapine, trazodone, clonidine, and diphenhydramine). Patients were included if they received two consecutive nights of the same sleep agent within the first seven days of hospitalization, between 1500 and 2300 hours. Exclusion criteria included as-needed agitation medications after 1300 hours, use of multiple sleep agents, and falling asleep before receiving the dose. Every 20th patient organized alphabetically was included. Data collected included demographics, stimulant/sedative use, and prior melatonin use in the "other agents" group. The primary outcome was median total sleep duration (hours), with secondary outcomes including time to sleep onset, nocturnal awakenings, and daytime naps. Assuming an alpha of 0.05, 80% power to detect a difference in total sleep duration, the required sample size was 201 patients in each group for a total of 402 patients. Statistical analysis used the Mann-Whitney U-test for continuous data.	Each group included 201 patients. The "other agents" group included 97 patients on trazodone, 26 on mirtazapine, 69 on clonidine, and 9 on diphenhydramine. The baseline demographics between groups were similar. The melatonin group had a significantly higher number of patients with depression and suicidal ideation as admission criteria. The majority of the other agents group were patients continuing home regimens and they had higher rates of attention deficit hyperactivity disorder, disruptive mood dysregulation disorder, oppositional defiant disorder and autism. The "other agents" group had a median total sleep duration of 9.38 hours (IQR 8.88-10.0), while melatonin's group had 9.25 hours (IQR 8.63-9.75) (p=0.04). Secondary outcomes showed the "other agents" group took 1.48 hours to fall asleep (IQR 1, 19- 1.89), while melatonin took 1.38 hours (IQR 1.01-1.9) (p=0.202). The "other agents" group had 0.5 nocturnal awakenings (IQR 0-1) with a median duration of 0.13 hours (IQR 0-0.25), while melatonin had 0 awakenings (IQR 0-1) (p=0.575). Both groups had 0 patients sleeping beyond 10 hours or taking daytime naps. The "other agents" group had a sleep duration increase of 0.82 hours (IQR 0.25-1.5) from baseline, compared to 0.5 hours (IQR 0-1.13) for melatonin (p=0.143). A post-hoc analysis showed no significant differences in total sleep duration between specific medications, except diphenhydramine, which reduced sleep duration.	To our knowledge, this is the first study comparing pharmacological sleep interventions in pediatric psychiatry patients. While we found a statistically significant difference between "other agents" vs. melatonin in total sleep duration, the difference (7.5 minutes) may not be clinically meaningful as previous evidence has suggested an increase of 30 minutes in sleep duration is clinically relevant. Of the patients we had baseline sleep information for, both groups demonstrated a clinically meaningful increase in sleep (greater than 30 minutes). Given similar tolerability between the groups, these results suggest that "other agents" are reasonable alternatives to melatonin. Limitations include interval-based patient assessment leading to possible inaccuracies, evaluation of multiple medications within the other group, lack of baseline sleep durations for all patients, psychiatric diagnoses impacting sleep durations, and limited generalizability as most of the patients were adolescents. Potential future directions include examining patients who are newly starting treatment with the other agents, examining an individual sleeping agent, and/or examining utilization of the other agents in a single disease state.
Gore, Amanda	amandamgore@gmail.com	BayCare St. Anthony's	Impact of IV iron administration in iron deficient patients with heart failure with reduced ejection fraction	Heart failure is a condition that results from impairment of ventricular filling or ejection of blood. As of 2021, the American Heart Association (AHA) estimates the prevalence of heart failure to be around 6 million people, about 1.8% of the U.S. population. It is estimated that iron deficiency is present in up to 50% of patients with heart failure. 1 The 2022 AHA/ACC/HFSA heart failure guidelines acknowledge that anemia is independently associated with heart failure disease severity and mortality and recommend that in patients with HFrEF and iron deficiency with or without anemia, intravenous iron replacement is reasonable to improve functional status and QOL. 4 In response to current literature and guideline recommendations, BayCare Health System added iron studies to its' heart failure order set and a provider alert was implemented to inform providers of HFrEF patients who meet criteria for iron deficiency to encourage inpatient iron replacement. In 2018, there were 3.8 million hospital readmissions within 30 days of discharge with an average cost of $15,200 per readmission.3 Heart failure was the diagnosis with the second highest number of 30-day readmissions and is one of six conditions included in CMS's Hospital Readmissions Reduction Program (HRRP). In this multi-center retrospective cohort study, we aim to determine whether inpatient IV iron administration reduces 30-day hospital readmission rates in patients with heart failure with reduced ejection fraction and iron deficiency.	This was a retrospective chart review utilizing the electronic health record Cerner. The study was performed in the BayCare Health System and included data from 16 hospitals throughout the Tampa Bay and Central Florida region. 272 patients were screened against the inclusion and exclusion criteria and 200 patients were included. Inclusion criteria were subjects aged 18 years and older, with baseline iron studies available, who met criteria for iron deficiency defined as: ferritin level less than 100 or a ferritin level between 100 and 300 with a Tsat less than 20%. Exclusion criteria were the administration of intravenous iron in the three months prior to admission, patients with ESRD on hemodialysis, or requirement of blood transfusion during admission. There were two study arms in this study, 100 patients were included in the IV iron group and 100 patients in the no iron group. The primary outcome analyzed was 30-day hospital readmission rate. Secondary outcomes included 90-day hospital readmission rate, ICU admissions, length of stay, in-hospital mortality, BNP resolution, disposition at discharge, and safety.	Baseline characteristics were similar in both groups. However, hemoglobin and serum iron were significantly less in the iron group compared to the no iron group while Tsat was significantly higher in the iron group. Of the 100 patients in the iron group, 41 received iron sucrose, 55 received iron dextran, and 4 received another iron formulation. The mean total dose of iron received was 761 mg, with a range from 100 to 1,050 mg. For the primary outcome of 30-day readmissions, the event occurred in 20% of patients in the iron group compared with 17% in the no iron group (Difference 0.03, 95% CI -0.08, 0.14). There was no statistically significant difference for any of the secondary outcomes analyzed in this study. No safety events were reported.	In conclusion, no significant difference was observed in 30-day readmission rates between patients who received iron replacement compared to those who did not. Strengths of this study include that it was a multi-center study, the endpoints analyzed were clinically relevant, and the baseline criteria were similar in both groups. Weaknesses include the retrospective design and the small sample size. Further prospective studies with adequate power and larger sample sizes are necessary to confirm these findings.
Greiner, Sierra	sgreiner916@gmail.com	Ascension Sacred Heart Pensacola	Impact of pharmacy-prepared tenecteplase kits on weight based dosing accuracy for the treatment of acute ischemic stroke (AIS)	Over 68 million people experience AIS yearly with an overall mortality rate of about 3.1%1 . Some treatments for patients undergoing AIS are tenecteplase and alteplase. At the time of this study only alteplase is FDA approved for treatment of AIS but trials have shown promising results for tenecteplase treatment as well.2,3 Tenecteplase administration includes dosing at 0.25 mg/kg as a single intravenous bolus meanwhile alteplase dosing is 0.09 mg/kg intravenous bolus followed by 0.81 mg/kg intravenous drip over 1 hour. Furthermore, door to needle time was faster with patients who received tenecteplase (41 minutes) compared to alteplase patients (58 minutes) (p < 0.001).4 Tenecteplase also showed greater complete recanalization and early neurological improvement when compared to alteplase (22% versus 10%, 95% CI: 1.1 - 5.9, p = 0.02) with similar intracranial hemorrhage transformations at 24 hours (10%, 95% CI: 0.67 - 1.67, p = 0.81).5,6 . Our team has identified a safety concern with the manufacturer packaging of tenecteplase. Current packaging has dosing recommendations for myocardial infarction (MI) only, which even at the lowest dose (30 mg), is still higher than the recommended maximum for AIS (25 mg)2 . Our team has noticed incorrect dosing for stroke patients. To ensure accurate AIS dosing, the emergency medicine pharmacy team has developed a "tenecteplase for AIS" kit; therefore, the purpose of this study is to evaluate the implementation of pharmacy prepared tenecteplase kits on dosing accuracy for AIS.	This is a single centered, retrospective, quality improvement study involving tenecteplase dosing kits for the treatment of AIS. The intervention consists of pharmacy prepared kits that deconstruct and repackage the manufacturer-provided materials. Kits include: two syringes (10 mL and 5 mL), one vial of tenecteplase and one of sterile water, one 18 gauge needle, and one dosing/administration sheet. The time frame will cover November 5, 2023 through March 21, 2024 as our pre - intervention group and November 5, 2024 through March 6, 2025 as our post - intervention group. The primary outcome will be percent difference in correct weight - based dosing for the treatment of AIS. Correct dosing will be defined as less than or equal to 5% difference between the given dose and the accepted calculated dose. Secondary outcomes will include: length of hospital stay, length of ICU stay, adverse drug events, overall change in NIH score, door to needle time, and last known well to needle time. Inclusion criteria include patients greater than 18 years old, received TNK for the treatment of AIS, and weight recorded in chart prior to administration. The only exclusion criteria is patients who received TNK while receiving a thrombectomy in biplane. Categorical data will be analyzed using Pearon's Chi - square test and fisher's exact tests as appropriate. Continuous data will be analyzed using the student t - test when normally distributed and the Wilcoxon - Mann - Whitney tests when non - normally distributed.	There were no significant differences in baseline characteristics between the pre and post intervention groups (Table 1). The primary outcome of percent difference in weight - based dosing was 0.27% + 0.91 in the pre group and 0.22% + 0.85 in the post group (p = 0.59). Statistically significant secondary endpoints include overall decrease in NIH score with an average NIH decrease of - 0.8 + 6.64 in the pre group and 4.2 + 6.35 in the post group (p = 0.02). Although not statistically significant, door to needle time of the pre group was 76.2 + 98.3 minutes and the post group was 63 + 43.8 minutes (p = 0.59). In the post group, the door to needle time was 10 minutes faster than the pre group, possibly due to the ease of administration of TNK from the pharmacy prepared kits (Table 2).	At the time of this study, TNK was only FDA approved for use in MI. Due to this restriction, only MI dosing is available on the packaging from the manufacturer. Pharmacy prepared TNK dosing kits for AIS did not statistically change the percent accuracy in patient dosing, but did statistically change the overall change in NIH score of these patients. Clinically, the kits allowed for TNK to be administered an average of 10 minutes faster, which is important in this setting, as time is of the essence.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Grillo, Katelyn	kp1696@nova.edu	Nova Southeastern University Barry & Judy Silverman College of Pharmacy	Stimulant Prescribing Patterns Seen in a University Community Pharmacy	Overprescribing of stimulants has been a growing concern, exacerbated by the COVID-19 pandemic, with potential implications for patient dependence and medication safety. Early refill patterns may indicate possible misuse or overuse, highlighting an opportunity for pharmacist intervention. By assessing refill behavior, this study aims to identify patterns associated with higher stimulant doses and support pharmacists' role in ensuring proper dispensing practices, dose titration, and monitoring for misuse. Research has showcased that ADHD diagnosis and ADHD medication prescribing has been increasing unproportionally right before the COVID pandemic and up until the present, meaning there are greater chances for misuse. Furthermore, research has showcased that there is an increase of ADHD polypharmacy and prescribing rates over time; it is undetermined if this is due to new exposure and disease state education or for other reasons. Research into university students directly, has shown that in this specific patient population, there may be overprescribing and misuse of prescription stimulants. Of note, over 18% in this population reported drug diversion.	This retrospective cohort study will analyze patient records from a university community pharmacy over a 12-month period; inclusion criteria include adult patients (18 years or older) who have filled stimulant ADHD medications at least twice within the study period (if the patient only filled a stimulant twice, included patients must have filled the same medication twice). Patients prescribed non-stimulant ADHD medications or stimulants for non-ADHD indications (e.g., phentermine) will be excluded. Data collection will include patient demographics, prescribed stimulant and dose, and the timing of refills relative to the prescribed interval (e.g., picking up a 30 day fill every 32 days, on average). The primary outcome is the relationship between the stimulant dose and the timing of refills, with refill timing defined as the number of days before or after the expected refill date. Subjects will be split into two groups: a low-dose group (patients prescribed less than 50% of the max dose of the stimulant) and a high-dose group (50% or higher of the maximum dose, or on two maintenance stimulant medications, such as Adderall XR in the morning and Adderall IR in the afternoon). A two-sample t-test of unequal variance will compare the average days between refill for both groups to determine if there is a significant difference in means.	Patients in the high-dose group had a lower average time between fills (mean = 39.1 days, SD = 12.3) compared to the low-dose group (mean = 50.7 days, SD = 19.0), with a statistically significant difference between groups (p = 0.004, p < 0.01).	Patients prescribed higher doses of stimulant medications fill their prescriptions significantly more frequently than those on lower doses. These findings may reflect differences in adherence, medication effectiveness duration, or other behavioral factors. Further research is warranted to explore the clinical and regulatory implications of these refill patterns.
Hamilton, Hayley	hayley.hamilton1@ascension.org	Ascension Sacred Heart Pensacola	Less is more? a retrospective comparison of twice and thrice daily dosing of metronidazole in confirmed anaerobic infections	Metronidazole is the preferred treatment for anaerobic infections due to its affordability, effectiveness against gram-positive and gram-negative anaerobes, and minimal adverse effects. Its pharmacokinetic properties support twice daily (BID) dosing despite the traditional dosing scheme of thrice daily (TID). The half-life of metronidazole is 6 to 10 hours with studies showing adequate levels at 12 hours to reach and exceed the minimum inhibitory concentration of common anaerobic bacteria. There have been few studies that evaluated clinical outcomes in BID versus TID dosing in presumed anaerobic infections and one study that evaluated the clinical efficacy of BID metronidazole for confirmed anaerobic bacteremia. Based on emerging literature and the pharmacokinetic properties, our community hospital system updated the standard dosing of metronidazole from 500 mg TID to 500 mg BID for most indications. The purpose of this study was to evaluate the effectiveness of this change in confirmed anaerobic infections.	This was an IRB exempt, retrospective, quasi-experimental study performed in two sites within a community teaching hospital system. In June 2023, the standard dosing for metronidazole at these hospitals was changed to BID and updates to the electronic health record software went live in October 2023. Pre-intervention data included patients that received metronidazole TID from January 1, 2022 to April 30, 2023. Post-intervention data included patients who received metronidazole BID from November 1, 2023 to June 30, 2024. Patients included in this study were at least 18 years of age, received metronidazole during admission for a confirmed anaerobic infection, and were treated for at least 72 hours. Patients were excluded if they had a central nervous system infection, Clostridioides difficile infection, parasitic or amoebic infection, Helicobacter pylori infection, or if they received metronidazole for surgical prophylaxis. The primary outcome was frequency of clinical cure, defined as improvement or resolution of the principal sign or symptom of infection with normalization of white blood cells and temperature at the end of therapy or at discharge, whichever occurred first. Secondary outcomes included inpatient mortality, hospital length of stay, escalation of therapy, hospital readmission rates due to the same infection, and metronidazole spend. Continuous variables were assessed using the Wilcoxon rank-sum test, while Chi-Square and Fisher's Exact tests were applied to categorical variables.	There were 77 patients included in the study (43 in the pre-intervention group, 34 in the post-intervention group). Baseline characteristics outlined in Table 1 were similar between groups with the most common sources of infection being skin/ soft tissue and intra-abdominal. The primary outcome of clinical cure occurred in 25 patients (58%) in the pre-intervention group and 24 patients (71%) in the post-intervention group (p=0.37) (Figure 1). Inpatient mortality was low and occurred in one patient in the study. There were similar hospital lengths of stay, 9 days versus 11 days, respectively (p=0.18), and no patients in either group were readmitted to the hospital within 30 days due to the same infection. Additionally, the median duration of antibiotic therapy was 7 days versus 11 days, respectively (p=0.11), and escalation of therapy occurred in 2% versus 6% of patients in the pre-intervention group versus the post-intervention group (p=0.58). The total metronidazole spend in the pre-intervention group was $827.92 compared to $378.72 in the post-intervention group (p	No significant differences in clinical outcomes were found between patients who received BID dosing and the traditional TID dosing of metronidazole for confirmed anaerobic infections. Unsurprisingly, spend was significantly less in the BID dosing group. This study adds to the existing data that support BID dosing of metronidazole for management of confirmed anaerobic infections.
Harris, Laura	lamaha840@gmail.com	Baptist Hospital - Pensacola	Comparative Analysis of Patient Outcomes Following Implementation of a New Alcohol Withdrawal Severity Screening Tool in an Acute Inpatient Setting	According to the American Society of Addiction Medicine, approximately 32.5% of all emergency department visits are alcohol-related with 2-7% developing moderate to severe alcohol withdrawal. Additionally, hospitalization itself may result in abrupt abstinence from alcohol and often patients are reluctant to disclose their use. If not treated appropriately, alcohol withdrawal syndrome (AWS) can have serious consequences, such as seizures and delirium, which lead to increased morbidity and mortality. Due to the high mortality risk, which has been as high as 20% historically, it is important to effectively screen patients at risk for developing AWS so appropriate treatments can be given. CIWA-Ar (Clinical Institute Withdrawal Assessment Alcohol Scale Revised) is a symptom-driven treatment protocol using benzodiazepines and often used for AWS treatment in acute care. As such, it is prudent to ensure CIWA-Ar protocol initiation is appropriate based on AWS severity risk. Risk assessment tools are used to assess a person's risk of developing AWS. The CAGE questionnaire (cutting down, annoyance by criticism, guilty feeling, and eye-openers) is a quick and easy tool, but has a high potential for false positives and under-detection in certain populations with a sensitivity and specificity of 75% and 80%, respectively. The PAWSS (Prediction of Alcohol Withdrawal Severity Scale), is a more objective and validated tool with a score of greater than 4 detecting the risk of severe alcohol withdrawal with a sensitivity and specificity of 93.1% and 99.5%, respectively. The purpose of this study is to review the impact of a new alcohol withdrawal severity screening tool on patient outcomes in an acute inpatient setting.	This is an IRB-approved, retrospective chart review conducted across two hospitals within one healthcare system. Data was collected for patients who had orders for the CIWA-Ar protocol between October 7th , 2023, to January 31st, 2024 for the control group (CAGE-scored) and between October 7th, 2024 to January 31st, 2025 for the comparison group (PAWSS-scored). Readmissions within 30-days were excluded from CIWA-Ar utilization calculations but included for assessment of appropriateness and outcomes. The primary outcomes were CIWA-Ar utilization rate per 1000 patient-days, length of hospital stay, and any report of a safety event, such as falls, transfers to higher levels of care, rapid responses, or administration of flumazenil. Secondary outcomes included activation of a benzodiazepine order, initiation of the protocol for a low-risk score (<0.05.	CIWA-Ar protocol orders totaled 344 in the control group and 359 in the comparison group, with 1% and 4% being readmitted within 30-days, respectively. In both groups, majority of the patients were male, 71% and 65%, with an average age of 55 and 53. The average CIWA-Ar utilization rate per 1000 patient days was lower in the PAWSS-scored group, however this was not statistically significant (PAWSS 10.5, CAGE 11.1, p=0.27). The PAWSS-scored group had a shorter length of stay (p=0.01), compared to the CAGE-scored group (4.21 vs 5.18 days, respectively). There was no difference in overall safety events (p=0.53) or mortality rate (p=0.31). The number of patients who received an administration of a benzodiazepine as part of the CIWA-Ar protocol was similar between groups (p=0.99). Patients with low-risk scores and orders for CIWA-Ar protocol were less in the PAWSS-scored group (132) compared to the CAGE-scored group (144) with a lower number of any protocol-driven benzodiazepine (CAGE 60 vs PAWSS 43), although neither showed statistical significance (p=0.29 and p=0.12). The average length of time between hospital admission and CIWA-Ar protocol order entry was less in the PAWSS-scored group, averaging 12 hours and 48 minutes, compared to an average of 20 hours and 57 minutes in the CAGE-scored group (p=0.01).	Using the PAWSS screening tool significantly decreased length of stay and the time to initiation of theCIWA-Ar protocol, indicating an improvement in outcomes and timely identification of AWS risk. CIWA-Ar protocol orders in patients at low risk of severe AWS were similar between groups, however this may be something that will gradually improve as confidence in the PAWSS expands. While total CIWA-Ar utilization was not a statistically significant comparison, there was a numerical improvement with PAWSS screening. Overall, conversion to PAWSS screening tool was an evidence-based improvement at our organization with a numerical trend towards improvement in key metrics and a statistically significant improvement in our length of stay.
Hayduk, Andrew	hayduk@ccf.org	Cleveland Clinic Indian River Hospital	High vs low dose systemic steroids for acute exacerbations of COPD: a cost/safety analysis	Current GOLD guideline recommendations for acute exacerbations of COPD are 40mg of a prednisone equivalent steroid daily for 5 days. This is based on limited studies demonstrating equivalent efficacy and/or improved safety with lower dose, shorter duration, and oral systemic steroids compared to higher dosed, intravenous, and longer duration courses. The purpose of this study is to evaluate the cost and safety implications of high vs low dose systemic steroids for the treatment of AECOPD.	For this retrospective chart review, patients were selected if they had been admitted to CCIRH for the diagnosis of AECOPD and received a systemic steroid within 48 hours of admission. Eligible patients were divided into high-dose (>60mg prednisone-equivalent/day) or low-dose (≤60mg prednisone-equivalent/day) groups. Primary endpoints were total cost and cost/day. Secondary endpoints were length-of-stay, 30-day readmission rates, and initiation of insulin in non-diabetic patients.	A total of 361 patients were admitted to CCIRH for diagnosis of AECOPD between June 1st, 2023 and June 30th, 2024. 109 (30.1%) patients were seen only in the ED and not admitted inpatient. These patients were excluded. 141 (39.1%) met inclusion/exclusion criteria and were included in the final analysis. During index admission 95 (67.4%) of patients received a high-dose regimen of systemic steroids, with the median dose in the high-dose group of 122.2mg prednisone-equivalent/day. The median duration of therapy was 4 days (inter-quartile range [IQR] 3-6 days), with only 37 (26.2%) of patients receiving therapy for greater than 5 days. A statistically significant difference in median total cost was seen between high-dose (median $54.74, IQR $27.44-79.53) and low-dose (median $6.88, inter-quartile range [IQR] $5.16-12.90), p-value <0.005, with a median cost difference of $47.86 (95% CI; $39.39-56.32). A statistically significant difference in median cost per day was seen between high-dose (median $14.56, IQR $10.87-18.93) and low-dose (median $1.72, IQR $1.29-4.64), p-value <0.005, with a median cost difference of $12.84 (95% CI; $11.44-14.24). Length of stay and 30-day readmission were not significantly different between groups. The high-dose group had a statistically significant increased risk of insulin initiation in non-diabetic patients, risk ratio 1.41 (95% CI; 1.14-1.74).	In patients admitted for AECOPD, systemic steroid regimens of >60mg prednisone-equivalent/day was associated with a significantly increased cost of therapy relative to low-dose as well as increased risk of requiring insulin for hyperglycemic control in non-diabetic patients. There was no significant difference in length-of-stay or 30-day readmission rates.
Helwig, Katelyn	katelyn.helwig@ufhealth.org	UF Health - Shands Hospital	Impact of early ceftriaxone on incidence of early ventilator-associated pneumonia in polytrauma patients with traumatic brain injury	Patients who have experienced a traumatic brain injury (TBI) and multisystem trauma are at an increased risk for ventilator-associated pneumonia (VAP). In the PROPHY-VAP trial, a single dose of ceftriaxone administered within 12 hours after intubation was associated with a reduced incidence of early VAP and decreased antibiotic exposure in patients with TBI. At our institution, patients with open fractures without soil or water contamination receive early ceftriaxone as antibiotic prophylaxis. While this early antibiotic administration is similar to the PROPHY-VAP study, it is unclear whether this practice impacts clinical outcomes, such as the incidence of early VAP. The purpose of this study was to determine if a difference in the incidence of early VAP exists between mechanically ventilated, multisystem trauma patients with a TBI who received early ceftriaxone within twelve hours of intubation vs those who did not receive antibiotics or had antibiotics deferred.	This was a single-center, retrospective cohort study approved by the Institutional Review Board. The study included critically ill, trauma patients ≥ 16 years of age admitted to a large academic medical center, with a TBI and other multisystem trauma, a Glasgow Coma Score of < 12, and mechanical ventilation of at least 48 hours between September 30, 2020 and September 30, 2024. Patients were included in the early ceftriaxone group if they received one dose of ceftriaxone within twelve hours of intubation. Patients were excluded from the study if their injuries were deemed non-survivable or if antibiotics other than ceftriaxone and/or cefazolin (surgical prophylaxis) were administered within twelve hours of intubation. The primary outcome was the incidence of early VAP, defined as receipt of at least 5 days of antibiotics after a positive bronchoalveolar lavage (BAL) culture which was collected within 7 days of intubation. Secondary outcomes included the incidence of late VAP, pneumonia relapse, the number of ventilator-free and antibiotic-free days at day 28, hospital and ICU length of stay, incidence of Clostridioides difficile infection (defined as both positive C. difficile PCR result and administration of treatment for C. difficile infection for ≥ 48 hours), and microbiological data from respiratory cultures in patients with early VAP. Late VAP was defined as receipt of at least five days of antibiotics after a positive BAL culture collected >7 days after intubation. VAP relapse was defined as at least one causative bacteria from a previous VAP episode (early or late) that grew in a BAL culture between 2 to 14 days after completing at least 5 days of antibiotics for the previous infection.	A total of 90 patients met inclusion criteria. Thirty-one patients were included in the early ceftriaxone cohort and fifty-nine patients in the no antibiotics/deferred antibiotic cohort. Most patients were males (70/90, 77.8%) with blunt trauma (85/90, 94.4%). Patients in the early ceftriaxone cohort had a higher median Injury Severity Score than those in the deferred antibiotic group (34 vs. 26, p=0.0241). The median duration of initial ceftriaxone therapy was 4 days (IQR 1-5) in the early ceftriaxone cohort. The primary outcome of early VAP occurred in 3 patients (10%) in the early ceftriaxone cohort and 15 patients (25%) in the deferred antibiotic group (p=0.0988). Late VAP occurred in 12 patients in both cohorts, 39% in early ceftriaxone group vs. 20% in deferred antibiotic group (p=0.0611). In the early ceftriaxone group, relapse VAP was seen in 1 patient with early VAP and in 2 patients with late VAP. In our deferred antibiotic group, all 4 relapse cases had early VAP. No difference was observed between groups for number of ventilator- and antibiotic-free days, hospital and ICU length of stay, and incidence of C. difficile infection.	In patients who received ceftriaxone within 12 hours of intubation, there was no difference in the incidence of early VAP compared to those who did not receive antibiotics or whose antibiotics were deferred past 12 hours of intubation. However, this may be due to our study being underpowered, as a post-hoc power analysis revealed that least 200 patients would be required to achieve 80% power. The study contributes to the real-world applicability of prophylactic ceftriaxone by assessing its potential impact on early VAP outcomes in polytrauma patients who have experienced a TBI. Further research with a larger sample size is needed to assess the effect of injury patterns and early vs delayed broad-spectrum antibiotic administration on patient outcomes.
Hicks, Ashley	hicks1.ashley@gmail.com	Memorial Regional Hospital	Identifying barriers to the timely initiation of oral anti-cancer medications in patients with non-small cell lung cancer	Delays in initiating therapy in patients diagnosed with non-small cell lung cancer (NSCLC) can worsen outcomes. Therefore, the timely initiation of oral anti-cancer medication (OAM) is paramount. A previous study demonstrated that time to treatment initiation (TTI) of less than 45 days was associated with improved outcomes, and 37.2% of patients experienced treatment delays. The cost of OAMs, requirements of prior authorization (PA), and need of patient assistance programs (PAP) can all contribute to delays. This study aims to evaluate the timeliness of OAM initiation in patients with advanced NSCLC with EGFR mutations or ALK translocations.	A retrospective observational cohort study was conducted at the Memorial Cancer Institute (MCI), a large multi-site community cancer center. Medical records were reviewed for patients diagnosed with advanced NSCLC prescribed preferred first-line therapy between January 1, 2020, and December 31, 2023. TTI was defined as the number of days from initial diagnosis to the first dose of OAM. A delay in TTI was defined as initiation occurring more than 45 days after diagnosis. Descriptive statistics were used to summarize patient demographics, insurance status, type of specialty pharmacy, and quantify the duration of each step in the medication access process. The Mann-Whitney U test was used to compare TTI between patients who received PAP support and those who did not.	Of the 150 patients identified, 34 were included in the analysis. The mean age was 64.8 years (SD 13), and the majority were female (n=23, 67.6%), White (n=27, 79.4%), Hispanic (n=18, 52.9%), and had stage IV NSCLC (n=33, 97%). A total of 24 patients (70.6%) obtained their medication through an internal specialty pharmacy, and 31 patients (91.2%) had insurance coverage. Overall, 52.9% of participants utilized PAP support, while 47.1% did not. The mean processing times for each step were as follows: 2.2 days (SD 2.4) from prescription to PA submission, 2.9 days (SD 3) for PA approval, 1.1 days (SD 1.5) for PAP approval, and 9.7 days (SD 5.6) from written prescription to patient receipt. Overall, the mean TTI—from diagnosis to patient receipt of medication—was 26.5 days (SD 15.5), with 11.76% (n=4) of patients experiencing a delay defined as TTI exceeding 45 days.	Majority of patients with NSCLC receiving OAM from MCI received timely treatment from diagnosis, and the use of PAP was not associated with delays in treatment. These findings may reflect the efficiencies of coordinated medication access processes at MCI. Given the impact of delayed diagnosis and treatment initiation on clinical outcomes, future research should assess generalizability and evaluate both patient-specific and system-level contributors to treatment delays across diverse care environments.
Holder, Kyle	Kyleholder56@gmail.com	Memorial Regional Hospital	Impact of Nimodipine Dosing Variation on Neurological Recovery and Cerebral Vasospasm Incidence	Aneurysmal subarachnoid hemorrhage (aSAH) is a neurocritical care condition with high morbidity and mortality, often complicated by cerebral vasospasms. Preventive drug therapy with nimodipine, a dihydropyridine calcium channel blocker selective for cerebral arteries, is currently the only evidence-based medication for reducing neurological deficits and improving outcomes related to cerebral vasospasms. The American Stroke Association guidelines recommend nimodipine 60 mg orally every 4 hours for 21 days for aSAH. However, hypotension and therapy interruptions can limit attainment of target dosing, potentially increasing vasospasm risk and worsening neurological outcomes. This retrospective analysis aimed to assess how dosing variations impacted neurological recovery and cerebral vasospasms.	This was a multi-center, retrospective chart review of adult patients with aSAH admitted between June 1, 2023, and May 31, 2024, at two community hospitals. Patients were included if nimodipine was started within ≤ 96 hours of aSAH diagnosis and dosing was subsequently reduced. Exclusion criteria included documented hypersensitivity or contraindications to nimodipine, outside hospital transfer more than ≥ 24 hours from diagnosis, and therapy discontinuation ≤ 24 hours from initiation. The co-primary outcomes were favorable neurological recovery at 90 days, defined as modified Rankin Scale (mRS) score ≤ 3 and no incidence of cerebral vasospasm during post-bleed days 4-14. Secondary outcomes included the use rescue therapies (defined as fluids, vasopressors, intracranial calcium channel blockers, or milrinone) in response to increased flow velocities on transcranial Doppler and the incidence of hypotension (defined as systolic blood pressures ≤90 mmHg). Data was analyzed using descriptive statistics, including frequencies with percentages and medians with interquartile ranges.	This retrospective study evaluated 33 patients with aSAH who were managed using a reduced dose nimodipine regimen. The cohort had a median age of 63 years (IQR 53 – 72) and was predominantly female (24 patients, 72.7%). The most represented racial group was Black or African American, comprising 12 patients (36.3%). The most frequently used dosing strategy was a combination of dose reduction and dose holds (23 patients, 69.6%), while 10 patients (30.3%) received dose reduction alone. All patients received 30 mg every 4 hours as their reduced dose strategy. At 90 days post-bleed, 11 patients (33.3%) achieved a favorable neurological outcome; of these, 6 patients (54.5%) did not experience any episodes of vasospasm. In contrast, 19 patients (57.6%) had unfavorable neurological outcomes, and 3 patients (9.1%) were lost to follow-up. Vasospasms during post-bleed days 4-14 were observed in 14 patients (42.4%), with a median of 3 episodes (IQR 1.25 – 7) among those affected. Rescue therapy was required in 12 patients (36.3%). Supportive interventions included vasopressors in 9 patients (75%), fluids in 8 patients (58.3%), and intracerebral calcium channel blockers in 6 patients (50.0 %). Notably, no patients received milrinone during their treatment course. Hypotension occurred in 17 patients (51.5%), with a median of 1 episode (IQR 0 – 1) per patient.	This study highlights the potential trade-offs associated with reduced dose nimodipine in the management of aneurysmal subarachnoid hemorrhage. While dose reductions—specifically to 30 mg every 4 hours—may be employed to minimize the risk of hypotension, they appear to correlate with lower rates of favorable neurological recovery and a persistent incidence of cerebral vasospasms. The findings suggest that reduced dosing may not fully preserve the neuroprotective benefits of standard therapy and may increase the likelihood of requiring rescue interventions. Given the retrospective design and absence of a standard-dose comparator group, future prospective studies are needed to evaluate the safety and efficacy balance of nimodipine dosing strategies more definitively in this high-risk population.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Hong, Joan	hong.joan@mayo.edu	Mayo Clinic Florida	Comparing the rates of hypersensitivity reactions in first dose taxane patients utilizing a fixed-rate versus stepwise titration infusion	Taxanes are a commonly used class of chemotherapy agents for the treatment of a variety of solid malignancies. Taxanes have a higher incidence of immediate hypersensitivity reactions when compared to other classes of chemotherapeutic agents, despite premedications. The polyethoxylated surfactants formulated with the taxanes activate the complement system leading to the production of anaphylatoxins and mast cell activation, ultimately leading to these reactions. Paclitaxel is administered as a fixed infusion rate over 1 to 24 hours with a 0.22-micron filter and docetaxel is administered over 1 hour with low sorbing tubing in non-PVC bags, depending on indication or treatment protocol. A 2023 study investigated whether a stepwise titration infusion of paclitaxel or docetaxel reduces the rate and severity of immediate hypersensitivity reactions during the first and second lifetime exposures of taxanes. A total of 222 infusions were administered, with 30 administrations resulting in a hypersensitivity reaction. Of those 30 reactions, 28 of them occurred during the first dose (93.3%), consistent with existing data that the risk of hypersensitivity reactions is higher with initial exposure. The three-step titration infusion group demonstrated significantly lower rates of immediate hypersensitivity reactions versus the non-titrated group (7% vs. 19%, p = 0.017) with no difference in the severity of reactions. These findings propose a stepwise titration may have favorable outcomes in both reducing hypersensitivity reactions and decreasing delays in the treatment course. Our study aims to evaluate the findings of whether a titratable infusion of taxanes confers a lower rate of hypersensitivity reactions with a larger sample size.	Methodology This was a retrospective cohort study conducted at a single site hematology/oncology infusion center. Patients were included if they were 18 years-old or older and received at least one dose of a prescribed taxane at the outpatient hematology/oncology infusion center. Patients were excluded if they were younger than 18 years-old or received the prescribed taxane either prior to the study, as part of research investigation drug, or at home. Patients were also excluded if the taxane was improperly or incorrectly administered or documented. The fixed-rate arm consisted of patients from January 2022 to July 2023 who received a fixed infusion rate for their first dose of a prescribed taxane. The titration arm comprised of patients from August 2023 to July 2024 who underwent a three-step titration protocol for their first dose of a prescribed taxane. The three-step titration protocol is detailed as below: • 1% of the final rate infused for 15 minutes, THEN • 10% of the final rate infused for 15 minutes, THEN • 100% of the final rate infused until completion The primary endpoint was rates of immediate hypersensitivity reactions during first-dose infusion of docetaxel or paclitaxel. Secondary endpoints included severity of immediate hypersensitivity reactions with first dose defined by the Brown criteria (Picard's adaptation), the rate of immediate hypersensitivity reactions of either the first or second doses of taxanes combined, total encounter time, and rate of medications discontinued due to immediate hypersensitivity reactions. A sample size of 215 patients was required to calculate a 95% confidence interval (CI). A histogram was used to assess data distribution, revealing a normal distribution. A cell count test was performed to determine whether a Fisher's exact test or chi-square test was appropriate. Using BlueSky Statistics, a chi square test was performed for any categorical data with a calculated odds ratio (OR) and 95% CI and corresponding p-value. A t-test was performed for any continuous data with means.	A total of 479 patients were included in the study, 240 in the fixed-arm and 239 patients in the titration arm. Baseline statistics are outlined in Table 1. The rates of immediate hypersensitivity reactions in the fixed rate arm and the titration arm were 7.1% and 11.3%, respectively (OR 1.67, 95% CI 0.89-3.15; p = 0.104). Secondary endpoints are outlined in Table 2.	Patients receiving taxanes are at increased risk of immediate hypersensitivity reactions with the first dose. Titrating the infusion rate has been demonstrated in a prior study to reduce the incidence of these reactions. Based on this study, the rates of immediate hypersensitivity reactions were not statistically significant between the fixed-rate and titration arms. Although the total encounter time was statistically significantly shorter in the fixed-rate arm for the 1-hour duration, the time difference is not clinically significant. Limitations of the study include the retrospective cohort design and ambiguity in the grading of reaction severity. This study contradicts a previous finding that suggests titrated infusions of taxanes reduces hypersensitivity reaction rates. Further investigation is warranted to validate these findings.
Hughes, Sarah	sprhughes@icloud.com	AdventHealth Celebration	Identifying common strengths and learning styles among pharmacy residents	The development of a pharmacist's attitude and job performance is cultivated through knowledge and skill building that takes place during pharmacy school. For some, personality traits come naturally whereas others develop strengths and learning habits based on a surrounding environment and/or influence of peers. Upon graduation, alternative methods such as the Myers-Briggs Type Indicator (MBTI) and Clifton StrengthsFinder may be used to identify personality types amongst pharmacists through questionnaires based on perception and judgement. Each personality questionnaire focuses on a different aspect of learning. MBTI assesses a person's preference in four domains (focus, sensory, logic, and perception) while Clifton StrengthsFinder is used to identify individual strengths both inside and outside the workplace. Pharmacists' Inventory of Learning Styles (PILS) is a pharmacist-specific instrument used for defining, describing, and measuring learning styles utilizing a 17-item inventory to determine dominant and secondary learning styles. Together, these three questionnaires can be used to facilitate learning and can be used as a predictor of performance and team dynamics.	A retrospective data review was completed utilizing previous ambulatory care pharmacy resident's results for MBTI, PILS, and Clifton StrengthsFinder. This study was IRB exempt. The study population included a total of forty-six ambulatory care residents over a span of ten years (2016 - 2025). Previously collected data located on a shared drive from the three personality questionnaires was reviewed and results were placed in an Excel spreadsheet. The primary outcome was to identify patterns in learning styles and strengths among pharmacy residents while the secondary outcome was to identify any generational changes in strengths and learning styles.	A total of forty-six ambulatory care pharmacy residents were identified and included in the study. The results were as follows: Meyers-Briggs ESFJ 39% (n= 14); Clifton StrengthsFinder executing 42% (n= 63), influencing 17% (n= 17), relationship building 33% (n= 48), strategic thinking 15% (n= 22); PiLS assimilator/producer 59% (dominant; n= 16), converger/director 42% (secondary; n= 10). In regards to the primary outcome, ESFJ (MBTI) and assimilator/converger (PILS) remained the dominant result over the span of ten years. A shift in Clifton StrengthsFinder results occurred post-COVID-19 pandemic with pharmacy residents identifying executing as a dominant strength compared to prior residency classes identifying relationship building as either a dominant or secondary strength. Overall, a majority of pharmacy residents identified highest in categories that resemble individuals who are outgoing, supportive, observant, focused, and realistic.	Analyzing results from the MBTI, PILS, and Clifton StrengthsFinder over ten years showed several common trends among personality types, strengths, and learning styles of pharmacy residents. The predominant MBTI of ESFJ and PiLS style of assimilator/producer has remained consistent over the past ten years. Interestingly, the Clifton StrengthsFinder results changed post-COVID towards executing and away from relationship building. Taking results like these into account is invaluable when developing learning experiences, building teams, providing feedback, and fostering an opportune environment for personal and professional growth.
Hummel, Blaine	hummelb96@comcast.net	Holmes Regional Medical Center	Outcomes of intra-operative administration of recombinant factor VIIa versus four factor prothrombin complex concentrate in cardiothoracic surgery patients	The purpose of this study was to assess the safety and efficacy of recombinant factor VIIa and four factor prothrombin complex concentrate in patients undergoing cardiothoracic surgery. There are few studies currently published that found similar outcomes between the two agents when assessing blood product utilization, however a significant reduction in hospital length of stay in favor of four factor prothrombin complex concentrate was established.	This was a single-center, retrospective chart review of adult patients who underwent a cardiothoracic intervention and received either recombinant factor VIIa (rFVII) or four factor prothrombin complex concentrate (4F-PCC) intra-operatively between January 2018 until July 2024. Patients were excluded if they received either agent pre-operatively for anticoagulant reversal, received either agent post-operatively, had prior diagnosis of hemophilia, were given both products during the same operating period or if they had any religious/personal considerations preventing the administration of blood and/or blood products. The primary outcome of the study was total units of packed red blood cells administered prior to chest-tube removal. The secondary outcomes include total blood product administration, incidence of operative re-exploration for bleeding, duration of chest-tube placement, total chest tube output, any thromboembolic event, intensive care unit length of stay and hospital length of stay. An exploratory analysis was conducted including patients that were given either rFVII or 4F-PCC post-operatively. The same outcomes were maintained from the primary analysis to assess this exploratory population.	From January 2019 to September 2024, 92 patients were screened with 36 patients included in the primary study group and 16 patients in the exploratory group. Most patients excluded were given a study product for anticoagulation reversal (n=6), given both during the same operating room visit (n=4), or were given a study product after a non-cardiothoracic procedure (n=14). The groups were comparable regarding baseline criteria including procedure data which can be found in Table 1. The only statistically significant between-group difference was regarding sex. There was a nonsignificant difference in packed red blood cell administrations between the groups (median, 4F-PCC group 3 units versus rFVII 2 units; p = 0.38). There was a trend towards a decrease in intensive care unit length of stay in the 4F-PCC group, albeit not statistically significant (median, 177.7 versus 225.0; p = 0.075). Notably, there were no thromboembolic events or non-chest tube related bleeding events noted in either the two primary groups or two exploratory groups. There was no statistically significant difference between groups in the other secondary endpoints of patients requiring re-exploration for bleeding, composite blood products used, chest tube duration, and 24-hour chest tube output. A full list of endpoints and p values can be found in Table 2.	In post-cardiothoracic surgery patients given 4F-PCC or rFVII for management of coagulopathy, there were no statistically significant differences between the two groups regarding the primary and secondary endpoints. There are some trends to suggest potential benefits within a broader patient population. The findings of this study are limited given the retrospective nature and limited sample size assessed. Future studies are warranted with a larger patient population to better identify if there is a preference between the two agents.
Huynh, Linh	lphuynh.pharmd@gmail.com	Tallahassee Memorial HealthCare	Enhancing Communication About Medicines in HCAHPS: Interprofessional Collaboration Between Internal Medicine Residency Program Providers and Clinical Pharmacist	The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey is a standardized tool developed by the Centers for Medicare & Medicaid Services (CMS) to measure patients' perspectives on hospital care. Among its eight key domains, "Communication About Medicines" plays a critical role in assessing patients' understanding of their medications and has a direct impact on hospital reputation and CMS reimbursement through the Hospital Value-Based Purchasing (VBP) Program. Previous studies have shown that clinical pharmacy services can significantly contribute to improving patient satisfaction through more effective medication counseling.	The study was a single-center, IRB-exempt quality improvement project conducted at TMH. It utilized a prospective cohort design with data collected from April to June 2025. Two main data sources were used: patient electronic health records accessed through Epic, and HCAHPS data retrieved from Press Ganey. The intervention involved a structured discharge workflow where a pharmacy resident collaborated with internal medicine physicians to provide personalized medication counseling to inpatients prior to discharge. Patients in the intervention group received thorough explanations about the purpose and potential side effects of their new medications, as required by CMS' HCAHPS "Communication About Medicines" domain questions. Additionally, a supplementary study-specific questionnaire was administered to gather more detailed patient feedback. Data analysis included descriptive statistics, linear regression, student's t-test, and chi-square testing. Key variables included the number of medications counseled, HCAHPS top-box responses, and satisfaction scores. Primary outcome was compared between patients who received the intervention and those who did not, based on the top-box scores for medication communication calculated from the discharge-related questions. Secondary outcomes include HCAHPS scores collected from the study survey in April 2025 compared to the hospital HCAHPS scores of April 2024, and the number of medications for which patients receive counseling by pharmacist.	A total of 25 patients were included in the analysis, with 13 receiving the physician-pharmacist-led counseling and 12 serving as controls. The intervention group demonstrated significantly higher satisfaction scores across all communication measures. Specifically, patients in the intervention group had a 100% satisfaction rate in the "Communication About Medicines" domain compared to 30.5% in the control group, a difference that was highly statistically significant ($p < 0.05$). Additionally, the number of medication counseling events correlated positively with patient satisfaction ($p < 0.0001$), suggesting a dose-response effect of communication quality on patient perception. The HCAHPS top-box score in the intervention group exceeded the baseline Quarter 3 (2024) TMH score by 42.28%, highlighting the clinical and operational impact of the initiative. All top-box score improvements in the intervention cohort were statistically significant ($p < 0.05$), indicating the intervention's robustness across the study population.	This study demonstrated that a physician-pharmacist collaborative model significantly improves patient satisfaction in the "Communication About Medicines" domain of the HCAHPS survey. The 100% satisfaction rate achieved by the intervention group underscores the effectiveness of personalized medication counseling in enhancing the patient experience. These results support the broader adoption of interdisciplinary medication communication strategies and the expansion of clinical pharmacy services within inpatient settings. Given the link between HCAHPS scores and hospital reimbursement, such interventions are not only beneficial for patient outcomes but also strategically important for healthcare systems under value-based care models.
Ibrahim, George	george.ibrahim@ascension.org	Ascension St. Vincent's Riverside Hospital	Comparison of low versus weight based dose of intravenous diltiazem for the management of atrial fibrillation with rapid ventricular response	According to the 2023 American College of Cardiology/American Heart Association (ACC/AHA) guidelines for the management of atrial fibrillation (AFib), diltiazem, a non-dihydropyridine calcium channel blocker, can be used for rate control in AFib with rapid ventricular response (RVR). The recommended initial dose is an intravenous (IV) bolus of 0.25 mg/kg over 2 mins. Lower starting doses have been utilized as an alternative to decrease the incidence of hypotension, but current data examining its effectiveness shows conflicting results. The purpose of this study was to evaluate the safety and efficacy of low-dose (	This was a retrospective, observational, cohort study conducted across four hospitals. Subjects were included if they were >18 years of age, had AFib confirmed with either EKG or telemetry strip, heart rate (HR) greater than 120 beats per minute (bpm), and received at least one bolus of IV diltiazem. Subjects were excluded if they were hemodynamically unstable, in the ICU at the time of the first dose of IV diltiazem, had cardiac surgery during their current admission, or received treatment with IV beta blockers, amiodarone, or digoxin within 24 hours prior to the IV diltiazem dose. The primary outcome was the incidence of HR 20% from baseline within 60 minutes, bradycardia, in-hospital cardiac arrest, in-hospital mortality, and hospital length of stay. To detect a 20% difference between groups, it was estimated that 194 subjects would be required to achieve 80% power with an alpha of 0.05. Student's t-test and Mann-Whitney U were used for the analysis of continuous and ordinal data. Chi-square and Fisher's exact test were used for categorical and nominal outcomes. A multivariable logistic regression was used to adjust for confounding variables.	A total of 651 subjects were screened with 194 subjects meeting inclusion criteria (assigned in a 1:1 ratio). The most common reason for exclusion was no documentation of AFib on EKG or telemetry. Baseline characteristics can be found in Table 1. The primary outcome, incidence of HR 20% in the low-dose group compared to the weight-based group (73.2% vs. 85.57%, p=0.033). There was also a significant difference in the incidence of SBP	In subjects with AFib with RVR, there was no statistically significant difference in the incidence of HR <100 bpm within 60 minutes of the IV diltiazem bolus between the low-dose and weight-based dose groups. However, subjects in the weight-based group were found to have a higher incidence of hypotension. Therefore, these results show the feasibility and potential benefit of utilizing a low-dose strategy in patients with AFib with RVR.
Issel, Laura	laura.issel17@gmail.com	St. Joseph's Hospital	Optimizing Antimicrobial Selection for Intrapartum Group B Streptococcus Prophylaxis in Penicillin Allergic Patients	Purpose/Background: Group B Streptococcus (GBS) is the most common cause of neonatal infections that is transmitted from mother to baby during labor or rupture of membranes. Pregnant women are screened between 36 0/7 and 37 6/7 weeks gestation to assess the need for GBS prophylaxis. Penicillin is the drug of choice for GBS prophylaxis and ampicillin is a commonly used alternative. Cefazolin is the alternative drug of choice for patients with a penicillin allergy. Last-line alternatives include clindamycin or vancomycin. Penicillin allergies are the most commonly documented drug allergy, and many are not clinically significant. Patients labeled with a penicillin allergy may receive alternate antibiotics that may be less effective with more toxicity. Patients with a penicillin allergy regardless of severity may safely receive cefazolin since cross-reactivity is not due to the core beta-lactam ring but instead, the R1 sidechain which cefazolin shares with no other drugs. To optimize the use of first and second-line medications and reduce the use of last-line less favorable options the OBS plan was updated to direct the provider on appropriate selection and education emphasizing the treatment of patients reporting a penicillin allergy was provided to the physicians at St. Joseph's Women's Hospital on May 1, 2024. The purpose of this study is to assess the use of last-line agents (clindamycin or vancomycin) following plan revision and provider education for patients reporting a penicillin allergy.	Methodology: This study is a single-center, retrospective chart review of patients admitted to St. Joseph's Women's Hospital, comparing antibiotic selection for GBS prophylaxis in pregnant patients with documented penicillin allergy before and after plan optimization and provider education. Patients were included if they were 37 weeks pregnant or greater, GBS positive or GBS status unknown, had a documented penicillin allergy, and received antibiotics for GBS prophylaxis. Patients were excluded if they had received antibiotics for any other indication. The pre-intervention group included patients from May 2023 to March 2024 and the post intervention group included patients from May 2024 to February 2025. The primary outcome assessed the use of clindamycin and vancomycin vs cefazolin in penicillin allergic patients before and after provider education and power plan optimization. The secondary outcomes included adverse drug reactions and drug allergy reactions in all patients.	Results: A total of 31 patients were included in the pre-intervention group and 28 patients were included in the post intervention group. In the pre-intervention group, 23 patients received cefazolin, and 8 patients received vancomycin or clindamycin for GBS prophylaxis compared to 11 patients receiving cefazolin and 17 patients receiving clindamycin or vancomycin in the post-intervention group (P-value=0.007). This demonstrates in an increase in prescribing of last line alternatives (clindamycin or vancomycin) after plan optimization and provider education. For the secondary outcome, 1 patient that received vancomycin experienced an adverse drug reaction or drug allergy reaction in the pre-intervention group. There were no drug allergy reactions or adverse drug reactions in the post intervention group.	Conclusion: Following plan revision and provider education for patients receiving GBS prophylaxis reporting a penicillin allergy, there was an increase in the number of patients that received last line alternatives (clindamycin or vancomycin) compared to prior to education and plan optimization.
Iacomino, Gema	gm26@med.miami.edu	University of Miami Hospital and Clinics – UHealth Tower	Evaluating digoxin therapeutic drug monitoring practices in an academic hospital	Digoxin is widely used for managing heart failure and atrial fibrillation due to its ability to enhance cardiac contractility by inhibiting the Na^+/K^+ -ATPase pump.1 Despite its benefits, digoxin has a narrow therapeutic range, making monitoring essential to balance efficacy and toxicity. Historically, routine monitoring for atrial fibrillation was discouraged. However, current literature emphasizes the importance of monitoring, particularly in high-risk patients.2,3 Inappropriate monitoring can lead to either toxicity, characterized by arrhythmias, nausea, vomiting, and visual disturbances, or subtherapeutic levels, resulting in worsening heart failure or atrial fibrillation symptoms. The purpose of this study was to evaluate the appropriateness of digoxin level monitoring and its impact on patient safety.	This retrospective, single-center chart review was conducted at the University of Miami Hospital and Clinics – UHealth Tower between July 2024 and October 2024. The study included inpatient adults who received at least two consecutive doses of digoxin. Ambulatory patients and those receiving fewer than two doses were excluded. A total of 30 patients met the inclusion criteria. The primary objective was to determine the percentage of appropriate digoxin level monitoring. Appropriateness was defined as the monitoring of therapy in cases involving subtherapeutic responses, suspected toxicity, or in high-risk patients experiencing changes in renal function. The timing of monitoring was also evaluated based on recommended intervals, including assessment of steady-state levels at five days, serum levels upon admission for patients previously taking digoxin at home, and daily monitoring for high-risk patients. The secondary objective was to assess the impact of monitoring on patient safety by evaluating supratherapeutic levels and worsening renal dysfunction.	A total of 30 patients met inclusion criteria. The results showed that 47% (n=14) of patients had appropriate digoxin monitoring, while 53% (n=16) had inappropriate monitoring. Pharmacist interventions were documented in 13% (n=4) of cases. Among all patients monitored, 50% had baseline levels checked, 37% reached therapeutic levels, and 60% were classified as high-risk. Although daily monitoring is recommended for high-risk patients, only 17% (n=5) received the necessary frequent testing. Additionally, while 23 patients (77%) were resumed on home therapy, only 12 (52%) had their baseline levels checked, revealing a significant gap in adherence to monitoring protocols. The mean digoxin level was 1.02 ng/mL, ranging from 0.3 to 2.8 ng/mL. Additionally, 60% (n=18) patients exhibited worsening renal function, though further investigation is required to establish a direct correlation with digoxin therapy.	This study highlights substantial gaps in digoxin level monitoring, with more than half of the patients undergoing unnecessary or inappropriately timed lab draws. Limited pharmacist interventions highlight an area for improvement in optimizing monitoring strategies. Enhancing monitoring adherence through targeted education and protocol refinement could improve the safety and efficacy of digoxin therapy. Future initiatives should focus on integrating pharmacists into monitoring protocols and emphasizing appropriate timing and indications for digoxin level assessments.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Jean-Baptiste, Foglynn	lynnjb24@gmail.com	Cleveland Clinic Tradition Hospital	Evaluation of oral fosfomycin treatment outcomes in patients with pseudomonas aeruginosa-associated urinary tract infections	Urinary tract infections (UTIs) are among the most common healthcare-associated infections, with Escherichia coli (E. coli) being the primary causative agent.2 However, other pathogens, including Pseudomonas aeruginosa, can complicate treatment due to rising antibiotic resistance and limited oral therapeutic options.2 Given these challenges, oral fosfomycin has gained attention for its favorable tolerability profile and ease of administration. Despite its convenience, the 2024 Infectious Diseases Society of America (IDSA) guidance on antimicrobial-resistant Gram-negative infections recommends against the use of oral fosfomycin for complicated UTIs, citing concerns about limited urinary penetration and emerging resistance.1 Pseudomonas aeruginosa can carry FosA hydrolase genes that inactivate fosfomycin and contribute to resistance.1 The presence of the FosA gene complicates treatment decisions and may impact clinical outcomes.1 Nevertheless, fosfomycin continues to be prescribed for Pseudomonas aeruginosa-associated UTIs. This study aims to evaluate treatment outcomes and prescribing patterns of fosfomycin for Pseudomonas aeruginosa UTIs among adult patients within the Cleveland Clinic Health System (CCHS).	This multicenter, retrospective chart review evaluated adult patients who received fosfomycin for Pseudomonas aeruginosa urinary tract infections either during admission, emergency department (ED), or outpatient settings across the Cleveland Clinic Health System (CCHS) from August 2022 to August 2024. Patients were excluded if they were younger than 18 years of age, pregnant, incarcerated, enrolled in hospice or palliative care, diagnosed with pyelonephritis, received more than four days of inpatient antipseudomonal therapy, or expired during the admission or ED visit. The primary outcome of this study was the rate of hospital readmission within 30 days of discharge. Secondary outcomes included length of hospital stay (LOS) in days, 30-day mortality, incidence of polymicrobial UTI, and evidence of treatment failure, stratified by regimen type, UTI classification, and gender. Institutional Review Board (IRB) approval was obtained prior to study initiation.	In this study, 225 patient charts were reviewed, and 173 patients met inclusion criteria consisting of adults aged 18 years or older with a positive urine culture for Pseudomonas aeruginosa. The median age was 76 + 16 years, and 65% were female. Overall, 25% of patients were admitted, while the remainder were managed in the emergency department (ED) or outpatient setting. No 30-day hospital readmissions were identified, and there were no 30-day mortality events. The mean length of hospital stay among admitted patients was 4.4 + 4.9 days. Polymicrobial infections were present in 35% of the cohort, with Enterococcus faecalis being the most common organism. Treatment failure occurred in 8% of patients included in the study. The low rates of readmission and mortality suggest that fosfomycin may be a viable oral treatment option for select patients with Pseudomonas aeruginosa UTIs, though further investigation is warranted.	In this study, 30-day hospital readmissions and mortality were not observed, suggesting that fosfomycin may be an effective and well-tolerated oral treatment option. A 92% clinical success rate was achieved, although an 8% treatment failure rate—particularly among patients receiving multi-dose regimens—raises concerns regarding its efficacy. Clinical failure occurred even though most infections were classified as uncomplicated. Comorbidities such as diabetes mellitus and chronic kidney disease were common among patients with poor outcomes, and treatment failure was noted with both single and multi-dose regimens. These findings highlight the importance of confirming microbiologic susceptibility prior to therapy and selecting patients carefully, particularly those with significant comorbidities. The continued use of fosfomycin, despite guideline recommendations against its use for complicated or resistant infections, likely reflects limited oral antipseudomonal options. Overall, this study provides real-world insight into fosfomycin prescribing patterns and outcomes for Pseudomonas aeruginosa UTIs within the Cleveland Clinic Health System and supports the need for further research.
Johnson, Evan	evan.johnson2@baycare.org	Morton Plant Hospital	Impact of Loop Diuretic Initial Dosing Strategy on Hospital Length of Stay in Patients with Heart Failure	Intravenous (IV) loop diuretics are preferred for initial treatment of congestion in hospitalized patients with heart failure (HF) admitted with evidence of significant fluid overload. Contemporary guidelines recommend titrating diuretics with the goal of resolving congestion and alleviating symptoms. The optimal decongestion strategy for patients hospitalized with heart failure, however, has yet to be defined. The purpose of this study is to determine if utilizing a high-dose, guideline-directed strategy for initial dosing is associated with decreased hospital length of stay compared to a more conservative, provider-determined strategy, without a significantly increased risk of adverse effects or hospital readmission.	This is an Institutional Review Board approved, retrospective, multi-center, non-interventional cohort study evaluating the difference in hospital length of stay for patients with heart failure who receive guideline-directed initial IV loop diuretics compared to patients with heart failure who receive lower initial doses of IV loop diuretics. Data will be collected using electronic medical records of patients presenting to the emergency department and admitted at Morton Plant Hospital and Morton Plant North Bay Hospitals with heart failure between the dates of October 1, 2021 and October 1, 2024. Secondary outcomes include the incidence of hospital readmissions within 30 days and rates of treatment-emergent critical electrolyte abnormalities, acute kidney injuries (AKIs), and hypotension. A total of 45 patients will be needed in each group to reach a power of 0.8 with alpha set at 0.05. Statistical tests utilized to evaluate primary and secondary outcomes include 2-sample t-test, Mann-Whitney test, Chi-squared, and Fischer's exact test.	Guideline-directed initial loop diuretic dosing strategy was associated with a non-statistically significant decreased length of stay compared to conservative dosing [66.4 (IQR 44.1-151.8)vs. 101.7 (IQR 52.8-190.8) hours, p=0.17] respectively.	There is insufficient data to suggest that higher dose, guideline directed initial dosing strategies for IV loop diuretics decrease hospital length of stay compared to more conservative initial dosing regimens.
Jorgensen, Eli	eli.jorgensen@ufhealth.org	UF Health - Shands Hospital	Effect of body weight on hemodynamic response to vasopressin in patients with septic shock	Current septic shock guidelines recommend vasopressors for patients who remain hypotensive after fluid resuscitation, with norepinephrine as first-line and vasopressin (AVP) as second-line. AVP, an essential hormone for maintaining vascular tone, is often given at a fixed dose (0.03 units/min) without weight-based adjustments. This study seeks to evaluate whether body weight affects hemodynamic response to AVP in critically ill patients with septic shock.	This was a single-center, retrospective cohort study that included adult patients with septic shock admitted to the medical intensive care unit (ICU) at a tertiary care center who received fixed-dose AVP at a rate of 0.03 units/min as an adjunct to catecholamine vasopressors (CV). Patients were categorized into four groups according to admission body weight. Time from AVP initiation to hemodynamic response (HDR) was compared between groups. HDR was defined as a decrease in CV requirements by at least 0.03 norepinephrine equivalents (NEE) for an hour while maintaining a MAP of at least 65. Other outcomes included a decrease in CV requirements by 0.05 NEE, ICU length of stay, 28-day mortality, total duration of CV and AVP, and incidence of renal replacement therapy (RRT).	A total of 170 patients were included in the study. In addition to total body weight (TBW) and body mass indexes (BMI), significant differences existed in baseline Charlson Comorbidity Indexes (CCI) and Pitt bacteremia scores (PBS). There were no differences between groups with respect to all other baseline demographics, including mechanical ventilation (MV) and corticosteroid (CS) use (Table 1). There were no differences between groups in time to a HDR of 0.03 NEE (P = 0.854) or 0.05 NEE (P =0.985) (Table 2). There also were no differences in the total duration of CV or AVP or ICU length of stay (P > 0.05). However, there was significant difference in the incidence of RRT and 28-day mortality favoring those who weighed < 50 kg.	In patients with septic shock requiring adjunctive AVP to CV, body weight did not have a significant impact on the time to HDR. There was a difference in the incidence of RRT and 28-day mortality favoring those who weighed < 50 kg, however this should be interpreted with caution due to imbalance in CCI and PBS. Larger trials are warranted to assess this further.
Joseph, Yuliya	yuliya.joseph@gmail.com	AdventHealth Sebring, FL	Morphine vs hydromorphone toxicity in patients with a chronic liver disease: a retrospective cohort study.	Patients with liver disease often require opioid analgesics for pain management; however, hepatic dysfunction can significantly alter the pharmacokinetics of these agents. While the metabolism of opioids such as morphine and hydromorphone in liver disease has been described in pharmacokinetic studies, there remains limited evidence on their comparative effects in real-world clinical settings. Understanding the safety and efficacy of these opioids in patients with hepatic impairment is essential for optimizing treatment.	A retrospective cohort study was conducted at a small teaching hospital using electronic health records from December 2022 to December 2024. Adult patients with documented liver disease and preserved renal function (EGFR ≥60 ml/min/1.73 m^2) who received either morphine or hydromorphone during hospitalization were included. Patient charts were reviewed for all days when receiving either analgesic until any endpoint was identified. Fisher's exact test was used to calculate the p-value, and the odds ratio with Haldane-Anscombe correction was used to measure the strength of the association.	A total of 502 health records were identified in EHR, and after applying the inclusion and exclusion criteria, 29 patients were included in morphine and 15 in hydromorphone group. No respiratory complications, sedation or acute hepatic encephalopathy were observed in either group. The effect estimate using Haldane-Anscombe correction to account for zero effect was OR 0.52 [95% CI 0.009-27.781].	Although pharmacokinetic differences between morphine and hydromorphone in liver disease are well-established, this clinical evaluation found no observed effect or toxicity in either group. Further investigation with a larger sample size is warranted to validate these findings and guide opioid selection in this population.
Jung, David	thisdj17@gmail.com	James A. Haley Veterans' Hospital	Evaluation and assessment of heart failure with reduced ejection fraction transitions of care process	Heart failure with reduced ejection fraction (HFrEF) is a chronic condition associated with high morbidity, mortality, and healthcare utilization. According to the Heart Failure (HF) Stats 2024, over 6 million adults are affected by HF in the U.S., with a substantial economic burden driven by frequent hospitalizations and suboptimal outpatient management. Readmission rates for HF remains a key quality metric targeted by both public reporting programs and value-based reimbursement models. The period following hospital discharge labeled as transitions of care (TOC) phase is particularly vulnerable to lapses in care continuity, contributing to medication errors, clinical deterioration, and ultimately, hospital readmissions. Within the Veterans Health Administration (VHA), efforts to improve patient outcomes include enhancing TOC to reduce readmission rates. Clinical Pharmacist Practitioners (CPPs) embedded in Patient-Aligned Care Teams (PACT) are uniquely positioned to support the TOC process through medication management, patient education, and close follow-up care. The purpose of this quality improvement project was to evaluate the involvement of PACT CPP in the HF TOC process, review HF TOC appointment data, and hospital readmission rates.	This retrospective quality improvement project reviewed patients discharged with a primary diagnosis of HFrEF form James A. Haley Veterans' Hospital between February 1, 2024, and October 31, 2024, via VA Computerized Patient Record System (CPRS) and the HF Power BI dashboard. Eligible patients for the TOC process were identified using pre-defined inclusion and exclusion criteria focused on clinical complexity. The primary outcome was quantifying patients who received pharmacological and/or non-pharmacological interventions from a PACT CPP at follow-up appointments. Pharmacological interventions included guideline-directed medical therapy (GDMT) optimization, (medication initiation, discontinuation, or dose adjustments). Non-pharmacological interventions included assessment of cardiac symptoms, home monitoring parameters, and patient education. Secondary outcomes included days from discharge to first PACT appointment, completion of post-discharge PACT appointment, and all-cause and HF specific readmission rates at 30 and 90 days.	A total of 130 patients were screened, of which 70 met eligibility criteria, with 33 completing a post-discharge PACT appointment. Within the 70 eligible patients, the average age was 71 and all were male. Among the 33 patients who completed a PACT appointment, pharmacological interventions included medication initiation in 3 patients (9%), no patients with medication discontinuation, and dose adjustment in 7 patients (21%). Non-pharmacological interventions were more consistently completed with cardiac review of systems assessed in 27 patients (82%), home monitoring parameters documented in 32 patients (97%), and all 33 patients (100%) received HF education. The average days between hospital discharge to first PACT appointment was 14 days (range 2-72 days). Of the 70 eligible patients, 12 (17%) were readmitted within 30 days and 18 (26%) within 90 days for all-cause readmission. Specific HF readmissions occurred in 8 patients (11%) within 30 days and 13 patients (19%) within 90 days.	Opportunities for improvement in the HF TOC process were identified, including PACT CPP interventions during the HF TOC appointment. Gaps in care coordination were detected by inconsistent completion of follow-up appointments within 14 days post-discharge. The missed or delayed appointments may be a contributing factor to an avoidable hospital readmission. Enhancement of appointment scheduling processes and increasing CPP involvement in early post-discharge care represent key opportunities to optimize therapy and improve patient outcomes.
Kanaeva, Margarita	margaritakanaeva98@gmail.com	St. Anthony's Hospital	Evaluation of Alvimopan in minimally invasive procedures using ERAS	Post-operative ileus, the temporary loss of normal bowel function, is an unwanted outcome associated with bowel resection and abdominal surgery. Post-operative opioid administration further contributes to the delay of lower bowel recovery and toleration of solid food by slowing gastric motility in addition to other functions. In 2008, the FDA approved alvimopan , a peripherally acting mu-opioid receptor antagonist designed to mitigate the deleterious effects of opioids on the GI tract and accelerate upper and lower GI recovery after large or small-bowel resection with primary anastomosis. Due to studies finding an increased risk of myocardial infarctions in patients treated with alvimopan, usage must go through a REMS program called Entereg Access Support and Education. The REMS limits use in the hospital setting only, with a maximum of 15 doses. Alvimopan is not to be used in patients on therapeutic opioids ≥ 7 days prior to surgery and is not recommended in patients with end-stage renal disease or severe hepatic impairment. In 2010, the ERAS Society was founded to standardize evidence-based protocols to improve outcomes and hasten the recovery process of elective procedures. Today, minimally invasive techniques (laparoscopic with or without robotic assistance) are the standard for most bowel resections with anastomosis, which reduces recovery time, minimizes pain and lowers the risk of complications. Studies that evaluated the efficacy and safety of alvimopan were primarily in open surgery, with limited evidence of efficacy in minimally invasive procedures. This study is beneficial to find an optimal solution to post-operative ileus where current data is conflicting, short in power, and lacking in the minimally invasive population.	This was a multicenter, retrospective chart review of patients undergoing minimally invasive bowel resection with primary anastomosis, evaluated using the Cerner electronic medical record. The study was conducted amongst 13 of the 16 hospitals pertaining to the BayCare Health System found throughout Florida. Patients undergoing laparoscopic bowel resection with primary anastomosis from January 2023 to July 2024 were placed into two study arms. The first consisted of patients using ERAS protocol alone, and the second arm involved patients receiving alvimopan in conjunction with an ERAS protocol. Overall, 600 patients were reviewed for inclusion and exclusion criteria and ultimately 170 patients were included. Inclusion criteria included patients ≥18 years of age, undergoing laparoscopic bowel resection with primary anastomosis, and receiving pain management. The exclusion criteria was extensive and included patients that had a diverting ostomy or open bowel resection surgery, those who transitioned from laparoscopic to open procedure or had prior bowel resection surgery, patients not receiving alvimopan doses both pre- and postoperatively, those receiving therapeutic doses of opioids within a week of surgery, pregnancy, complete bowel obstruction, severe hepatic impairment, and those with end-stage-renal disease. The primary outcome was return to normal lower bowel function, defined as median time to first bowel movement or discharge. Secondary outcomes evaluated included hospital length of stay from post-op day 0, in-hospital mortality, 30-day readmission, and adverse events.	Baseline characteristics were similar between the two arms, however, statistically significant differences included age, weight, and BMI being greater in the group receiving alvimopan. Our primary outcome, return to normal bowel function was statistically significant, occurring within a median of 1.25 days in the treatment group versus 1.95 days in the control (P-value 0.015, 95% CI -0.83, -0.07). Of the secondary outcomes, 30-day readmission was the sole outcome to be statistically significant, with 1 readmission in the treatment arm and 6 in the control (P-value 0.047, 95% CI -0.12, -0.0007).	A statistically significant difference was demonstrated for our primary outcome, return to normal lower bowel function and for our secondary outcome of 30-day readmission, demonstrating that alvimopan does in fact provide a statistically significant benefit. However, evaluation of length of stay demonstrated no statistically significant difference (P-value 0.430, 95% CI -0.82, 0.21). Confounding may have occurred in light of more consistent bowel movement documentation in the alvimopan group versus the control arm, warranting a larger, prospective follow-up study which excludes patients with a lack of bowel movement documentation.
Kemp, Hailey	hailey.kemp@ufhealth.org	UF Health - Shands Hospital	Comparison of intravenous to enteral antimicrobial de-escalation patterns before and after a formulary change in pediatric patients	In March 2024, a large academic medical center removed cefdinir capsules from hospital formulary and restricted the suspension for use in pediatric patients who meet criteria with a legacy medication alternative (LMA) implemented in attempt to decrease electronic health record prescribing. The purpose of this study was to assess the impact of the formulary change on optimal de-escalation practices of intravenous ceftriaxone to enteral antibiotic therapy in pediatric patients. Additionally, there was an assessment of opportunities to improve antimicrobial stewardship efforts and patient outcomes.	This was a single center, retrospective cohort study approved by the Institutional Review Board. The study included hospitalized patients aged 1 month to 18 years that received at least one dose of ceftriaxone followed by enteral antibiotics as step-down therapy for the treatment of community acquired pneumonia (CAP), upper respiratory tract infection (URTI), or urinary tract infection (UTI). Patients were required to be admitted to an inpatient pediatrics service to exclude patients in the emergency department as the LMA was not implemented for that service area during the study period. Patients that met inclusion criteria 6 months after the formulary change (4/1/2024-9/30/2024) were compared to a historical cohort during the same time period from 1 year prior to the formulary change (4/1/2023-9/30/2023). Patients were excluded if they were actively receiving chemotherapy, had end-stage renal disease requiring dialysis, or were admitted to the Neonatal Intensive Care Unit. The primary outcome of this study was the rate of optimal antibiotic de-escalation from before and after the formulary change. The enteral antibiotic chosen as step-down therapy from ceftriaxone was considered optimal if the cultured pathogen was susceptible to the prescribed antibiotic and it was the narrowest spectrum option available, or the antibiotic was considered first-line based on validated clinical practice guidelines. Secondary outcomes included hospital re-encounter rates (admission and emergency department visits for the same indication), hospital length of stay, and documented reasons for broad antibiotic usage.	A total of 134 patients were included in this study (74 in the pre- and 60 in the post cohort). Eighty-nine (66.5%) patients were admitted to a general medicine service, twenty two (16.5%) to hematology/oncology, and twenty-three (17%) to intensive care. Out of 144 diagnoses, 44% were CAP, 44% were UTI, and 11% were URTI. The most prescribed enteral antibiotics were amoxicillin, amoxicillin-clavulanate, cephalexin, and cefdinir across all indications. There were no significant differences in baseline characteristics between the cohorts. The primary outcome of optimal enteral antibiotic de-escalation was achieved in 46 (62%) patients in the pre-cohort and 43 (72%) patients in the post-cohort (p=0.2449). Rates of optimal de-escalation were lowest for patients treated for UTI (	The results of this study demonstrate a trend towards an increased rate of optimal de-escalation following the formulary change, although it was not statistically significant. The primary driver towards suboptimal de-escalation was for the treatment of urinary tract infections. Despite an LMA implemented to place preference on cefpodoxime over cefdinir, rates of cefdinir prescribing were still high with little prescribing of cefpodoxime. This could possibly be attributable to issues with tolerability and availability of the cefpodoxime suspension in the outpatient setting. There was a statistically significant reduction in the post-cohort for hospital re-encounter and length of stay; however, this could be confounded by other comorbidities that were not collected. Overall, these results indicate opportunities for targeted education of healthcare professionals and development of institutional-specific guidelines.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Kenyon, Kaitlyn	kkenyon@tgh.org	Tampa General Hospital	Comparison of Accelerate Pheno® and BioFire® BCID2 on antibiotic utilization in Staphylococcus aureus bloodstream infections: A pre-post, retrospective, cohort study	Bloodstream infections (BSIs) are associated with increased length of hospital stay and significant mortality risk. Rapid and accurate identification of the causative pathogen and its associated resistance is vital to the management of BSIS. Historically, microbiologic culture and susceptibility has been the gold standard method for pathogen identification. However, the turnaround time (TAT) of standard cultures often exceeds 48 hours and is not sufficient for acute life-threatening infections. Currently, it is unclear whether the type of rapid diagnostic testing (RDT) system utilized, BioFire® (BCID2) or Accelerate Pheno® (AXDX), affects clinical outcomes and resource utilization in methicillin-susceptible Staphylococcus aureus (MSSA) BSIS. Initial management of BSIS often includes broad-spectrum antibiotics such as vancomycin, which is effective against most gram-positive bacteria including MSSA. However, quickly ruling out beta-lactam resistance and deescalating from vancomycin to an agent with superior mortality data in MSSA BSIS, such as cefazolin or oxacillin, is a vital part of MSSA BSI management. Methicillin resistance in S. aureus is mediated via the mecA/C gene encoding penicillin-binding proteins with low affinity for beta lactams. The BCID2 and AXDX systems use the absence of mecA/C and surrogate phenotypic ceftoxitin susceptibility, respectively, in the specification of MSSA. Faster detection of organisms, especially of Staphylococcus aureus, and associated drug- resistance allows clinicians to initiate prompt and optimal therapy. Faster initiation of this optimal therapy serves as a strong indicator of improved clinical outcomes, including faster blood culture clearance, reduced hospital length of stay (LOS), and decreased mortality. Numerous studies have previously shown that utilization of rapid diagnostic systems in comparison to conventional culture methods have significantly reduced time to identification (ID), antimicrobial susceptibility testing (AST), and time to step-down antimicrobial therapy. This study was performed to see if time to optimal antibiotic therapy (OAT) and other clinical outcomes differed between RDTS.	A pre-post, retrospective cohort study was performed at a 1,018-bed tertiary care hospital in Tampa, Florida. Electronic medical records of adult inpatients from November 1st, 2018- March 25th, 2024, were reviewed. Patients included were ≥18 years of age with a positive blood culture for MSSA within the defined study period, and rapid diagnostic test (AXDX or BCID2) run on the specimen, regardless of success. Patients were excluded if they had a polymicrobial culture, transferred from an outside hospital (OSH) with positive blood culture, complete RDT failure, mortality or comfort measures only status within 48 hours of index, concomitant infection with non-MSSA organism, or documented inability to deescalate due to an allergy. The primary outcome of this study was median time from blood culture collection to OAT. Secondary outcomes included time to culture clearance, length of stay following index culture collection, mortality rate within 30 days, and RDT concordance with phenotype.	Median time from blood culture collection to OAT was 37.5 hours (IQR, 27.3-55.3) in the BCID2 cohort and 47.9 hours (IQR, 35.1-72.1) in the AXDX cohort (p = 0.045). For secondary outcomes, there was a significantly higher rate of RDT partial failures in the AXDX cohort (36.6% vs 7.3%, p<0.05) as well as a significant difference in RDT concordance with phenotype from conventional culture methods between BCID2 and AXDX (92.7% vs 63.4%, p< 0.05). Time to culture clearance, length of stay following index culture collection, and mortality rate within 30 days of index culture were not significantly different between groups.	Faster time to OAT with BCID2 for MSSA BSI highlights the potential to improve patient care by facilitating timely de-escalation from vancomycin to narrower-spectrum antibiotics like cefazolin or oxacillin. A key strength of this study is that it was the first to make a direct comparison between these two RDTs to assess their impact on clinical outcomes in MSSA BSIS. The finding of significantly shorter time to OAT with BCID2 underscores its potential to improve clinical workflows and patient outcomes. Efforts were made to minimize confounding factors that could influence RDT interpretation and clinical outcomes by excluding patients with polymicrobial blood cultures, recent anti-staphylococcal antibiotic use, and transfers from an OSH with positive blood cultures. This approach allowed for a direct comparison of clinical outcomes between the two systems. This study also observed significantly higher rates of RDT partial failures in AXDX cohort, reinforcing the decision to transition to the BCID2 system for gram-positive infections at our institution. Shorter time to OAT and fewer diagnostic failures support the use of BCID2 over the phenotypic AXDX system, particularly for gram-positive organisms whose primary mode of drug resistance is gene mediated.
Kim, Jean	jeankim@tgh.org	Tampa General Hospital	Utilization of donor-derived cell-free DNA trends for acute rejection surveillance in lung transplant recipients	Histopathological examination of transbronchial biopsy (TBBx) is the gold standard for the diagnosis of acute rejection after lung transplantation. However, TBBx is invasive, dependent on heterogeneous tissue sampling, subject to interobserver variability and can cause serious complications such as hemorrhage and pneumothorax. Donor-derived cell-free DNA (dd-cfDNA) is fragmented DNA that is continuously released by donor cells into the bloodstream during allograft injury; therefore, an increase in dd-cfDNA may serve as an indicator of allograft injury. Since the COVID-19 pandemic, dd-cfDNA has gained favorability as a noninvasive diagnostic biomarker in rejection surveillance. Previous studies report a variety of fixed thresholds to which rejection may be most accurately detected; however, we hypothesized that trending dd-cfDNA as a continuous variable would be less subject to heterogeneity between baseline patient characteristics and thus, provide greater insight. The purpose of this study was to explore an alternative method of utilizing dd-cfDNA trends as predictive biomarkers of acute rejection.	This was a single center, retrospective cohort analysis of adult lung transplant recipients. Donor-derived cell-free DNA levels collected between September 1, 2021, and July 16, 2024, were retrospectively evaluated and included if it had a corresponding TBBx. Included dd-cfDNA were categorized into cohorts: stable, acute cellular rejection (ACR), subclinical antibody-mediated rejection (AMR), and AMR according to the International Society of Lung and Heart Transplantation (ISHLT) definition and diagnostic criteria. Patients were excluded if they did not have at least three serial dd-cfDNA levels. The primary outcome assessed the trend of dd-cfDNA before (pre-elevels 1 and 2) and after (post-levels 4 to 6) acute rejection treatment. Secondary analyses assessed the forced expiratory volume in 1 second (FEV1) before and after acute rejection treatment and the correlation between dd-cfDNA and the change in FEV1. Descriptive statistics were used to analyze patient demographics. Median and interquartile range (IQR) were used to assess nonparametric data while mean and standard deviation (SD) were used to assess parametric data. The Friedman test was used to analyze repeated measures of non-parametric variables. The Wilcoxon sign-rank test was used to test the mean values of two dependent groups. Statistical analysis testing was performed using STATA (version 18; College Station, Texas).	Baseline demographics are outlined in Table 1. Seventy patients were included. The median and interquartile range of dd-cfDNA at the time of TBBx was 0.71% (0.32-1.1) in stable, 0.76% (0.24-1.1) in ACR, 0.43% in subclinical AMR, and 0.78% in AMR (p	Trending dd-cfDNA levels as a continuous variable, rather than against a fixed and predefined threshold, may be a useful strategy in detecting and predicting acute rejection. The lowering of dd-cfDNA after receipt of acute rejection treatment as expected demonstrated the potential ability to assess therapeutic response following treatment by utilizing dd-cfDNA as a marker of resolution. Limitations of the study include the single-center, retrospective cohort study design, the small subclinical AMR and AMR cohort sizes given our selection criteria, and the lack of focus on chronic lung allograft dysfunction (CLAD) and infections as we categorized patients based on biopsy results. Despite these limitations, our study is strengthened by the robust availability of clinical data that allowed us to observe the trend of six serial dd-cfDNA measurements. In conclusion, dd-cfDNA trends may have a role in noninvasive rejection monitoring, thereby minimizing the need for post-acute rejection follow-up TBBx and TBBx-associated complications.
Kirkland, Ashleigh	ashleigh.kirkland@emyith.org	Lakeland Regional Health	Blood Pressure Variability in Ischemic Stroke Patients Status-Post Thrombectomy	Hemorrhagic transformation (HT) occurs in up to 42% of acute ischemic stroke (AIS) patients following thrombectomy (Hong, 2021) Literature suggests larger core and penumbra sizes, increased mismatch volume on imaging, as well as elevated serum glucose, increased white blood cell count, and warfarin use are predictors of higher risk of HT, but anticoagulation is a predictor of symptomatic HT and increased HT severity. (Tian, 2022; Spronk, 2021; Marsh, 2016) Risk of HT increases with the use of fibrinolytics alone, thrombectomy alone, and fibrinolytics followed by thrombectomy (Spronk, 2021. Whiteley, 2016) Blood pressure variability (BPV) is a clinical measurement of the change in blood pressure (BP) over a set period of time. BPV has been established as a strong predictor of cardiovascular disease and events, chronic kidney disease, dementia, and all-cause mortality.(Parati, 2023. Sheikh, 2023) The relationship between BPV and onset of stroke, as well as outcomes following stroke have been established.(Rothwell, 2010) BPV following fibrinolytics has been evaluated, demonstrating decreased systolic BPV had an improvement in the modified Rankin Scale (mRS). (Endo, 2013) There is a lack of literature assessing BPV in AIS patients following thrombectomy or as a risk factor for HT. This study will establish the relationship between BPV and HT following thrombectomy in patients presenting with AIS. Additionally, it will provide insight into the threshold at which BPV becomes significant in contributing to HT.	The study is an Institution Review Board-approved single center, retrospective evaluation of patients with an isolated AIS. The study center is a 910 bed, not-for-profit, comprehensive tertiary referral center and certified Comprehensive Stroke Center. A Cerner Analytics report of patients with an ICD-10 diagnosis code of AIS who underwent an Interventional Radiology procedure was used for screening. Patients ≥ 18 years old with a primary diagnosis of isolated AIS who underwent thrombectomy and had at least three BP readings recorded were included. Patients with thrombectomy greater than 24-hours from symptom onset, stent placement during thrombectomy, advanced dementia, or pregnancy were excluded. To assess the primary outcomes, whether BPV influences HT and the strongest predictive measure of BPV in HT, standard deviation (SD), coefficient of variation (CV), Average Real Variability (ARV), and weighted 24-hour SD were calculated. BPV thresholds (low, medium, and high) (defined by SD from the mean) were used for analysis. Logistic regression models evaluated influence of BPV, controlling for specific covariates. Model fit indices including Receiver Operator Curve (ROC), Area Under the Curve (AUC), sensitivity, and specificity were assessed for model comparisons while switching the BPV indices to determine which one was the strongest model and ROC analyses to determine the optimal BPV threshold that may indicate HT. Significance was set to p <0.1. The strongest BPV measure was used with HT to model in-hospital mortality using multiple binary logistic and multiple linear regression analyses.	Preliminary results included 90 patients: 29 in HT and 61 in non-HT groups. There were no significant differences in the baseline characteristics. The majority of cases were white patients with a MCA territory being the dominant thrombus location. The average NIHSS was 16 and 90% of cases had infarct identified on initial CT. The median time from last known well to thrombectomy was 3 hours with a median time from thrombectomy to HT of 21.67 hours. The majority of cases had a TICI score of 2B or 3 with 3 being full flow established during thrombectomy. At the time of HT, most patients were not receiving antiplatelets or thromboembolism prophylaxis. There was no clear correlation between BPV and HT in this study. Based on the ROC analysis for individual types of BPV representation, each method demonstrated poor sensitivity and specificity. When adjusted for the optimal sensitivity and specificity, the ROC analysis indicated 24-hour weighted diastolic BP (DBP) SD, encounter wide SBP systolic BP (SBP) CoV, and post- procedure SBP CoV were identified as weak predictors. The study will continue to include patients to meet power to further assess the relationship of BPV and the incidence of HT.	These preliminary results did not indicate BPV as a strong predictor of HT in AIS patients status post thrombectomy but the 24-hour weighted diastolic BP (DBP) SD, encounter wide SBP systolic BP (SBP) CoV, and post- procedure SBP CoV were identified as weak predictors. The study will continue to include patients to meet power to further assess the relationship of BPV and the incidence of HT.
Kirsner, William	wkisner3@gmail.com	Miami VA Healthcare System	Quality Improvement Evaluation of Periprocedural Anticoagulation Management at the Miami Veterans Affairs Healthcare System	This project is a review to determine prescribing patterns and outcomes of teratogenic medications in populations capable of childbearing as well as to determine if prescribing practices are appropriate for the patient's reproductive health. The female population in the VA is projected to increase to 20% in 2040, therefore a teratogenic medication use evaluation is essential for optimizing care directed and catered to an expanding population. The goal of the project is to help guide specialized care and promote safe prescribing practices to avoid disturbances in the development of an embryo or fetus, and/or to prevent unnecessary harm to the fetus or mother.	Retrospective data from the past 3 years was collected and reviewed for patients who received lactation kits, contraception, positive Human Chorionic Gonadotropin (HCG) results, or referrals to OB/GYN services via a community care consult. Information collected included past medical history, medication regimens, background demographics, adherence, adverse effects, scheduled appointments with pharmacy, and outcomes such as successful delivery or miscarriage. The primary endpoint was to evaluate the number of patients who had appropriate medication management conducted after a positive pregnancy test. Secondary endpoints included: number of patients prescribed teratogenic medications using appropriate contraceptive methods, number of patients on teratogenic medications, and patients who had family planning addressed during office visit. The data was collected using a VA teratogenic medication dashboard and chart reviews.	The Miami VA Healthcare System pharmacy department monitors female patients with active teratogenic medication orders regularly as their pregnancy status changes during an in-clinic appointment. Of the 4112 female patient who were less than 47 years old and had an active teratogenic medication order, we excluded 4065 patients who were deemed medically unable to conceive and patients who were documented as not seeking to get pregnant and/or had an active birth control order, which lead to a sample size of 47 patient who were attempting to or were actively pregnant. Over 16% (n=7) of patients flagged for review either had outdated active pregnancy flags or were flagged as "unsure if attempting pregnancy" indicating an opportunity to reach out to the patients to update their pregnancy status. Study limitations include lack of information documented in medical records such as miscarriages and carry over lactation/pregnancy flags in patients with subsequent pregnancies. Additionally, barriers to prescribing non-teratogenic alternatives at this stage of the study was not able to be assessed. The most prescribed teratogenic medications in patients either attempting or actively pregnant were non-steroidal anti-inflammatory drugs with diclofenac gel and ibuprofen being the most prescribed NSAIDs in this patient population.	Results of the study demonstrate a need to update the current teratogenic medication review process. The dashboard can be a helpful tool to monitor patients who are of childbearing age and have been recently started on a teratogenic medication. Additional recommendations can be made to improve prescribing practices, such as, pharmacy services providing educational sessions and informational packets to educate providers on teratogenic medications. Additionally, a flagging or pharmacist review system should be implemented when patients are input into the system as attempting pregnancy or actively pregnant.
Kleinsorge, Nicole	nicole.kleinsorge@ufhealth.org	UF Health - Shands Hospital	Basal insulin dose reductions in hospitalized, adult, non-criticality ill patients	Hyperglycemia is a major risk factor associated with increased length of stay and infection risk in hospitalized patients with diabetes mellitus (DM), and inadequate inpatient glycemic control is associated with increased mortality risk. However, intensive glycemic control can also introduce an increased risk of hypoglycemia without significant effect on risk of patient death, myocardial infarction, or stroke. For inpatient glycemic management in non-critical care settings, a glycemic goal of 100-180 mg/dL is recommended. This includes whether it is new hyperglycemia (e.g., newly diagnosed diabetes or stress-induced hyperglycemia) or hyperglycemia related to diabetes prior to admission. Additionally, new guideline recommendations suggest an empiric dose reduction in outpatient basal insulin dose by 10-20% may result in greater inpatient glycemic control among adult, non-criticality ill patients with DM.	This was a retrospective, quasi experimental analysis performed at a tertiary academic medical center. Eligible patients included adults aged 18 years or older with DM admitted as non-critically ill patients to an internal medicine unit and who were receiving insulin glargine prior to admission. The pre- and post-cohorts included patients admitted from January - June 2023 and January - June 2024, respectively. Exclusion criteria included admitting diagnosis of diabetic ketoacidosis or hyperosmolar hyperglycemic state, insulin infusion or insulin pump during admission, delay in insulin administration greater than 24 hours from time of admission, active steroid administered on admission, home basal insulin other than insulin glargine, greater than 30 admission days in one calendar year, and patients receiving hospice care or other end-of-life care service. The primary outcome was percentage of first fasting BG (FBG) within the goal range of 100-180 mg/dL after the first dose of insulin glargine. Secondary outcomes included percentage of initial basal insulin orders dose-reduced by at least 20% and insulin glargine dose (in units/kg/day) at time of glycemic control. Safety outcomes included first FBG indicating hypoglycemia or hyperglycemia. An unpaired t-test was used to determine if there was a relationship association between the implementation of an empiric insulin glargine dose reduction and first FBG reading. The secondary outcomes were reviewed using descriptive statistics or analytical statistics as needed per the type of data. This study was approved by the institutional review board.	A total of 180 patients were identified and after application of exclusion criteria, 99 patients were included in pre-cohort, and 81 patients were included in the post-cohort. Baseline demographics are outlined in Table 1. There were 61 (72.6%) first FBG readings within the target range in the pre-cohort compared to 41 (50.6%) readings in the post-cohort, after the new empiric dose reduction recommendation was implemented (p=0.1384). Patients with a first FBG close to goal range, defined as FBG between 70-99 mg/dL or 181-199 mg/dL, were also not significantly different between cohorts (75.8% vs 67.9%, p=0.1398). There was a significantly greater incidence in insulin dose reduction by at least 20% in the post-cohort compared to the pre-cohort (72.8% vs 46.5%, p=0.0007) (Table 2). There were no significant differences in the secondary outcome of insulin glargine dose at time of first FBG within the target range between the pre- and post-cohorts (0.2 vs 0.17, p= 0.2364). There were also no significant differences in the safety outcomes of incidence of hypoglycemia (1.0% vs 2.5%, p=0.5889) or hyperglycemia (22.2% vs 29.6%, p=0.2579) at first FBG reading between the pre- and post-cohorts.	The results of this study showed that empiric dose reduction of outpatient insulin glargine upon admission by at least 20% produced similar rates of first FBG within the target range and did not significantly increase rates of hypo- or hyperglycemia.
Kyle, Baylea	baylea.kyle@baycare.org	St. Joseph's Hospital - BayCare	Impact of an emergency medicine pharmacist on time to post-intubation sedation	Rapid sequence intubation (RSI) is the standard of care for emergency airway management. This involves the sequential administration of a sedative-hypnotic and a neuromuscular-blocking agent (NMBA) to facilitate endotracheal intubation. Common induction agents include etomidate, midazolam, propofol, and ketamine, followed by succinylcholine or rocuronium as the paralytic. Etomidate is widely used due to its rapid onset (5-15 seconds), short duration (3-5 minutes), hemodynamic stability, and provider familiarity. Rocuronium and succinylcholine also have quick onsets (1-2 minutes and 30-45 seconds, respectively), with durations of 30-90 minutes (rocuronium) and 4-6 minutes (succinylcholine). However, up to 10-54% of intubated ED patients do not receive timely post-intubation sedation. Insufficient sedation can result in pain, anxiety, post-traumatic stress disorder, depression, and other psychological sequelae, underscoring the importance of prompt and appropriate sedation management. Emergency medicine pharmacist (EMP) involvement during RSI has been shown to improve adherence to guidelines and reduce time to sedative administration. The Society of Critical Care Medicine (SCCM) guidelines recommend the integration of EMPs into resuscitation teams to enhance medication selection, dosing, and administration efficiency. A 2013 retrospective cohort study demonstrated that the presence of a pharmacist reduced the time to sedation from 28 minutes to 9 minutes, emphasizing the impact of EMPs on timely post intubation sedation. Delays were often attributed to limited knowledge of induction agents, medication accessibility, and preparation logistics. Given these findings and SCCM's endorsement of pharmacist involvement, EMPs play a vital role in optimizing post-intubation sedation by ensuring rapid, evidence-based medication administration. This study aims to evaluate whether the presence of a pharmacist in the emergency department reduces the time to post-intubation sedation.	This IRB-approved, single-center, retrospective chart review was conducted at a level 2 trauma center with a 62-bed emergency department. Patients were included if they were 18 years or older who underwent RSI with rocuronium or succinylcholine between January 1, 2023, and December 31, 2023. Exclusion criteria consisted of patients who were pregnant, endotracheal intubation prior to ED arrival, if the patient expired or transferred prior to post-intubation sedation initiation, or high-risk intubations including morbid obesity (BMI > 40), cervical spine injury, history of neck cancer, and airway edema (evidence of angioedema/facial swelling). Patients were divided into two cohorts: those with and without EMP involvement. The primary outcome was the time (minutes) from paralytic administration to continuous or bolus sedation initiation. Secondary outcomes included time (minutes) from sedation order entry to verification, achievement of analgesedation, and a comparison of sedation initiation time (minutes) between paralytics. Data was analyzed using descriptive statistics, Mann Whitney U, and X 2 tests. The Cohen's effect size index was initially utilized to determine the target sample size for this study, which found that a minimum of 26 patients in each group would be required to find a large effect-size difference in time to medication use. An additional 15% was added to the minimum sample size for possible heteroscedastic and non-normal data distribution, which yielded a minimum sample size of 30 patients.	A total of 100 patients were included with 50 in each group. Baseline characteristics including age, sex, ethnicity, and weight were similar among both cohorts (Table 1). There was a lower mean Glasgow Coma Scale of 7 in the EMP group vs. 9 in the non-EMP group. The rate of acute kidney injury was higher in the EMP group (16% vs. 12%). The most common indication for intubation was respiratory distress and succinylcholine was used more often than rocuronium in both groups. No significant difference in the primary outcome was observed with an estimated difference of -3 minutes ([95% CI, -8 to 2] P = .29). However, the EMP group had a shorter median time to sedation (11 vs. 13.5 minutes). No significant differences in sedation order entry to verification (P = .94) or in achieving analgesedation (P = .65) were found. Sedation initiation was significantly delayed with rocuronium compared with succinylcholine (21.8 [SD 17.8] vs 14.4 (SD 13.6) minutes P = .02).	While the presence of an emergency medicine pharmacist (EMP) did not significantly reduce the time from paralytic administration to sedation initiation, the median time to sedation was shorter in the EMP group. This suggests that ongoing EMP-led education and protocol optimization may have mitigated potential delays in post-intubation sedation across both cohorts. Additionally, the study identified a significant delay in sedation initiation with rocuronium compared to succinylcholine, reinforcing concerns that its prolonged duration may mask clinical signs of inadequate sedation.
Lamberti, Joseph	joseph.lamberti@baycare.org	St. Joseph's Hospital	Analyzing the safety and efficacy of high dose vs. low dose recombinant activated Factor VIIa (NovoSeven RT) for the treatment of bleeding in nonhemophiliac cardiac surgery patients	Novoseven®RT is a recombinant human activated coagulation factor (rVIIa), intended for promoting hemostasis by activating the extrinsic pathway of the coagulation cascade. Novoseven®RT is often used off-label for refractory bleeding after cardiac surgery in non-hemophiliac patients. Dosing has not been established and ranges from 10mcg/kg to 90mcg/kg based on low-quality evidence from case series and observational studies. Therefore, dosing of this medication is left to provider discretion and clinical experience. This study aims to compare the safety and efficacy between the different dosing strategies of rVIIa within the health system to further optimize and standardize utilization for this off-label indication.	This study is a multicenter, retrospective chart review of adult patients admitted to any BayCare Health System Hospital between January 1, 2018 and August 31, 2024 who underwent cardiac surgery and received rVIIa. Patients were split between two groups and analyzed based on initial rVIIa dose administered (low-dose: <45 mcg/kg and high-dose: >70 mcg/kg). Patients will be included if they are at least 18 years of age, admitted to any BayCare Health System hospital, and received rVIIa intraoperatively or post-cardiac surgery. The primary objective of this study is to evaluate the safety outcomes in non-hemophiliac patients who received high-dose rVIIa compared to low-dose. Secondary objectives will compare efficacy outcomes of high- versus low-dose initial rVIIa dose administered (incidence of rebleeding, surgical exploration, transfusions required, and readmission due to bleeding) as well as ICU & hospital length of stay.	A total of 248 patients were enrolled, with 143 assigned to the high-dose group and 105 assigned to the low-dose group. Patients in both groups had similar baseline demographic characteristics outside of age and the specific site where study drug was administered. Groups also differed in other products administered with 113 patients receiving TXA in the high-dose group vs. 2 in the low-dose group (p-value <0.001), 62 patients in the high-dose group received FFP vs. 28 in the low dose group (p-value=0.007), and 142 patients in the high-dose group received protamine vs. 99 in the low-dose group (p-value= 0.043). Groups were similar in cardiac surgery performed outside of LAA in which 43 patients underwent this procedure in the high-dose group vs. 19 in the low-dose group (p-value=0.031), atrial valve replacement/repair in 70 patients in the high-dose group & 36 patients in the low-dose group (p-value= 0.021), and redo sternotomy in 26 patients in the high-dose group vs. 7 in the low-dose group (p= 0.007). Safety outcomes from final dose administered to day 30 were found to be largely similar between the two groups. Our primary endpoint, incidence of any adverse effect showed no statistically significant difference between the two groups (20% in low-dose group vs. 13% in high-dose group; p-value= 0.114). Although not powered for in this study, all other safety endpoints, besides mortality (higher in low-dose group; p=0.008), showed non-significant differences between the two. Efficacy outcomes were also found to be similar between the two groups outside of ICU length of stay (mean of 6.6 days in the high-dose group and 9.6 days in the low dose group; p-value= 0.001) & hospital length of stay (mean of 15 days in the high-dose group and 12.1 days in the low dose group; p-value= 0.045). Incidence of surgical exploration within 24 hours of last dose administered (p-value= 0.202), reoperation within 30 days after rebleed (p-value= 0.096), transfusion required within 6 hours after last administered dose (p-value= 0.842), and readmission for a bleeding event within 30 days after discharge (p-value= 1) were found to be similar between the two groups.	In a majority of safety & efficacy endpoints assessed in this study, including our primary endpoint of incidence of any adverse drug event, no significant difference in occurrence was observed between the two dosing strategies.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Lammers, Meredith	Meredith.Lammers@bmcjax.com	Baptist Medical Center/Wolfson Children's Hospital	Comparison of 8 versus 15 days of antibiotic therapy for hospital-acquired pneumonia in adult intensive care unit patients	Existing literature presents evidence supporting shorter durations of antibiotic therapy in ventilator-acquired pneumonia (VAP), but data specific to hospital-associated pneumonia (HAP) is limited. Current major international guidelines, including those by the World Health Organization, Infectious Disease Society of America, and European Society of Clinical Microbiology and Infectious Diseases recommend a fixed 7–8 days of antibiotic treatment for HAP and VAP based on evidence from VAP studies. The purpose of this study was to compare short course versus an extended course of antibiotic therapy for HAP in adult intensive care unit (ICU) patients	This was a non-inferiority, system-wide retrospective study which compared short vs extended courses of antibiotics in ICU patients treated for HAP between August 1, 2022 and November 30, 2024. The short course group was defined as patients who received antibiotics for <8 days and the extended course group included those treated for 9 to 15 days. Patients were included if they were 18 years or older, admitted to the ICU during antibiotic therapy, and received empiric antibiotics for HAP. Exclusion criteria included VAP diagnosis, documented viral pneumonia, were immunocompromised, or had concomitant infections that warranted antibiotic treatment longer than 7 days. A 12% non-inferiority margin was utilized based on previous literature, adding 2% to account for pneumonia recurrences. To achieve 80% power, 86 patients per group were required, with noninferiority confirmed if the upper limit of the 95% CI for recurrence remains below 12%. The primary objective was to compare the 30-day pneumonia recurrence rates between the two groups. Recurrence was defined as the same bacterial species in initial and follow-up cultures or by provider suspicion if no cultures were available, with either new or worsened pneumonia symptoms or new infiltrates on chest imaging. Secondary objectives included 30-day mortality, hospital length of stay, and ICU length of stay.	The initial data extraction identified 1,419 patients for screening. Of these, 180 met the inclusion criteria, with 93 patients receiving short-course treatment and 87 receiving the extended-course treatment. The median APACHE II scores were similar between the two groups (15 vs 16) and a majority of patients were admitted to the medical/surgical ICU. Additional baseline characteristics are shown in table 1. The median duration of antibiotic treatment was 7 days (IQR 4-8) in the short-course group and 11 days (IQR 9-15) in the extended-course group. Respiratory pathogens per cultures were less frequently identified in the short (14%) vs extended (33%) course groups. The most common pathogens were Staphylococcus species (38.4% vs. 37.9%) and Klebsiella species (23.1% vs. 24.1%). Pseudomonas species were more frequently isolated in the extended course groups (24.1 % vs 15.4%). For the primary objective, reoccurrence rates were similar in the short vs extended-courses (9.2% vs. 10.8%, 95% CI, -10.3% to 7.2%) as shown in figure 1.The median length of hospital stay following HAP diagnosis was significantly shorter in the short-course group compared to the extended-course group (7 [IQR 4–8] days vs 13 [IQR 6–24] days, p=0.04). Mortality at 30 days and ICU length of stay did not differ between the two groups. Subsequent cultures were obtained in 5 (11.6%) patients in the short-course group and 4 (11.8%) patients in the extended-course group. Among these, the same pathogen was identified in 1 patient in the short course group and all 4 patients in the extended-course group. All subsequently identified pathogens had the same susceptibilities.	In this study, short-course antibiotic treatment for HAP in ICU patients was non-inferior to extended-course treatment in terms of recurrent infection rates and were not associated with increased mortality. While length of ICU stay were similar between groups, the short-course group had a shorter length of hospital stay. The findings of this study suggest a short-course antibiotic treatment for HAP in ICU patients can be an effective alternative to extended-course therapy, offering comparable clinical outcomes with the added benefit of reducing hospital length of stay. Additionally, these findings support current guideline recommendations and help address gaps in the previously lacking literature. A limitation of this study was the lack of bacterial speciation and susceptibility information which potentially prevents adequate assessment of effectiveness. Overall, implementation of short course treatment durations for HAP patients would potentially optimize resource utilization, lower healthcare costs, and potentially improve antibiotic stewardship practice.
LaRussa, Bryanna	bryanna.larussa@bmcjax.com	Baptist Medical Center/Wolfson Children's Hospital	Effects of intravenous phenobarbital on direct bilirubin levels in neonatal cholestasis	In preterm neonates, parenteral nutrition is essential to development but can lead to parenteral nutrition-associated cholestasis, complicating hepatic function to the point of increased direct bilirubin levels. For patients unable to receive ursodiol as first-line therapy due to enteral intolerance, phenobarbital's use for direct bilirubin reduction has been explored as an alternative treatment for neonatal cholestasis, but has demonstrated questionable efficacy1 . As such, further research is needed to assess phenobarbital's efficacy and safety for neonatal cholestasis. This study aims to enhance treatment protocols by evaluating changes in bilirubin and adverse events in patients who received phenobarbital for hyperbilirubinemia versus a control group in neonatal intensive care unit (NICU) patients.	This single-center, observational, retrospective chart review compared phenobarbital to a control group in NICU patients being treated for neonatal cholestasis between August 1, 2022 to November 5, 2024. Eligible patients were under 24 months old, admitted to neonatal intensive care units, and had a single elevated direct bilirubin level of ≥2.0 mg/dL. Exclusion criteria included patients treated with phenobarbital for seizures or neonatal abstinence syndrome, those who received less than one week of phenobarbital, and those on concurrent ursodiol treatment. Patients were evaluated through a prespecified timeline. The phenobarbital group was evaluated until phenobarbital cessation, ursodiol initiation, or if patient was noted to be on full enteral feeds, whereas the control group was evaluated until ursodiol or phenobarbital was initiated, after 8 weeks of monitoring, or if patient was noted to be on full enteral feeds. Baseline demographics were collected to characterize the patient population in each treatment arm of the study. The primary objective of this study evaluated the effect of intravenous phenobarbital on direct bilirubin levels, measured by the percent change in bilirubin, compared to the control group. Secondary objectives assessed adverse events associated with phenobarbital (bradycardia, apnea, hypotension, and hypersensitivity reactions) and examined the relationship between treatment duration and percent change in bilirubin, and clinical resolution (defined as direct bilirubin < 2 mg/dL). All eligible patients were included as a convenience sample. Nominal endpoints were analyzed using Fisher's Exact or Chi-squared tests. Continuous endpoints were analyzed using an appropriate statistical test determined from the collected data.	Data extraction identified 1,180 patients for screening, with 56 meeting the inclusion criteria: 28 patients receiving phenobarbital and 28 in the control group. Baseline characteristics are summarized in Table 1, with notable differences in age, weight, initial nutrition, and baseline direct bilirubin. For the primary objective, the median percentage change from baseline direct bilirubin to end of therapy direct bilirubin was 21.365% (IQR -36.7-45.155) for the phenobarbital group and -10.25% (IQR -44.455-19.525) for the control group, p=1. The median duration of therapy was 32 days (IQR 15-51) for the phenobarbital group and 7 days (IQR 7-14) for the control group, p< 0.01. A linear regression for percentage change from baseline direct bilirubin to end of therapy direct bilirubin to the duration of therapy in weeks showed no correlation with R2 =0.2075 for the control group and R.2 =0.06 for the phenobarbital group (Figure 1).	In this study, phenobarbital was associated with an increase in direct bilirubin levels, while the control group showed a decrease in bilirubin. These findings suggest that phenobarbital may not be effective in reducing direct bilirubin levels in neonatal cholestasis. While the adverse effects were unable to be compared to control and may be secondary to the patient's underlying illness, the results raise concern over risk/benefit. An important limitation of this study is the differences in baseline characteristics between the groups. Although efforts were made to account for differences between groups, unmeasured factors may have contributed prescribing bias as the phenobarbital group had higher baseline direct bilirubin levels and greater incidence of parenteral nutrition at baseline, both of which could have confounded results. Per the nSOFA score, the control group with higher illness severity, yet had better outcomes supported by the decreased direct bilirubin levels and clinical resolution. Despite these limitations, the study provides important insights into the potential lack of efficacy of phenobarbital for neonatal cholestasis. It also highlights the need for further studies with larger sample sizes, better-controlled populations to fully assess safety and efficacy of phenobarbital as a treatment option. Future studies should explore alternative treatments and the influence of nutrition sources.
Lee, Diandra	diandra.a.lee@gmail.com	Memorial Regional Hospital	Impact of Pharmacist-Led Medication Review at Discharge on High-Risk Medicare Patients	In 2020, Medicare patients had the highest hospital readmission rate, at 17.0 per 100 index admissions. Research shows that about 20% of readmissions are medication-related. Older adults often face unresolved medication therapy issues at discharge, leading to non-adherence, poor management of comorbidities, and increased readmission risk. Medication reconciliation can address these gaps, and the Joint Commission supports involving pharmacists in this process. Transitions of Care pharmacists play a vital role in implementing medication interventions during these transitions. This study evaluated the impact of pharmacist-led discharge medication reviews on high-risk Medicare patients in a large teaching hospital.	This was a retrospective evaluation comparing two groups of high-risk Medicare All-Cause patients discharged between November 1, 2023, and May 31, 2024: those who received a pharmacist-led discharge medication reconciliation review and those who did not. Patients were included if they were 65 years of age or older, were admitted for at least 24 hours, and were classified as high-risk, defined as having an Inpatient (IP) Readmit score of 24.1 or greater. Patients were excluded if they were incarcerated, received comfort measures or hospice care, were discharged to another facility within the healthcare system, were deceased, or left against medical advice (AMA). Subsequent readmission encounters within a 30-day time frame were also excluded. Data collection was conducted through a review of the patients' electronic medical records. The primary endpoint is the number of medication therapy problems identified at discharge. Secondary endpoints include the number of accepted and rejected pharmacy interventions, and 30-day readmission rates. The study included 288 patients and made use of descriptive statistics, chi-squared tests, and unpaired t-tests for evaluation of primary and secondary outcomes.	Of 288 eligible patients, 197 received a pharmacist-led medication review at discharge (intervention group), 91 patients did not (comparator group). Baseline characteristics were well balanced between groups, suggesting that observed differences were unlikely due to patient-specific factors. In the intervention group, 119 pharmacist-led interventions were identified, with 90 interventions (75.6%) accepted and implemented before discharge, and 29 that were declined. In the comparator group, 64 MTPs were identified retrospectively. The most common MTPs in the intervention group included medication additions (33.6%), medication removals (32.8%), and dose adjustments (21.8%). In the comparator group, the most frequent MTPs were medication additions (28.1%), dose adjustments (20.3%), and medication omissions (18.8%). Thirty-day readmission rates were similar between groups: 34.7% in the intervention group versus 35.9% in the comparator group (p = 0.923). However, the intervention group had a lower average inpatient (IP) Readmit score of 25% compared to 36% in the comparator group, a difference approaching statistical significance (p = 0.056). Additionally, admission medication reconciliation by Pharmacy was completed in 87.8% of patients in the intervention group, versus 72.5% of patients in the comparator group.	This study assessed the impact of pharmacist-led discharge medication reviews on high-risk Medicare patients, focusing on MTP identification and resolution, and 30-day readmission rates. Although no statistically significant difference in readmission rates was observed, the intervention demonstrated clinical value by supporting interdisciplinary decision-making, optimizing medication regimens, and enhancing transitions of care.
Lee, Won	won6375@hotmail.com	UF Health Jacksonville	Risk Factors for Developing Hypoglycemia in Hospitalized Patients	Iatrogenic hypoglycemia (blood glucose level of ≤ 70 mg/dL) is a critical and potentially dangerous complication associated with several medications used to treat diabetes mellitus, most notably sulfonylureas and insulin, which is extensively used in inpatient healthcare settings. Risk factors for iatrogenic hypoglycemia include advanced age, existing comorbidities, diabetes classification, a history of hypoglycemic events, increased body mass index, and the treatments administered for hyperglycemia. The primary aim of this study is to specifically identify risk factors most associated with the development of hypoglycemia.	This study is designed as a single-center, retrospective observational analysis focusing on patients who were admitted and have received at least two doses of basal insulin and experienced hypoglycemic events at UF Health Jacksonville from July 2013 to July 2024. Eligible patients for this study will be those aged between 18 and 89 years who have been hospitalized for more than 24 hours and have received at least two doses of basal insulin during their stay. Additionally, only those experiencing their first index event of hypoglycemia will be included in the analysis. Random list of 2000 patients were screened and 130 patients were identified. Comparator group of 130 patients were randomly assigned from the screened patient list.	A total of 260 patients were included, with 130 in the hypoglycemia group and 130 in the comparator group. Baseline characteristics were similar between groups, except for BMI (25.8 vs. 32.5 kg/m^2, P<0.001). Medical histories were comparable, aside from a higher prevalence of prior hypoglycemia (12.3% vs. 1.5%, P=0.001) and lower median eGFR (48 vs. 60 mL/min/1.73 m^2, P=0.003) in the hypoglycemia group. This group also received more NPH insulin (23.1% vs. 10%, P=0.008) and 70/30 mix insulin (20.8% vs. 10%, P=0.025) during admission. Prior to hypoglycemic events, patients were NPO in 6.2% of cases, and 13.8% had diet order changes within 12–24 hours. Length of stay was significantly longer in the hypoglycemia group (11.1 vs. 4.8 days, P<0.001), while mortality was higher but not statistically significant (3.8% vs. 0.8%, P=0.213).	Based on our findings, several contributing risk factors for hypoglycemia in hospitalized
Lehn, Rachel	rgllehn@gmail.com	Sarasota Memorial Hospital	Outcomes of patients with severe alcohol withdrawal treated with phenobarbital with/without benzodiazepines vs benzodiazepines alone in the emergency department	Recent guidelines suggest using phenobarbital in addition to benzodiazepines over benzodiazepines alone in adult patients in the emergency department (ED) with moderate to severe alcohol withdrawal syndrome (AWS). However, this recommendation is noted to be supported by "low to very low certainty of evidence," which includes mixed results and is limited by low rates of severe AWS, where benzodiazepine resistance may occur. This study aims to compare outcomes of patients treated in the ED for severe AWS with phenobarbital with or without benzodiazepines versus benzodiazepines alone.	This was a retrospective cohort study conducted in the EDs of two community hospitals under a single healthcare system. This study evaluated adult patients treated in the ED for severe AWS, defined as Clinical Institute Withdrawal Assessment–Alcohol Scale (CIWA) score ≥20, who received at least one dose of phenobarbital or a benzodiazepine from May 2022 through February 2025. Patients were excluded if they had concurrent withdrawal from other substances, were discharged from the ED, or met hospital-defined criteria for intensive care unit (ICU) admission independent of AWS prior to AWS treatment. Only the first visit was included for patients with multiple admissions to the ED for AWS. Patients were classified into two groups based on the treatment administered: the phenobarbital with or without benzodiazepines group and the benzodiazepine only group. The primary outcome was direct ICU admission. Secondary outcomes included intubation within 24 hours due to AWS, hospital and ICU lengths of stay, and use of vasopressors, adjunct medications for AWS, and physical restraints in the ED. Data was collected via manual chart review of the electronic medical record and stored using REDCap. Based on a prior study of patients treated in the ED for AWS, to achieve 80% power with a two-sided significance level of 5%, 74 patients per group were required to detect a 17% difference in ICU admission rates between groups. Outcomes were analyzed using Chi-squared or Fisher exact tests for categorical variables and Mann-Whitney U for continuous variables.	A total of 148 patients were included: 74 patients per group. The majority of patients were males with a median age of 51 years. Total benzodiazepine dose did not differ between groups (7.0 vs 4.5 mg lorazepam equivalents), and the median total weight-based dose of phenobarbital was 4.2 mg/kg of total body weight in the phenobarbital group. Initial CIWA scores were similar between groups (19.5 vs 20), however maximum CIWA score in the ED was higher in the phenobarbital group (29.5 vs 23, p<0.001). Direct ICU admission was higher in the phenobarbital group (68.9% vs 10.8%, p<0.001). The phenobarbital group also had higher rates of intubation within 24 hours due to AWS (12.2% vs 1.4%, p=0.018), adjunct medication usage for AWS (31.1% vs 14.9%, p=0.019) and physical restraints (23.0% vs 1.4%, p<0.001) in the ED. Hospital LOS was longer in the phenobarbital group (4.39 vs 3.02 days, p=0.015), but ICU LOS did not differ between groups (2.00 vs 2.40 hours).	patients were identified at our institution. Patient-related factors include lower BMI and
Leith, Briana	briana.leith@leehealth.org	Lee Health- Gulf Coast Medical Center	Adjunctive phenobarbital effects on benzodiazepine dosing in critically ill alcohol withdrawal patients	Alcohol use disorder (AUD) is a chronic disorder defined by uncontrolled alcohol intake that can interfere with daily functioning and lead to a multitude of poor health outcomes. Hospitalized patients with AUD are at risk of developing alcohol withdrawal syndrome (AWS), which is associated with increased hospital length of stay (LOS), mortality, and costs. The Clinical Institute Withdrawal Assessment for Alcohol (CIWA-Ar) is a validated and widely used scale that classifies the severity of AWS based on the intensity of 10 associated symptoms. Each symptom is scored on a scale of one to seven with higher scores indicating greater severity. Benzodiazepines (BZDs) have shown to decrease the incidence of tremors, delirium, and seizures in the presence of AWS and are considered first-line treatment. Phenobarbital, a barbiturate with inhibitory effects at gamma-aminobutyric acid (GABA) receptors, has been proposed as an alternative or adjunct to BZDs in the management of AWS. Phenobarbital's long half-life of 53 to 118 hours provides a pharmacokinetic advantage in treating AWS by maintaining stable blood levels and reducing the need for frequent dosing. This additional therapy minimizes reliance on BZDs, lowering the risk of over-sedation, respiratory depression, delirium, and BZD dependence. Additionally, treatment is simplified treatment and hospital LOS is potentially shortened. Several studies support phenobarbital as an adjunct to BZDs for managing AWS in critically ill patients. Compared to a BZD protocol where lorazepam dosing was guided by CIWA-Ar scores, a phenobarbital protocol was associated with decreased length of intensive care unit (ICU) and hospital stays, and decreased incidence of mechanical ventilation in patients admitted to a 2 medical ICU with AWS. The addition of phenobarbital to lorazepam therapy demonstrated significantly shorter median treatment duration and achieved a greater reduction in CIWA-Ar scores from baseline compared to lorazepam alone. The aim of this research project was to assess the impact of the addition of phenobarbital to an ICU alcohol withdrawal orderset between patients treated for AWS utilizing the orderset before and after the addition of adjunct phenobarbital.	This IRB-approved, retrospective cohort study was conducted at a multi-site community health system. Patients admitted to the ICU and treated with the ICU AWS Orderset prior to the addition of phenobarbital to the orderset (n = 100) were compared with a post-addition cohort (n = 59). Patients were included if they were treated for AWS utilizing the ICU AWS Orderset. Patients in the post-addition cohort were excluded if they did not have phenobarbital ordered utilizing the ICU AWS Orderset. The primary outcome was the average total BZD dose per day during the first 14 days of ICU AWS Orderset use. Secondary outcomes included ICU and hospital LOS, and average BZD dose per day for the first 14 days of ICU admission.	A total of 159 patients were included with 100 in the pre-addition cohort and 59 in the post-addition cohort. The study population had similar baseline characteristics; most patients were male with an average age of 54 years old. The average total BZD dose per day during the first 14 days of ICU AWS Orderset use was significantly higher for the pre-addition cohort compared to the post addition cohort (34.64 +/- 36.92 mg vs. 24.1 +/- 42.22 mg , P = 0.01). The median ICU LOS for the pre-addition cohort was 4 days [2-6], compared to 7 days [4-10] for the post-addition cohort 3 (P < 0.01). The median hospital LOS for the pre-addition cohort was 8 days [5-14], compared to 12 days [8-19] for the post-addition cohort (P = 0.03). The average total BZD dose per day during the first 14 days of ICU admission was significantly higher for the pre-addition compared to the post-addition cohort (42.13 +/- 39.87 mg vs. 22.35 +/- 29.42 mg, P < 0.01).	an eGFR less than 60 mL/min/1.73 m^2. Medication-related risks involve the use of NPH
Lessaint, Rebecca	rebeccalessaint@gmail.com	AdventHealth Sebring	Heparin: Evaluating time to reach therapeutic aPTT in obese vs. non-obese patients	Heparin is widely used in the management of thromboembolic events, atrial fibrillation, and acute coronary syndromes due to its rapid onset and reversibility. However, dosing in obese patients poses unique challenges due to altered pharmacokinetics and pharmacodynamics, potentially delaying the achievement of therapeutic activated partial thromboplastin time levels. Many institutions use nurse driven protocols to guide heparin dosing for safety purposes. Nevertheless, concerns remain regarding the applicability of these weight-based protocols in obese populations, as they may not adequately account for physiological differences, potentially impacting clinical outcomes. This creates controversy in whether it is appropriate to use the patient's actual body weight or should adjusted body weight be utilized once a patient's BMI exceeds a certain threshold. The primary aim of this study is to evaluate time to reach therapeutic aPTT in obese and non-obese patients and analyze whether a difference exists.	A retrospective cohort study was conducted across three facilities within the same health system from October 1st, 2024, to December 31st, 2024. Data was collected through electronic chart review. Adult patients who received therapeutic-dose intravenous heparin for indications such as venous thromboembolism, acute coronary syndrome, or atrial fibrillation were eligible for inclusion. Patients were categorized by body mass index into non-obese and obese groups, with additional subgroup analyses for patients with BMI ≥40 and ≥50. Exclusion criteria included prophylactic dosing, heparin administration for less than 24 hours, administration of heparin outside of protocol, pregnancy, liver disease, critical illness, anti-Xa monitoring, and absence of documented therapeutic aPTT before discontinuation. The primary endpoint was the time required to reach therapeutic aPTT. Secondary endpoints included the incidence of bleeding and the time to therapeutic aPTT within BMI ≥40 and ≥50. Statistical analysis was performed using the Mann-Whitney-Wilcoxon test and difference of means.	A total of 163 patients met the inclusion criteria and were analyzed, with 104 categorized as non-obese and 59 as obese. Subgroup analyses were conducted for patients with BMI ≥40 (n=17) and BMI ≥50 (n=3). The median time to achieve therapeutic aPTT was shorter in the obese group 19.52 hours compared to the non-obese group 20.69 hours; difference of means (1.17 [95% CI, -3.08-5.42]). This difference was not statistically significant (p-value =0.737). Similarly, subgroup analyses revealed no significant delays in time to therapeutic aPTT among patients with BMI ≥40 or ≥50 with p-values of (0.432) and (1.0), respectively. The overall incidence of bleeding events was low and comparable between groups, occurring in 2.88% of non-obese patients and 1.69% of obese patients. Due to the small number of bleeding events and subgroup sizes, statistical comparisons for safety outcomes were limited, but no clinically meaningful differences were observed.	and 70/30 mix insulin, while nutritional factors include nothing by mouth (NPO) status

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Li, Sandy	sanli@mhs.net	Memorial Hospital Pembroke	Evaluating the Impact of an Inpatient Pharmacist-Driven Glycemic Control Tool Post-Episode in Noncritical Adults with Type 2 Diabetes Mellitus	According to the Centers for Disease Control and Prevention (CDC), over 38 million Americans have been diagnosed with diabetes, with type 2 diabetes mellitus (T2DM) accounting for 90 to 95% of these cases. Hospital admissions for adults ages 18-64 diagnosed with T2DM account for longer length of stay (LOS), higher cost, and an increased inpatient mortality rate. Pharmacists in the hospital playa crucial role in patient care by working collaboratively with the interdisciplinary team. Clinical pharmacists may play an impactful role in optimizing glycemic control through modification of therapeutic regimens, formulary management, and supporting glycemic management programs. This quality improvement initiative aims to optimize inpatient glycemic control in adults with type 2 diabetes mellitus through targeted pharmacist interventions following glycemic events.	This was a retrospective, single-center quality improvement project conducted from January 2024 to February 2025 at a community-based, not-for-profit hospital. The study evaluated 100 hospitalized patients with type 2 diabetes who experienced a glycemic episode (hyperglycemia or hypoglycemia) while admitted to inpatient units with an assigned rounding pharmacist. The primary objective is to assess the number of interventions before and after the implementation of a pharmacist-driven glycemic management program. The secondary objective will compare the reoccurrences of hyperglycemic and hypoglycemic events before and after program implementation. Descriptive statistics were used to analyze both primary and secondary objectives. Participants will be identified through the hospital based electronic medical record (EMR). Patients who experience hyperglycemia or hypoglycemia will be included. The implemented interventions will involve collaboration amongst the multidisciplinary inpatient team to optimize glycemic management for included patients. The incorporation of this pharmacist-led glycemic management program may decrease the occurrence of glycemic events in an inpatient setting at a community-based hospital.	Between January 2024 and February 2025, 100 patients were included in the analysis, with 50 patients in the pre-intervention group and 50 in the post-intervention group. Following the implementation of the glycemic management tools, including In-Basket alerts and SmartPhrases, the number of pharmacist interventions increased by an average of 75%. Regimen adjustment was the most commonly documented intervention type. Moreover, the recurrence of both hyperglycemic and hypoglycemic events declined in the post-intervention group compared to the pre-intervention group, suggesting an overall improvement in glycemic control.	and changes in diet orders within 12-24 hours.
Lobo, Ethan	ethan.a.lobo@gmail.com	Boca Raton Regional Hospital	Influence of Prescription Medication Dispensing Kiosk Inventory Management and Antimicrobial Stewardship on Prescribing in Urgent Care Centers	In 2019, prescription medication dispensing kiosks were implemented within urgent care centers (UCCs) across Baptist Health to enhance patient convenience and access to commonly prescribed medications, including several oral antibiotics. These kiosks offered the ability to increase primary medication adherence and improve patient satisfaction by reducing barriers to prescription pickup. Later that same year, an outpatient-facing antimicrobial stewardship program (ASP) was established to promote optimal antimicrobial use through education and policy interventions. Over the following years, the ASP worked to continuously enhance the kiosk formulary. Specific stewardship-driven changes included the addition of shorter-duration antibiotic courses aligned with clinical guidelines. Other ASP interventions targeted towards UCCs included provider education campaigns, implementation of clinical decision-support tools, and prescriber audit and feedback aimed at reducing unnecessary antibiotic exposure. This study aims to investigate the cumulative impact of these ASP activities on outpatient electronic prescribing (eRx) for antibiotics from UCCs.	A retrospective quality improvement project was undertaken to compare antibiotic eRx from UCCs in January - June 2019 versus January - June 2024. A variety of ASP interventions were implemented between the pre- and post-periods, including kiosk inventory updates (e.g., shorter durations, additions, deletions), best practice advisory pop-up alerts, and provider education. To assess prescribing patterns, all eRx from 20 UCCs were identified through a Cerner Millennium Discern Reporting Portal 2.0 report, which included 12 antibiotics. Prescriptions for oral solutions and one-time doses were excluded. The primary outcome of this analysis was antibiotic days of therapy (DOT) per eRx. Secondary outcomes included DOT volume by drug, eRx volume by drug, DOT/eRx by drug, and eRx routed to a kiosk versus community pharmacy. The impact of ASP interventions was estimated by calculating the difference in actual 2024 DOT/eRx versus what 2024 DOT would have been at the 2019 DOT/eRx rate, then extrapolating it to one year. Institutional review board approval was granted.	A total of 327,597 DOT were prescribed in 38,856 eRx within the pre-period, and 373,662 DOT were prescribed in 47,774 eRx within the post-period (8.43 DOT/eRx versus 7.82 DOT/eRx, p = 0.0058). The greatest changes in eRx volume were observed for cefdinir (447 vs 2,441 eRx, a 546% increase), doxycycline (2,584 vs 7,275 eRx, a 282% increase), amoxicillin-clavulanic acid (10,940 vs 13,862 eRx, a 127% increase), and ciprofloxacin (2,955 vs 1,038 eRx, a 65% decrease). The greatest changes in DOT/eRx were observed for nitrofurantoin (7 to 5.1 DOT/eRx, a 27% reduction), ciprofloxacin (8.2 to 6.4 DOT/eRx, a 23% reduction), and cefuroxime (9.4 to 7.6 DOT/eRx, a 20% reduction). Applying 2019 DOT/eRx rates to 2024 eRx numbers, an estimated excess of 68,766 DOT would have been prescribed in calendar year 2024. In the pre-period, 8,640 of 38,856 eRx were sent to a kiosk, while in the post-period, 25,414 of 47,774 eRx were sent to a kiosk (22% vs 53%, p < 0.0001).	ASP efforts to optimize antibiotic eRx practices in UCCs contributed to a reduction in antibiotic DOT/encounter prescribed to patients, coinciding with increased kiosk use and changes in eRx volumes in the post-period of the study.
Loiars, Matthew	matthew.loiars@hf.org	Health First Holmes Regional Medical Center	Antibiotic use and outcomes in chronic obstructive pulmonary disease (COPD) exacerbations	According to the 2024 Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines, chronic obstructive pulmonary disease (COPD) has a global impact of 3 million deaths annually. Antibiotics are the mainstay of treatment for moderate to severe COPD exacerbations based on clinical presentation, such as increased dyspnea and increase or purulence of sputum. When indicated, antibiotics can reduce hospital duration and treatment failure through shortening recovery time and reduced risk of early relapse. The decision on antibiotic prescribing is multifactorial; these factors may include medication allergy or intolerance, known possible adverse reactions, and local resistance patterns. Baalbaki and colleagues compared azithromycin to beta-lactams for COPD exacerbations and found that the beta-lactam group posed a higher risk of treatment failure. A 2021 study examined antibiotic selection on quality of life (QOL), defined as reduced exacerbations and unwanted events, and found that prophylactic macrolides improved QOL in comparison to fluoroquinolones and tetracyclines. The primary objective of this study was to assess the resolution of COPD exacerbations requiring hospitalization regarding different antibiotic classes prescribed.	This was an Institutional Review Board-approved, multicenter, retrospective observational study that was conducted at a four-hospital health-system. Patients were included in the study if they were 18 years of age or older, diagnosed with COPD exacerbation on admission, and received azithromycin, levofloxacin, doxycycline or a beta-lactam antibiotic within the first day of presentation between February 2019 and September 2024. Patients were excluded if they had concurrent infections, incorrectly prescribed bronchodilators based on guideline directed medical therapy (GDMT), received more than one type of antibiotic for greater than or equal to 48 hours during hospitalization, were prescribed antibiotics on discharged that were not previously described, was a direct admission to an intensive care unit (ICU), was on mechanical ventilation on day of admission, expired within 24 hours of admission, or were pregnant or breastfeeding. The primary outcome was clinical worsening defined by antibiotic escalation/addition or steroid escalation. The secondary outcomes were 30-day readmission rates, hospital length of stay (LOS), and total days of therapy (DOT). Clinical data such as antibiotic and steroid dose, frequency, administrations, and first administration was collected by VigiLanz® reporting. Manual chart review was conducted to determine if a singular antibiotic agent was utilized for the first 48 hours from first administration. Using JMP Pro 18, Pearson-Chi-Square and student's t test were performed to analyze clinical worsening, 30-day readmission rates, hospital LOS, and total DOT. A previous study by Arensman and colleagues was identified to reference the sample size to evaluate noninferiority regarding clinical worsening, using an α value of 0.05 and a β value of 0.2 (80% power).	A total of 2,390 patients were identified for review based on the custom report, with 1,054 excluded after chart review. Patients were screened reverse chronologically using quota convenience sampling, resulting in 114 patients for analysis. Included patients were divided into four separate groups (azithromycin 31 patients, beta lactam 25 patients, doxycycline 31 patients, and levofloxacin 27 patients). Clinical worsening occurred in 9 azithromycin patients (29%), 7 doxycycline patients (23%), 5 levofloxacin patients (19%), and 6 beta-lactam patients (24%). The Pearson-Chi-Square value was 0.911 with a p value of 0.8227, indicating there is no statistically significant association between the antibiotic groups and the likelihood of escalation. Secondary outcomes that were statistically significant included the average cumulative inpatient and outpatient prednisone milligram equivalents with beta-lactams compared to azithromycin, which was 252 milligrams higher (p = 0.0161). DOT was statistically different for azithromycin compared to all of the other antibiotics: 2.94 days shorter than beta-lactams (p < 0.0001), 2.42 days shorter than doxycycline (p = 0.0002), and 1.69 days shorter than levofloxacin (p = 0.0119).	This study concluded that there were no associated differences between groups for clinical worsening. While the study did not reach the threshold for statistical significance in each group (51 per group), this study showed a trend that narrow spectrum antibiotics, such as doxycycline and azithromycin, have similar outcomes as more broad spectrum antibiotics. Strengths of this study include its multicenter design, broad definition of beta-lactams, comprehensive exclusion criteria, and duration of the study. This study has several limitations. Its retrospective design inherently introduces lack of blinding, and the use of quota convenience sampling may limit the external validity of the findings. Additionally, the small sample size, absence of subgroup analyses for differing severities of COPD and the restriction of readmission data to Medicare patients reduces the generalizability of the results.
Lopez Calderon, Vida	vida.susel@gmail.com	Miami Veterans Affairs Healthcare System	Assessing the Effectiveness of the Miami Veterans Affairs (VA) Transitions of Care Program: Patient Follow-Up with Pharmacists for Anticoagulation Management After Hospital Discharge.	Clinical Pharmacists Specialist (CPPs) within Patient Aligned Care Teams (PACT) are utilized at the Miami VA Healthcare System to manage patients for chronic conditions and anticoagulation after they are diagnosed and initially seen by a primary care. Recently, improvements have been made to the TOC workflow to minimize delays in follow-up care in patients discharge on anticoagulants.	This study will review Computerized Patient Record System (CPRS) for patients on anticoagulation therapy including Direct Oral Anticoagulants (DOACs), warfarin, and parenteral treatments i.e Low Molecular Weight Heparin (LMWH). Data points will be extrapolated pre and post implementation to assess the success of the improved TOC program: Pre-implementation: 11/2023-5/2024 and Post-implementation:8/2024-present. Inclusion criteria: Patients admitted to the Miami VA hospital as an inpatient and discharged to PACT CPPs with a return to clinic (RTC) appointment.Exclusion criteria: Patients discharged to follow-up via DOAC dashboard. Other Discharges: non-VA follow-ups, discharges to Home Based Primary Care, Spinal Cord, Nursing homes/Assisted living facilities, and ER only visits .	Pre-TOC Period Collection: 26% of patients had an RTC appointment scheduled before discharge. However, only 73% of those appointments were completed. A proportion of patients (approximately 10%) did not complete appointments as scheduled. Post-TOC Period Collection: 38% of patients had RTC scheduled before discharge. Notably, the timeliness of follow-up improved, with 92% of appointments being completed as scheduled.	Prior to updated TOC: Patients experienced untimely appointments due to unstandardized ordering of RTC appointment.Post-implementation of TOC: Improvements were observed in the scheduling of RTC, clinic completion rates, and timeliness of appointments.Limitations: The improvements were not as expected, likely due to delayed initiation of TOC updated by Staff.
Lopez, Amanda	alopez4751@gmail.com	HCA Florida Aventura	THE EVALUATION OF THE MEROPENEM PROTOCOL IN HCA FLORIDA AVENTURA HOSPITAL	Meropenem is a broad-spectrum beta-lactam antibiotic part of the carbapenem class. As this antibiotic is part of the carbapenem class, it displays coverage for nosocomial pathogens and maintaining activity against beta-lactamase producing species. Meropenem like other carbapenems remain favorable as doses may increase and generally will remain well-tolerated. However, there are global concerns of increasing rates of meropenem-resistant bacteria, including Enterobacteriaceae, Pseudomonas aeruginosa, and Acinetobacter baumannii. The inappropriate use of Meropenem is a factor leading to multi-drug resistant pathogens that in return prolong length of stay. As hospitals vary on their protocol to prevent Meropenem overuse; previously published studies demonstrate that the lack of a protocol for Merrem leads to high rates of inappropriate use. While other institutions have completely restrict the medication for infectious disease specialist to order. HCA Aventura's Meropenem protocol is more hybrid, allowing all doctors to prescribe Meropenem at a limited dose of 500 mg for 48 hours. While infectious disease doctors are able to prescribe the Merrem for longer durations and higher doses. Under this protocol, pharmacist have the ability to change the duration of days, frequency and approve the order if used for an indication on the protocol.	A retrospective electronic health records review of 150 patients from the date ranges of January 1st 2024 through July 1st 2024 will be extracted from Vigilanz. The patients included in the study were all treated in HCA Aventura, received Meropenem for treatment with or without a consult from Infectious Disease. The primary endpoint of this study will be a composite outcome in which appropriateness of Meropenem verification done by the pharmacist without an ID consult will be evaluated on the following factors: indication, dose, renal adjustment and duration of therapy. Secondary endpoints of the study also include if multidrug resistant organisms developed as a result of the patient started on Meropenem without an infectious disease consult.	Overall composite of 74% while secondary outcomes had p-value of 0.069 however power cannot be established due to sample size.	Medication use evaluations demonstrate the need to routinely revisit protocols instilled in healthcare facilities. The completion of this project demonstrates the areas in which pharmacy staff members along with other healthcare workers within the facility would benefit tremendously from re-education of the protocol.
Louka, Faten	faten.louka@yahoo.com	St. Joseph's Hospital - North	30-Day Readmission due to Gastrointestinal Bleeding: Comparing Twice-Daily Dosing versus Continuous Infusion of Pantoprazole	Current studies comparing intermittent dosing and continuous infusion of proton pump inhibitor therapy conclude that both regimens achieve comparable clinical benefits in treating acute gastrointestinal bleed (GIB); however, studies have shown different outcomes for risk of rebleeding. Hernandez et al. found a 65% reduction in recurrence of GIB in the intermittent bolus group. Leung et al. reported no increase in rebleeding with intermittent dosing, but continuous infusion was associated with a higher rebleeding rate. Inconclusive evidence warrants further investigation. This study aims to assess the 30-day rebleeding risk in patients with upper GIB treated with pantoprazole twice-daily versus continuous infusion.	This is a retrospective, multicenter, cohort study approved by the institutional review board. Study groups included patients admitted to St. Joseph's Hospital, St. Joseph's Hospital – North, St. Joseph's Hospital – South between January 2023 and January 2024. Each patient's medical record was reviewed for administration of intravenous (IV) pantoprazole and endoscopic evaluation. Readmission within 30 days due to rebleed in the upper gastrointestinal (GI) tract was identified through chart review. Patients were eligible for inclusion if they were over the age of 18 with upper GIB and were either on pantoprazole 40 mg IV twice-daily or pantoprazole IV continuous infusion. Patients were excluded if they had acute variceal bleed, liver cirrhosis, reason for readmission other than rebleeding of upper GI tract, experienced acute blood loss from any trauma, and pregnant or breastfeeding women, managed as same-day-service and/or not admitted, refused therapy and/or left against medical advice (AMA), on comfort measures only (CMO) and/or expired during hospitalization. Data was collected from Cerner, de-identified, and maintained confidentially on a data collection form. The primary outcome was to compare 30-day readmission rates due to upper GI rebleeding between patients treated with twice-daily pantoprazole versus continuous infusion. The secondary outcome was to compare cost analysis between intermittent vs continuous infusion pantoprazole dosing strategies to guide hospital utilization and expense.	80 patients were included in the primary analysis. Twice-daily group contained 53 patients and continuous infusion group contained 27 patients. The study found that 30-day readmission due to rebleed of upper gastrointestinal (GI) tract occurred in 3/53 (5.66%) patients in twice-daily group versus 0/27 in continuous infusion group with mean difference of 5.66% (95% CI: (-0.005609, 0.11881; P = 0.547). Continuous infusion was found to be six times more expensive than twice-daily dosing.	There was no significant difference in incidence of 30-day readmission due to rebleed of upper gastrointestinal (GI) tract.
Luzardo, Daniela	danielaluzardo16@gmail.com	South Miami Hospital	Optimizing heart failure management in hospitalized patients: a pharmacist-led approach to guideline-directed medical therapy	The American College of Cardiology guidelines recommend that patients with heart failure with reduced ejection fraction (HFrEF) receive treatment with a regimen consisting of four medication classes: angiotensin receptor-neprilysin inhibitor, angiotensin-converting enzyme inhibitor, or angiotensin receptor blocker; beta-blocker; mineralocorticoid receptor antagonist; and sodium-glucose cotransporter-2 inhibitor. The benefits of guideline-directed medical therapy (GDMT) are cumulative, providing the greatest reductions in cardiovascular mortality and hospitalizations when all four medication classes are utilized together at maximally tolerated doses. Despite robust evidence supporting the use of GDMT in patients with HFrEF, it remains underutilized in clinical practice. Research has demonstrated that pharmacist-led initiatives have significantly increased the prescribing and optimization of GDMT in this patient population. This quality improvement project evaluated the impact of pharmacist-led implementation of a medication assessment workflow and clinical monitoring template intended to guide GDMT optimization in hospitalized adults with a new diagnosis and/or acute exacerbation of HFrEF.	This was a two-phase single-center retrospective study evaluating the impact of pharmacist-driven medication assessment workflow and clinical monitoring template implementation at a community hospital. Phase I was from January 1st, 2024 to March 31st, 2024 and Phase II was from January 1st, 2025 to March 31st, 2025. Adults aged 18 years or older admitted for 24 hours or more with a new diagnosis and/or an acute exacerbation of HFrEF and a left ventricular ejection fraction of less than or equal to 40% confirmed by echocardiogram within the previous 12 months were eligible for inclusion. Patients were excluded if they were pregnant, incarcerated, had a history of organ transplantation, an active hematologic or oncologic malignancy, or were receiving comfort care measures or hospice care. A report of patients with admission International Classification of Diseases, 10th revision (ICD-10) codes related to HFrEF for the previous 24 hours was generated via Cerner Discern Analytics 2.0® report titled "Transitions of Care High Risk Patients". The primary investigator performed chart reviews Monday through Friday, screened patients for inclusion eligibility, and used the pharmacist-led workflow diagram to identify potential interventions that could be recommended to providers. The primary outcome was defined as the proportion of patients with at least one documented intervention that led to the optimization of GDMT. Secondary outcomes included the total number of documented provider and pharmacist interventions, types of documented pharmacist interventions, modified optimal medication therapy (mOMT) score at discharge, proportion of patients on all four medication classes of GDMT at any dose, hospital length of stay (LOS), and 30-day hospital readmission. This project was deemed exempt from Institutional Review Board review.	A total of 691 patient charts were reviewed – 325 in Phase I and 366 in Phase II. Ultimately, 92 patients were included in Phase I and 66 in Phase II. Primary outcome of proportion of patients with documented GDMT interventions increased from 36% in Phase I to 58% in Phase II, reflecting a 56% relative increase (p = 0.01). A total of 54 interventions were documented in Phase I, of which only one involved a pharmacist. For phase II, there was a total of 84 documented interventions, 30 being pharmacist-led interventions. Among pharmacist interventions in Phase II, 23 were initiations of any GDMT medication and 7 were related to dose or frequency optimization. At discharge, 10% of patients in Phase I were prescribed all four GDMT medication classes at any dose, compared to 27% in Phase II (p = 0.004). Regarding mOMT scores at discharge, 74% of Phase I patients and 52% of Phase II patients had suboptimal scores (p = 0.004); 24% and 46%, respectively, had acceptable scores (p = 0.01); and 2% and 3% had optimal scores (p = 0.74). Median hospital LOS did not differ significantly between Phase I and Phase II (4 versus 5 days, p = 0.41). Data for 30-day hospital readmission is pending.	Implementation of a pharmacist-led clinical monitoring template, paired with a structured medication assessment workflow, significantly enhanced targeted interventions, and optimized GDMT for patients with HFrEF prior to hospital discharge.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Machado, Rachel	rmachado2393@yahoo.com	Dr. P. Phillips Hospital	Evaluating the Omission of Apixaban Lead-in Period after Parenteral Anticoagulation in Venous Thromboembolism Treatment	Venous thromboembolism affects approximately 1 in 12 individuals throughout their lifetime and carries a significant burden on healthcare systems secondary to complications such as recurrence, post-thrombotic and pulmonary embolism syndromes. Direct oral anticoagulants (DOAC) are the preferred agents for VTE treatment due to their similar efficacy and more favorable safety profile compared to vitamin K antagonists (VKA). The recommended apixaban dosing for VTE treatment is a lead-in period of 10 mg orally twice daily for 7 days, followed by a maintenance dose of 5 mg orally twice daily. There is limited literature evaluating clinical outcomes when the apixaban lead-in dose is omitted following extended parenteral anticoagulation of at least 48 hours. An observational multicenter real-world study evaluated subtracting parenteral lead in days from total lead-in dose and compared it to a full lead-in dose and found this approach was safe and effective. The purpose of this study is to determine if the omission of lead-in dosing of apixaban after at least 48 hours of parenteral anticoagulation results in adverse clinical outcomes.	This is a multi-centered retrospective chart review conducted between February 2021 and October 2024 to evaluate treatment failure associated with omitting the lead-in dose of apixaban after receiving at least 48 hours of parenteral anticoagulation. Treatment failure was defined as a composite of new occurrence of thromboembolism, all-cause mortality, or thrombotic complications occurring within three months of initial VTE diagnosis. Included patients were divided into two groups; the lead-in group are those who received a lead-in dose of apixaban 10 mg twice daily for 7 days followed by maintenance dose of apixaban 5 mg twice daily, and the non-lead in group had the apixaban 10 mg dose omitted and directly started on 5 mg twice daily.	A total of 71 patients met inclusion criteria for our study. Of those, 53 received a lead-in dose and 18 had the lead-in dose omitted. Among these patients 45.1% were white, 42.3% male, with an average age of 67 years and BMI of 28.6 kg/m2. Our primary composite outcome of treatment failure occurred in 9.4% of patients in the lead-in group and 16.7% in the non-lead-in group which did not reach clinical significance (p=0.4). Treatment failure was primarily due to all-cause mortality within 3 months in the lead-in group. However, in the non-lead-in group all-cause mortality and new thromboembolism occurred at equal rates. In our study, only one occurrence of major bleeding was documented, which was in the lead-in group (p=1.0).	In adult patients with new VTE, omitting the lead-in dose of apixaban following prolonged parenteral anticoagulation did not significantly increase the composite outcome of treatment failure compared to patients who received lead-in dosing. Large randomized controlled trials should be conducted to confirm these results given the retrospective nature and limited sample size of our study.
Mahmud, Noshin	noshinmahmud55@gmail.com	St. Joseph's Hospital	Implementing Standardized Pharmacy Intervention Documentation: Differentiating between Interventions vs. Non-Interventions and Monitoring Cost Savings: Phase IIa	Pharmacists' interventions play a vital role in preventing medication errors, optimizing treatment plans, and improving patient outcomes. Numerous studies have demonstrated that these interventions contribute to shorter hospital stays and reduced readmission rates. Documenting interventions also enhances continuity of care among healthcare providers and supports the long-term monitoring of cost savings. Currently, pharmacists use the electronic health record (EHR) system, Cerner, to document interventions. The "Clinical Intervention Form" in Cerner includes fields for intervention type, associated orders, prescriber response, and pharmacist intervention time. During Phase I of the study, this form was simplified and customized to improve documentation compared to non-EHR methods. However, despite the standardized format, the consistency and uniformity of intervention documentation remain uncertain. Defining what constitutes a pharmacist intervention is essential to clarify their role in patient care. Pharmacists are responsible for managing medication therapy, ensuring safe and effective use, providing patient education, and collaborating with healthcare teams. They also contribute to public health by promoting disease prevention. Since documenting interventions is a key responsibility, identifying which interventions should be standardized will promote consistency and enable a more accurate assessment of their impact. The purpose of this study is to implement standardized documentation practices for pharmacy interventions to enhance efficiency and accuracy within our healthcare system. Currently, the lack of uniform guidelines leads to data variability, making it difficult to evaluate the true impact of interventions. By establishing clear documentation standards, we aim to monitor consistency, improve assessment accuracy, and evaluate cost savings. As part of this study, we will review current pharmacy interventions, identify specific interventions for standardization, and track documentation consistency over time. The goal is to streamline the documentation process, ensure reliable intervention assessments, and generate meaningful insights into cost savings.	This is a single-center observational study with both retrospective and prospective components. Data on pharmacist-documented interventions were collected from September to November 2024 using Tableau. During the implementation period, I conducted multiple feedback sessions with pharmacists. Following the go-live in December, I organized educational sessions to ensure understanding of the newly defined intervention categories. December served as a washout period, providing pharmacists the opportunity to offer further feedback. Prospective data collection took place from January to March 2025.	After reviewing the data, we observed meaningful shifts in the types and frequency of pharmacist interventions following the implementation of a standardized documentation policy. As expected, interventions that were more policy-driven such as "Pharmacy to dose" (p = 0.0016), "Order clarification" (p = 0.0015), "Renal dose adjustment" (p = 0.0001), and "IV to PO" (p = 0.0001) decreased significantly. "Therapeutic duplication," another policy-associated category, did not show a statistically significant change (p = 0.2236), though the mean post-intervention number remained high. On the other hand, non-policy associated interventions showed a noticeable increase. Interventions such as "Dose too high" (p = 0.0253), "Drug-disease interaction" (p = 0.0122), "Optimize duration" (p = 0.0138), and "Optimize frequency" (p = 0.0051) all demonstrated statistically significant increases. Although the total number of interventions decreased significantly from a mean of 1731.0 to 1035.3 (p = 0.0063), this drop may not be as impactful as it seems. Many of the policy-driven interventions that declined such as renal dose adjustments and IV to PO conversions can still be tracked through other systems like Cerner. Because those interventions can now be monitored and measured separately, their decrease in this dataset may reflect a shift in documentation location rather than a true reduction in pharmacist activity. Standardized documentation allowed for consistent identification and reporting of key clinical interventions that drive cost avoidance. In evaluating the impact of interventions, significant net new cost avoidance was observed across several categories. "Dose too high" interventions were the key driver of cost savings, with cost avoidance exceeding $500,000, increasing from $254,059.20 pre-intervention to $558,116.40 post-intervention, resulting in a net new avoidance of $304,056.20. "Drug-disease interaction" interventions also contributed meaningfully, with a net gain of $28,955.24, rising from $22,650.47 to $51,605.71. "Optimize duration" interventions led to an additional $3,276.72 in cost savings, while "Optimize frequency" interventions added $6,688. For "Untreated indication" interventions, cost avoidance increased by $21,124.88, from $20,846.40 to $41,971.20. These results highlight that "Dose too high" was a major financial driver among the interventions, while other categories also contributed meaningfully to the overall cost savings achieved through pharmacist-led interventions.	A statistically significant decrease was observed in the total number of interventions following implementation. While this was not the desired outcome, it was expected given the shift in documentation practices. Specifically, consult-based documented interventions showed a statistically significant decrease, reflecting a reduction in commonly captured intervention types. In contrast, less commonly documented interventions demonstrated a statistically significant increase, suggesting improved capture of a broader range of clinical interventions under the new standardized process. The most impactful interventions included addressing untreated indications, streamlining therapy, adjusting inappropriate doses (both too high and too low), optimizing monitoring, and preventing drug-disease interactions. These interventions not only improved patient safety and therapeutic outcomes but also contributed significantly to the total cost avoidance of $1.2 million, highlighting the financial and clinical value of pharmacist-led care.
Mahoney, Madeline	maddie.mahoney.usc@gmail.com	Bay Pines VA Healthcare System	Evaluation of pre-emptive bleed risk reduction interventions by a pharmacist-led anticoagulation clinic in a Veterans Hospital	Anticoagulation is a cornerstone of therapy for the prevention and treatment of thrombosis and thromboembolic complications across various conditions. In the United States, over 6 million patients receive anticoagulants, placing them at an elevated risk for bleeding, which is associated with significant morbidity and mortality. In addition to the risks from anticoagulation, patients may use other medications which increase their risk for bleeding such as antiplatelets and nonsteroidal anti-inflammatory drugs (NSAIDs). The concurrent use of anticoagulants and antiplatelet agents is frequently observed in patients with comorbid cardiovascular conditions, such as coronary artery disease (CAD), atrial fibrillation (AF), and venous thromboembolism (VTE). Emerging evidence from recent clinical trials has brought updated guideline recommendations to reduce the co-prescribing of oral anticoagulants and antiplatelets when possible. Societal guidance does not recommend routine use of antiplatelets concomitantly with therapeutic anticoagulation except in situations where the benefit of additional antiplatelet therapy is known or highly likely to be greater than the risks of harm from bleeding. Additionally, careful monitoring of over-the-counter medication use is essential, as studies indicate that 5.3% to 69% of patients receiving antithrombotic therapy are concomitantly exposed to nonsteroidal anti-inflammatory drugs (NSAIDs), which significantly increases bleeding risk, particularly gastrointestinal bleeding. NSAID use accounts for approximately 30% of hospital admissions due to adverse drug reactions (ADRs), predominantly due to bleeding events. There are circumstances when clinical guidelines may recommend the combination of an anticoagulant with another agent which increases bleed risk, though this risk may be mitigated with careful medication management. Proton pump inhibitors (PPIs) have demonstrated substantial efficacy in preventing upper gastrointestinal ulcers and bleeding in patients receiving anticoagulation in addition to antiplatelet therapy and/or NSAIDs, yet they remain underutilized. Several guidelines indicate that PPI co-therapy reduces hospitalizations for upper gastrointestinal bleeding in patients taking anticoagulants in combination with aspirin, P2Y12 inhibitors, or NSAIDs. Pharmacists play a critical role in decreasing bleed risk in patients on anticoagulation by identifying potential opportunities for antithrombotic de-escalation, minimizing NSAID use, and initiating PPI therapy when indicated. To align with clinical guidelines and reduce adverse outcomes, this project aims to evaluate the impact of pharmacist-led, pre-emptive bleeding risk reduction strategies implemented through an anticoagulation clinic at the Bay Pines VA Healthcare System.	This is a single-center retrospective cohort study conducted at Bay Pines VA Healthcare System. Utilizing CPRS (the electronic health record system), database manager, and population management report, all patients who experienced a major bleed as defined by the population management tool between September 1st, 2023, and August 31st, 2024, were identified and reviewed. A chart review determined if there was a pre-emptive intervention/recommendation by the pharmacist-led anticoagulation clinic aimed to minimize bleed risk regarding the following 4 issues prior to a patient experiencing a bleed: De-escalation of antiplatelet, discontinuation/counseling on NSAID, addition of PPI for gastrointestinal bleed (GIB) risk mitigation in patients continuing antiplatelets or NSAIDs in addition to anticoagulation, de-escalation of anticoagulant. Pre-identified data points were collected and include: demographic data (age, gender), ICD10 code/diagnosis, event date, active anticoagulant, PPI, antiplatelet, or NSAID at time of event, eligibility for intervention prior to bleed, date/mode of intervention, and post-bleed intervention. This data will be analyzed to determine the percentage of patients that had a pre-emptive intervention made, if eligible, prior to a major bleed. Secondary objectives include determining if a pre-emptive intervention made by the anticoagulation clinic was acted upon, and if the medical team addressed the 4 issues in the primary objective within 1-month post-bleed. The overall aim of this project is to determine how often the pharmacist-led anticoagulation clinic is acting pre-emptively to reduce bleed risk, how often the interventions/recommendations are acted upon, and how often post-bleed follow-up recommendations are addressed.	Results and conclusions will be presented at the Florida Residency Conference	Results and conclusions will be presented at the Florida Residency Conference
Maldonado Yanez, Brenda	brenda.maldonadoyanez@moffitt.org	H. Lee Moffitt Cancer Center and Research Institute	Efficacy and safety of bezlotoxumab in cancer patients with primary Clostridioides difficile infections	Clostridioides difficile infection (CDI) is associated with high recurrence rates, leading to increased mortality and prolonged hospitalizations. Bezlotoxumab, a monoclonal antibody targeting toxin B, has demonstrated efficacy in reducing recurrent CDI (rCDI) in clinical trials. However, its role in primary CDI remains underexplored, particularly in high-risk populations such as immunocompromised cancer patients. Subgroup analyses from the MODIFY trials suggest a modest reduction in rCDI rates among primary CDI patients treated with bezlotoxumab (13.5% vs. 20.9% with placebo; absolute difference: -7.4%). Despite these findings, further evaluation is needed in immunocompromised populations. Current Infectious Diseases Society of America (IDSA) guidelines suggest bezlotoxumab may benefit immunocompromised patients with primary CDI, though the broad definition of immunocompromise limits guidance on patient selection. This study evaluates the efficacy and safety of bezlotoxumab in immunocompromised cancer patients with primary CDI, aiming to contribute to the literature and clarify which patients are most likely to benefit from bezlotoxumab therapy.	This was a retrospective, single-center cohort study conducted at an NCI-Designated Cancer Center from November 2021 to July 2024. Adult patients (≥18 years) with primary CDI confirmed by polymerase chain reaction (PCR) and toxin assay were included if they received standard-of-care (SoC) antibiotics, either alone or with bezlotoxumab. SoC antibiotics included oral vancomycin, fidaxomicin, or oral vancomycin plus intravenous metronidazole. Bezlotoxumab use was guided by institutional criteria for high-risk patients, including those with active malignancy, prolonged neutropenia, age ≥ 65 years, fulminant CDI, concurrent use of non-CDI antibiotics, or a history of hematopoietic stem cell (HSCT) or solid organ transplantation. Patients were excluded if they had prior CDI, lacked confirmation via both PCR and toxin assay, were not treated with SoC antibiotics, or were receiving hospice care. Data were extracted from the electronic medical record system (Cerner®) and analyzed using Discern Analytics®. Collected variables included demographics, clinical characteristics, CDI-specific factors, and treatment outcomes. The primary outcome was the rate of rCDI within 12 weeks post-treatment. Secondary outcomes included CDI-related readmissions, all-cause mortality, 8-week recurrence rates, and adverse events, such as infusion-related reactions and heart failure exacerbations. Categorical variables were analyzed using chi-square or Fisher's exact tests, while continuous variables were assessed using the Wilcoxon rank-sum test. Hazard ratios with 95% confidence intervals were reported for the primary outcome, with statistical significance set at p < 0.05. Kaplan-Meier analysis assessed recurrence risk over time.	A total of 146 patients met the inclusion criteria, with 56 receiving bezlotoxumab and 90 receiving SoC antibiotics alone. Baseline demographics were similar between groups. HSCT recipients and CAR-T therapy patients were more frequently represented in the bezlotoxumab group, whereas solid tumor patients were more common in the non-bezlotoxumab group (P < 0.001). Prior antibiotic exposure before admission was higher in the bezlotoxumab group (55% vs. 32%, P = 0.006). Baseline CDI severity was similar between groups (P = 0.5), with most patients classified as non-severe (79% vs. 78%). Vancomycin monotherapy was the most commonly used SoC antibiotic (93% vs. 93%, P = 0.9), while fidaxomicin use was infrequent (4% vs. 6%). Acid suppression therapy use was comparable (45% vs. 46%, P > 0.9). The primary outcome of rCDI within 12 weeks occurred in 13% of bezlotoxumab recipients compared to 3% in the non-bezlotoxumab group (P = 0.044). Hazard ratio analysis demonstrated an increased risk of recurrence in the bezlotoxumab group (HR 3.922, 95% CI: 1.014–15.168, P = 0.0477). For secondary outcomes, CDI-related readmission rates were 11% in the bezlotoxumab group and 3% in the non-bezlotoxumab group (P = 0.3). All-cause mortality at 12 weeks was 14% in the bezlotoxumab group versus 26% in the non-bezlotoxumab group (P = 0.11). No infusion-related reactions or heart failure exacerbations were reported. Subgroup analyses showed minimal impact of individual risk factors on recurrence.	In contrast to prior clinical trials, this study demonstrated a higher recurrence rate of CDI within 12 weeks among immunocompromised cancer patients receiving bezlotoxumab compared to those receiving SoC antibiotics alone. Differences in patient selection, prior antibiotic exposure, and other unmeasured confounders may have influenced outcomes. While these results raise questions regarding patient selection for bezlotoxumab, they are limited by sample size and potential selection bias. Larger, adequately powered studies are needed to further evaluate the role of bezlotoxumab in primary CDI management among immunocompromised cancer patients and to better define optimal patient selection criteria.
Mapes, Tara	mapest68@gmail.com	Lakeland Regional Health	Midodrine for the prevention of escalation of care in septic patients	Midodrine is an oral blood pressure support agent that exerts its activity via alpha1 agonism and, as such, is considered a direct vasoconstrictor that results in an increase in systolic and diastolic blood pressure. Off label utilization of midodrine has been seen via the targeting of vasoplegic conditions such as end stage renal disease, cirrhosis with ascites, and hepatorenal syndrome as a means of acutely supporting hypotension. Midodrine's applicability inpatient, outside of previously mentioned uses, has been studied in intensive care units (ICU) as a means to decrease vasopressor requirement with little statistical significance. When looking at the utilization of midodrine outside of the ICU, there is limited data regarding its impact on prevention of escalation of care (EOC) due to septic presenting patients. Due to midodrine's mechanism as an oral direct vasoconstrictor, it's an agent that may have potential in providing additional blood pressure support for patients who are unable to sustain adequate mean arterial pressure (MAP) post antibiotics and fluid resuscitation. This project will add to current knowledge via analysis of patient factors who are initiated on midodrine outside of the ICU and required EOC versus those who did not.	The study was an IRB approved, single center, retrospective cohort study of non-ICU septic patients who received midodrine for blood pressure support in sepsis from January 1st, 2023 to November 1st, 2024. Subjects were screened via a Cerner report of midodrine orders in reverse chronological order and met inclusion if they were greater than 18 years old, received midodrine outside of the ICU or ED, and had a concurrent diagnosis of sepsis (defined via St. John's Sepsis alert or per physician documentation). Exclusion criteria included patients with midodrine as a home medication or if patient or family did not wish for EOC. The primary outcome was escalation of care defined as instances where a patient was transferred to a floor with increased care requirements. Secondary outcomes included ICU admission, time to EOC, time to ICU admission, hospital length of stay (LOS), and patients who were discharged on midodrine. A subgroup analysis of patients admitted to the ICU was performed.	585 patients were screened for inclusion and 50 patients included. The most common reasons for exclusion was no sepsis diagnosis and administered within the ICU or ED. The primary outcome of EOC occurred in 11 (22%) patients. Patient characteristics (table 1) were similar between the two groups, with the majority of patients being females with a similar mean age (66 no escalation vs 71 escalation) and pre-existing comorbid conditions. The escalation group more often received concurrent steroid administration (4 vs. 1, p= 0.001) and were less likely to be administered a fluid bolus versus the no escalation group(63.6% vs 79.5%, respectively (p = 0.277). The median fluid bolus volume was 25.6 ml/kg in the no escalation group as compared to 12.3 ml/kg in the escalation group. The secondary outcome of admission to ICU resulted in 63% (n = 7) of escalation patients. Subgroup analysis of ICU patients additionally found more instances of concurrent steroid administration compared to the no escalation group (3versus 1, p = 0.003) and increases in midodrine dosage was also more prevalent. Median time to escalation was 1.4 days [IQR 21.2] and time to ICU admission was a median of 2.5 days [IQR 23.5]. Hospital LOS did not differ between the groups and mortality rates were proportionally greater in the escalation group (25% vs 36%, p = 0.375). For midodrine characteristics, patients who were not escalated were more likely to have a midodrine dose increase (41% vs 18.2%, p = 0.163), although total daily dosage was similar between the two groups. Additionally, a greater proportion of patients were initiated on midodrine in the IMCU in the no escalation group (66.7% vs 27.7%, p = 0.019.) Finally, patients who were not escalated were more often discharged on midodrine.	This study showed that a majority of septic patients on midodrine were not escalated to a higher level of care. However, of those that were escalated, a majority were transitioned to the ICU. Although a majority of patients did not require escalation, there was still a substantial mortality rate of 23%. It is also noted that patient(s) who were escalated had a lower median mL/kg fluid bolus compared to the no escalation group and the ICU subgroup. This may be due to potential oversight of enacting proper guideline directed fluid resuscitation due to the initiation of midodrine for blood pressure support.
Marks, Hannah	hmarks1218@gmail.com	James A. Haley Veterans' Hospital	Impact of a pharmacist led initiative to increase utilization of sodium glucose cotransporter-2 (SGLT2) inhibitors in high poverty veterans	Chronic kidney disease (CKD) affects approximately 35.5 million individuals in the United States, or 1 in 7 adults, with the highest prevalence among Black, Asian, and Hispanic populations. Among Veterans, 11% are diagnosed with CKD—a rate 34% higher than the general U.S. population. Type 2 diabetes mellitus (T2DM) is the leading cause of kidney failure, responsible for 47% of all new cases of kidney disease. Notably, 25% of Veterans with T2DM also have CKD. Sodium-glucose cotransporter-2 inhibitors (SGLT2) inhibitor have been shown to significantly reduce the progression of CKD and cardiovascular events, as demonstrated in major clinical trials, such as, CREDENCE, DAPA-CKD, and EMPA-KIDNEY. The 2022 KDIGO guidelines strongly recommend SGLT2 inhibitor use in patients with T2DM and CKD with an eGFR ≥20 mL/min/1.73m^2. However, prescribing rates remain low, particularly among minority populations. This project aims to increase the SGLT2 inhibitors among high-poverty Veterans with T2DM and CKD, promoting equitable access to therapies.	This was a single-center, prospective quality improvement initiative approved by the Institutional Review Board (IRB) at James A. Haley Veterans' Hospital (JAHVH). On October 22, 2024, eligible patients were identified via an established VA diabetes dashboard. Veterans were eligible if they identified as African American/Black or Hispanic, had a diagnosis of both T2DM and CKD, and resided in a high-poverty area. Exclusion criteria included hemoglobin A1c >9%, type 1 diabetes, estimated glomerular filtration rate (eGFR) <20 mL/min/1.73m^2, dialysis dependence, history of diabetic ketoacidosis, recurrent urinary tract infections, active immunosuppressive therapy, or the use of a urinary incontinence device. A preliminary chart review was conducted to identify eligible patients. If eligible, the assigned Patient Aligned Care Team (PACT) Clinical Pharmacy Practitioner (CPP) was notified, and a return to clinic (RTC) order was placed for the Health Administrative Services (HAS) clerk to schedule an initial appointment. Lab orders were entered if the Veteran was not up to date on labs. If initiated on therapy, Veterans were scheduled for a follow-up visit in approximately 3 months, with labs ordered before the visit. The primary outcome was initiation of an SGLT2 inhibitor. Secondary outcomes included medication initiation barriers and continuation barriers.	Among 207 Veterans identified using the academic detailing diabetes dashboard, 44.0% (n=91) met inclusion criteria. The most common reasons for exclusion included hemoglobin A1c >9%, 25% (n=29) and absence of CKD, T2DM or both, 28% (n=32). Included patients were predominantly >65 years old, 76% (n=69), male, 90% (n=85), African American 76% (n=69), and resided in urban areas, 85.0% (n=81). The majority, 81.3% (n=74) had CKD stage 3 and 68% (n=62) had a baseline hemoglobin A1c between >5% and <7%. SGLT2 inhibitor prescribing increased from 33.7% pre-intervention to 44.3% following pharmacist-led efforts. Among the 91 eligible Veterans, 42% (n=38) were initiated on SGLT2 inhibitors, 49% (n=49) were not, and 9% (n=8) remain pending. The primary barrier to initiation was scheduling related, including difficulty contacting Veterans or no-show appointments. At follow-up, 63% (n=24) patients continued therapy, 16% (n=6) had discontinued, primarily due to missed follow-up, and 32% (n=12) remain pending follow-up.	This pharmacist-led initiative successfully increased SGLT2 inhibitor prescribing rates among high-poverty African American/ Black and Hispanic Veterans, promoting health equity and improving care for underserved groups. Future efforts should aim to mitigate ongoing scheduling challenges and address inconsistent prescribing patterns among CPP through targeted education. Additionally, ensuring accurate and up-to-date documentation of problem lists by providers is crucial for guiding appropriate therapy selection and promoting sustained clinical improvement.
Martinez Gines, Jonathan	jmartinezgines@gmail.	Baptist Hospital of Miami	Impact of Optimizing Automated Dispensing Cabinets on Medication Safety in the Emergency Department	Medication safety remains a paramount concern in healthcare, particularly in high-acuity settings such as emergency departments (EDs). Automated dispensing cabinets (ADCs) have been widely adopted in hospitals to enhance medication distribution and accessibility. Despite these benefits, the override function in ADCs allows for medication access without pharmacist review, increasing the risk of medication errors and adverse drug events (ADEs). A review of current literature suggests that override rates in hospital settings contribute to a significant proportion of medication errors. The Institute of Safe Medication Practices (ISMP) and the American Society of Health-System Pharmacists (ASHP) recommend strict limitations on overrides to ensure only essential medications are accessible without prior verification. At Baptist Hospital of Miami (BHM), ADCs in the ED were not profiled, and all medications were available via the override function. This quality improvement project aims to address safety concerns by implementing ADC profiling and optimizing override processes to enhance pharmacist oversight of medication order review in the ED setting.	This project is a single-site, retrospective evaluation of a pre- and post-intervention quality improvement initiative conducted at BHM. The primary objective is to implement system optimizations to achieve an ADC override rate below 3% following profiling of the machines. The intervention involves the activation of ADC profiling in the ED, requiring medication orders to be reviewed and verified by a pharmacist before dispensing. Prior to the intervention, ADC formulary was optimized and standardized across machines based on usage patterns. The ED prescriber electronic ordering platform was also redesigned to align with the ED ADC formulary so medications were readily available and to promote use of evidence based protocols. An override list of critical medications that could bypass pharmacist review in an emergency was also adapted for the ED. Training sessions for ED staff (pharmacists, nurses, prescribers, and respiratory therapists) were conducted to educate about ADC profiling and the use of critical overrides in emergencies. Data will be collected from ADC override reports and electronic medication administration records (eMAR) for a defined 5-month pre-implementation period (November 2024 – January 2025) and post-implementation period (February – April 2025). The primary outcome is monthly override rate per ADC in the ED post implementation. Secondary outcomes include monthly ADC override rate in the ED, most frequently overridden medications before and after the implementation phase and the time from medication order to medication verification by pharmacist pre and post implementation. Pivot tables in Excel will be used to analyze data with categorical variables summarized as frequencies and percentages.	Following profiling, there was a sustained decrease in override rates across individual ADCs. The primary outcome of override rates by ADC in February ranged from 1.2-6.8%. In March the range was 0.3-2.2% and in April the range was 0.2-1.3%. For March and April all ADCs were below the 3% override goal for BHM. A reduction in ADC override rates for all ED ADCs was observed as a secondary outcome. Prior to the intervention, override rates ranged from 12.21% to 16.35%. After optimization and profiling, override rates decreased to 1.65% in February, 1.10% in March, and 0.90% in April. Opioids and anxiolytic override removal decreased following profiling. The average time from order entry to verification increased from 11 to 13 minutes, and verification to medication removal rose from 52 to 55 minutes; however, these changes did not result in any documented delays in patient care.	The implementation of ADC safeguards and increased pharmacist oversight in medication verification in the emergency department successfully achieved the target override rate of less than 3%, demonstrating measurable improvements in medication safety. Strengths of this project are clear objectives, measurable outcomes, and study-proven results that support harmonization and scalable implementation across all EDs within the health-system. Limitations include minimal reporting on direct patient safety outcomes and an inability to comprehensively assess potential impacts on ED throughput. Future directions include continued key performance indicator tracking, further optimization of EHR and ADC workflows, review of override appropriateness, and a system-wide rollout of ADC profiling practices.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Matt, Isabel	imatt@tgh.org	Tampa General Hospital	Letermovir use for cytomegalovirus prophylaxis in lung transplant recipients	Cytomegalovirus (CMV) is a virus typically self-limiting in immunocompetent individuals; however, CMV can cause burden among immunocompromised hosts, including solid organ transplant (SOT) recipients. Lung transplant patients are at highest risk of CMV among SOT recipients. The mainstay CMV prophylactic anti-viral agent, valganciclovir, is commonly associated with leukopenia. Mycophenolate and azathioprine maintenance immunosuppression and opportunistic infection (OI) prophylaxis post-transplant further compound this side effect. Severe leukopenia often necessitates frequent interruptions in therapy and dose reductions in immunosuppressive medications, which can increase risk of graft rejection and infection. An alternative CMV prophylaxis agent, letermovir, is not associated with leukopenia, however, data regarding the efficacy of letermovir for CMV prophylaxis in lung transplant is limited. The purpose of this study was to evaluate the efficacy and safety of letermovir prophylaxis in lung transplant recipients, as well as evaluate the hematologic impacts of letermovir.	This was a retrospective single-center descriptive cohort study of adult lung transplant recipients transplanted between 1/1/2018 and 3/1/2024 who were switched from valganciclovir to letermovir for CMV prophylaxis. The primary endpoint of this study was to determine the incidence of clinically significant CMV DNAemia among lung transplant recipients receiving letermovir for CMV prophylaxis. Clinically significant DNAemia was defined as breakthrough viremia (>30 IU/mL) requiring treatment. The major secondary endpoints of the study were to determine the occurrence of detectable CMV DNAemia and the occurrence of biopsy-proven-CMV disease. Additional safety endpoints included the incidence and indications for letermovir discontinuation, hematologic endpoints, and letermovir effect on tacrolimus and mycophenolate dosing.	Seventy-five patients were included in this study. Patients were primarily moderate (49%) or high risk (48%) CMV serostatus. Conversion to letermovir occurred at a median of 221 (IQR 150-372) days post transplantation, primarily due to myelosuppression (96%). Nine patients developed breakthrough CMV DNAemia, with 5 (6.7%) having clinically significant CMV DNAemia requiring treatment and 4 (5.3%) having low-level, transient CMV DNAemia that self-resolved. The 5 patients with clinically significant breakthrough CMV DNAemia while on letermovir prophylaxis had a median CMV DNAemia viral load of 2537 (IQR 922 – 3664) IU/mL and all had high risk CMV serostatus. Average white blood cell (WBC) count before conversion was 3.2 x 10^3/uL, and 1 month after conversion was 5.6 x 10^3/uL; p < 0.001. Average total daily dose of mycophenolate before conversion was 265 mg and 1 month after conversion was 444 mg; p = 0.02. Twenty (26.7%) patients were holding their mycophenolate at the time of letermovir initiation due to myelosuppression. Of those 20, 14 (70%) patients were able to restart their mycophenolate 1 month after conversion. Over half of the patients (52%) had a tacrolimus dosage adjustment one week after letermovir initiation. Of these 38 patients that had a dosage adjustment, an increase in tacrolimus dose occurred in 20 (52.6%) patients and a decrease in tacrolimus dose occurred in 18 (47.4%) patients. Discontinuation due to side effects was 16%, with the most common side effect being gastrointestinal upset (13%).	CMV infection can cause considerable direct and indirect burdens in solid organ transplant recipients, and prevention against consequences of the virus is high priority after transplant. This study found that letermovir was well tolerated with low discontinuation rates due to side effects in a lung transplant population. Moreover, our study found an incidence of CMV breakthrough comparable to published incidence with valganciclovir. Valganciclovir and antimetabolite induced leukopenia in lung transplant patients can induce consequences on a patient's immune system, allowing for opportunistic infections and necessitating reductions in immunosuppression therapy. Letermovir provides an efficacious therapeutic option to minimize compounded drug-induced leukopenia while allowing for an increase in antimetabolite maintenance doses. This study expands upon the limited evidence supporting tolerability and efficacy of letermovir in lung transplantation.
Maxwell, Jamie	jvmaxwell12@gmail.com	Mayo Clinic Florida	Effect of warfarin on pancreatic graft thrombosis in post-pancreas alone and simultaneous pancreas-kidney transplantation	According to the Organ Procurement and Transplantation Network (OPTN) and Scientific Registry of Transplant Recipients (SRTR) 2022 Annual Data Report, 8.1% of pancreas transplants experienced graft failure within 1-year post transplant with more than 80% of these pancreatic graft failures being due to thrombosis. Early thrombosis typically occurs within 24 hours of transplant but can occur up to at least 12 months after surgery, which demonstrates the necessity for early antithrombotic initiation post pancreatic transplant. Although the First World Consensus Conference on Pancreas Transplantation discusses the utilization of antithrombotic therapy post-pancreas transplant, there has not been enough evidence to form a consensus on the preferred antithrombotic regimen. The purpose of this study is to determine if there is a difference in thrombosis rates in patients post pancreas alone, simultaneous pancreas-kidney, and pancreas after kidney transplantation who received warfarin versus aspirin prophylaxis 3-months post-transplant.	This retrospective, observational chart review was conducted within the electronic health records. Patients were included if they were 18 years of age or older and received a pancreas alone, pancreas after kidney transplant, or simultaneous pancreas-kidney transplant from October 8th, 2018 through September 31st, 2024. Patients were excluded if they were undergoing retransplant, pregnant/breastfeeding, or on chronic anticoagulation at time of transplant. Patients were organized between 2 arms based on their initial prophylactic pancreatic graft thrombosis regimen. The primary outcome was pancreatic graft thrombosis rate within 90-days post-transplant with an intention-to-treat analysis. Pancreatic graft thrombosis rate was defined by the total number of patients that experienced a pancreatic graft thrombosis (determined by clinical imaging such as CT, ultrasound scan, MRI, biopsy, etc.) divided by total number of patients. Secondary outcomes included post-transplant length of stay, post-transplant ICU length of stay, 30-day and 90- day post-transplant all-cause mortality, 1-year graft failure rate, rejection rate, readmissions, and 3-month post-transplant major bleeding rate. Major bleeding episodes were defined by administration of at least 2 units of blood, ocular, pericardial, retroperitoneal bleeding, intracranial hemorrhage, muscle (compartment syndrome), or vitamin K administration. Using BlueSky software, an odds ratio and Fisher's Exact test was used to compare nominal data including thrombotic rate and major bleeding rate within 90-days post-transplant. Mann-Whitney U was used to compare continuous data including hospital and ICU length of stay post-transplant.	Baseline characteristics are outlined in Table 1. Among 56 patients (median age, 41 [IQR, 33.8-46] years; n = 32 women [57.1%]), 18 patients (32.1%) were taking warfarin, and 38 patients (67.9%) were taking aspirin for pancreatic graft thrombosis prophylaxis. Patients taking warfarin experienced significantly increased risk of pancreatic graft thrombosis within 90-days post-transplant (OR 4.43 95% CI [1.29-15.23]; P = 0.025) as shown in Table 2. Within 90-days post- transplant, no significant difference was observed in post-transplant length of stay (median of 9 days in each group; P = 0.294), ICU length of stay (median of 0 days in each group; P=0.803), 30-day and 90-day all-cause mortality (0% in each group), rejection rate (22.2% vs. 15.8%; P=0.711), number of units of blood transfused (median of 2 vs 1 unit; P=0.116), readmissions (median of 1 readmission in each group; P = 0.936), and 90-day major bleeding rate (55.6% vs 34.2%; P= 0.155).	According to the First World Consensus Conference on Pancreas Transplantation, antithrombotic therapy post-pancreas transplant is recommended to reduce the risk of pancreatic graft thrombosis and, therefore, rejection and allograft loss. Based on this study, utilization of warfarin, compared with aspirin, for pancreatic graft thrombosis prophylaxis was associated with a significantly increased risk of pancreatic graft thrombosis with no statistically significant increase in bleeding risk. Although the results of this study contribute potential considerations to the limited available guidance for pancreatic graft thrombosis prophylaxis, larger studies would need to be conducted to determine the clinical significance between the two agents.
McCall, Ryan	rpmccall@presby.edu	Lee Health- Gulf Coast Medical Center	Hemostatic Effectiveness of Fixed-Dose Versus Weight-Based 4 Factor-Prothrombin Complex Concentrate for Reversal of Direct Xa Inhibitors	Factor Xa inhibitors such as apixaban and rivaroxaban are increasingly prescribed and possess advantages over warfarin, including less frequent monitoring, fewer food and drug interactions, and a reduced risk of bleeding. Despite these benefits, bleeding complications, including life threatening major bleeds, can still occur, necessitating the use of reversal agents. Studies have shown that four-factor prothrombin complex concentrate (4F-PCC) partially reverses the anticoagulant effects of Xa inhibitors. 4F-PCC has shown varying levels of hemostatic success in patients with major bleeding from Xa inhibitors, though safety concerns such as thromboembolic events exist. In place of weight-based dosing for anticoagulant reversal, many institutions have adopted fixed dose strategies for 4F-PCC administration. These strategies simplify dosing, reduce costs, and may offer a more practical approach to anticoagulant reversal. There exists evidence in support of fixed dose strategies for the reversal of warfarin, showing fixed-dose 4F-PCC had higher rates of hemostatic effectiveness when compared to weight-based. Following the implementation of a fixed-dose strategy of 2000 unit 4F-PCC, this study aims to compare the hemostatic effectiveness of fixed-dose 4F-PCC to weight-based 4F-PCC to reverse direct Xa inhibitor-associated major bleeding.	A multi-site, pre-post, retrospective, comparative effectiveness study was conducted across 5 acute care centers in southwest Florida. The pre-implementation group (January 1, 2022 to June 5, 2023) received 4F-PCC at 50 units/kg, while the post-implementation group (June 6, 2023 to December 31, 2024) received a fixed-dose of 2000 units. Patients were included in the study if they were at least 18 years old and received 4F-PCC for reversal of apixaban or rivaroxaban. Exclusion criteria included administration of 4F-PCC at a non protocol dose for initial reversal, pre-operative reversal without acute major bleeding, or receipt of andoxanet alfa before receiving 4F-PCC. Patients were also excluded if they had a bleeding indication of trauma, intracranial hemorrhage, or neuraxial hemorrhage. The primary outcome was hemostatic effectiveness of Xa inhibitor reversal in patients with major bleeding who received fixed-dose 4F-PCC versus weight-based 4F-PCC. Secondary outcomes were all-cause mortality and thromboembolic events post-administration of 4F-PCC.	Of the 297 patients that met criteria for analysis, 117 received weight-based 4F-PCC and 180 received fixed-dose 4F-PCC. GI bleeding was the most common bleed type (72.1%), followed by retroperitoneal (8.1%), musculoskeletal (7.7%), genitourinary (2%), and other bleeds (10.1%). Effective hemostasis was achieved in 69.6% of patients in the fixed-dose group versus 57% of patients with weight-based dosing (P = 0.029). There was no difference in all-cause mortality (21.7% vs 12.8%, P = 0.053) or thromboembolic events post-administration of 4F-PCC (3.9% vs 2.6%, P = 0.53), between fixed and weight-based dosing.	In patients with acute major bleeding associated with Xa inhibitors, fixed-dose 4F-PCC was associated with greater hemostatic effectiveness when compared to weight-based, with no difference in mortality or thromboembolic events between dosing strategies. This study supports the continued use of fixed-dose 4F-PCC for reversal of Xa inhibitor-related major bleeding, although future studies including patients with trauma-induced or intracranial bleeding are warranted.
McGraw, Katherine	katherine-mcgraw@smh.com	Sarasota Memorial Hospital	Duration of Seizure Prophylaxis in Moderate to Severe Traumatic Brain Injury Requiring Neurosurgical Intervention	Post-traumatic seizures (PTS) in traumatic brain injury (TBI) patients are associated with increased morbidity and mortality. Prophylactic anti-seizure medications (ASMs) may mitigate early PTS (ePTS) in patients with severe TBI; however, this benefit has not been shown in late PTS. In patients with moderate to severe TBI, a short duration (≤ 7 days) of prophylactic ASMs is recommended by clinical guidelines and commonly adopted in practice. In contrast, the optimal duration for seizure prophylaxis in patients undergoing neurosurgical procedures (e.g. decompressive craniectomy/craniotomy, placement of an external ventricular drain (EVD) or burr hole) is not well defined. Consequently, the duration of prophylactic ASMs in this patient population is markedly inconsistent amongst practitioners. In September 2023, a protocol was implemented at our institution to limit the use of prophylactic ASMs to 7 days in TBI patients regardless of operative status. The purpose of this study was to evaluate the impact of a 7-day duration for seizure prophylaxis among patients with moderate to severe TBI requiring neurosurgical intervention.	This single-center, IRB-approved, retrospective cohort study included patients ≥ 16 years of age admitted between August 2021 to January 2025. Patients were included if they had a moderate severe TBI (defined as Glasgow Coma Score < 13) and underwent a neurosurgical procedure. All included patients received at least two doses of levetiracetam for seizure prophylaxis. Once patients were eligible for inclusion, they were divided into two groups: short (≤ 7 days) versus long (> 7 days) duration of levetiracetam. Patients were excluded if they had a documented history of seizures, received ASMs prior to admission, transitioned to comfort measures within 24 hours, or had no acute intracranial process on imaging. The primary outcome was the incidence of suspected or confirmed late PTS. Secondary outcomes included incidence of suspected or confirmed seizures during hospitalization, all-cause mortality, hospital length of stay (LOS), intensive care unit (ICU) LOS, and disposition. Data was sourced from the Trauma Registry and hospital electronic medical record (AllScripts SCM9). Data collection was completed via REDCap®. Statistical analyses were performed using Chi-squared or Fisher's exact tests for nominal data, and Mann-Whitney U for continuous data. All p-values	Sixty-four patients were reviewed for inclusion. Of these patients, 15 were excluded and a total of 49 were included. There were 26 patients in the short duration group and 23 patients in the long duration group. Baseline characteristics were similar between groups, except for history of substance use disorder and incidence of intraventricular bleed as shown in Table 1. Of note, the short duration group had significantly more intraventricular bleeds compared to the long duration group (26.9% vs 4.4%; p=0.02). For the primary outcome, there was no significant difference in the incidence of suspected or confirmed seizures after 7 days of ASM therapy (0% vs 8.7%; p=0.077) as shown in Table 2. There were no significant differences seen between the two groups for the incidence of seizures during hospitalization and all-cause mortality. However, the short duration group had significantly shorter ICU and hospital LOS.	n this retrospective cohort study, truncating seizure prophylaxis duration to 7 days was not associated with a higher incidence of PTS. Extended durations of seizure prophylaxis beyond 7 days was associated with longer ICU and hospital LOS.
McLaughlin, Patrick	patrick.mclaughlin@baycare.org	Mease Countryside Hospital	Fidaxomicin vs. vancomycin on 30-day readmission rates in the treatment of patients with first episode of Clostridioides difficile infection	Clostridioides difficile infection (CDI) is estimated to cause almost half a million infections in the US each year. 1 in 6 of these patients will have a recurrence of CDI within 2-8 weeks. In 2022, our health system updated our CDI treatment protocol to comply with the Infection Disease Society of America recommendations placing fidaxomicin as the first line treatment option over Vancomycin. The purpose of our study is to determine if the change to our protocol prioritizing fidaxomicin over vancomycin in the treatment of first occurrence non fulminant CDI had an impact on readmission rates for these patients.	This is a multi-site, non-interventional, observational study conducted within a single healthcare system comprised of 12 hospitals. Patients were included in this study if they underwent treatment for a first CDI confirmed by a positive Clostridioides difficile PCR test as well as a positive Clostridioides difficile toxin test between January 1st, 2022 and July 14th, 2024. Patients must have been treated with at least a 48 hour course of fidaxomicin or oral vancomycin. Patients excluded were those < 18 years of age, those receiving both medications concomitantly, pregnant patients, and those who died during treatment. The primary outcome was 30-day readmission due to CDI defined as a positive PCR and toxin test on readmission. Secondary outcomes included readmission within 8 weeks and estimated cost of treatment. Nominal data was analyzed through a Fisher's Exact test, while interval data was analyzed using a t-test. A sample size of 278 was calculated to achieve an 80% power to detect a difference in readmission rates of 11%. Statistical tests used a 95% confidence interval with a significance level of 0.05.	30-day readmission with positive Clostridioides difficile PCR and toxin test occurred in 16 of 139 (11.5%) of patients in the vancomycin group and in 3 of 94 (3.2%) of fidaxomicin group, resulting in a reduction of 8.3% (95% CI 0.019 – 0.147; p = 0.027). Readmission within 8 weeks of discharge from first CDI occurred in 25 of 139 patients in the vancomycin group, (18.0%) and 6 of 94 patients (6.4%) in the fidaxomicin group, including the 30-day readmissions, for a difference of 11.6% (95% CI 0.035 – 0.197; p=0.011). Estimated cost of inpatient therapy was $30, $60, and $90 for patients receiving 125mg, 250mg, and 500mg therapy respectively and $1,010 in the fidaxomicin group. Median and mean lengths of stay for readmissions were 5 days and 9.48 days in the vancomycin group, and 6.5 and 6.67 days in the fidaxomicin group.	Current IDSA guidelines recommend fidaxomicin first-line over traditional vancomycin therapy for first episode and first recurrence of Clostridioides difficile infection. This is largely on the back of well-established efficacy in preventing hospital readmissions, as well as a favorable safety profile. What this does not take into account is the difference in cost of therapy as well as the cost of readmission. This study shows significant improvement in readmission rates for patients treated with fidaxomicin, which is consistent with current literature and suggests benefit over vancomycin. In addition, those readmissions on average had shorter lengths of stay, limiting costs to health systems. However, significant limitations exist, namely an unmet sample size as a result of short durations of therapy, concomitant use of therapies leading to exclusion, as well as switching between therapies after 48h of treatment. Other limitations include an uncertainty on a patient's CDI history, inconclusive evidence on adherence to outpatient therapy, and readmissions to other hospital systems make any conclusions difficult to generalize. This study demonstrates benefit of fidaxomicin consistent with established evidence, confirming the utility of our protocol change, however significant limitations restrict generalizability and highlight the need for consistency in and education of CDI treatment.
McLawhorn , Mattie	mattie-mclawhorn@smh.com	Sarasota Memorial Hospital	Sub-dissociative ketamine versus procedural sedation for orthopedic reductions in the emergency department	Orthopedic reduction is a common procedure performed in the emergency department (ED). Several medications can be used for sedation during these procedures, such as ketamine, etomidate and propofol. The degree of sedation is patient-specific and dependent on the location and severity of the injury, and other patient-specific factors. The anticipated pharmacologic effects of ketamine, in particular, are route and dose-dependent, with lower doses generally utilized for analgesia and higher doses for procedural sedation. Internal data from a previous medication use evaluation (MUE) in the ED suggested patients who received sub-dissociative ketamine more frequently required escalation of therapy, defined as higher ketamine doses or rescue sedative medications, such as etomidate or propofol. The aim of this study was to compare the efficacy and safety of sub-dissociative ketamine vs. traditional procedural sedation for orthopedic reduction in the ED.	This was a retrospective, IRB-approved, single-center study conducted in the ED at a Level II Trauma Center between October 2020 and October 2024. Adults administered ketamine, propofol, or etomidate for an orthopedic reduction in the ED were included. Patients were excluded if they were intubated prior to the orthopedic reduction. Once eligible for inclusion, patients were divided into sub-dissociative ketamine group vs. procedural sedation. Sub dissociative ketamine was defined as a total cumulative dose of ≤ 0.5 mg/kg and all other patients were included into the procedural sedation group. The primary outcome was a composite of escalation of therapy, defined as: additional sedative medication administration within 10 minutes, unplanned visit to operating room (OR) for reduction, unplanned intubation, documentation of reduction failure, or adverse drug events such as rescue benzodiazepine administration or obstruction of airway. Secondary outcomes included administration of rescue analgesia post reduction and the individual components of the primary composite outcome. To detect an effect size of 15%, a total of 146 patients would be needed to meet 80% power. Data was sourced using the hospital electronic record (AllScripts SCM8) and the Trauma Registry, then transcribed into REDCap®. Statistical analyses were performed using Chi-squared, Fisher exact, and Kruskal-Wallis tests. All p-values	Of the 265 patients that met inclusion criteria, one was patient was excluded due to intubation prior to reduction. There were 113 patients in the procedural sedation group and 151 patients in the sub-dissociative ketamine group. Baseline characteristics were similar in both groups aside from provider service at time of procedure and injury severity score (ISS) as shown in Table 1. The most common reduction locations were ulna/radius (21.4%), followed by tibia/fibula (20.5%) and ankle/foot (12.1%). For the primary outcome, 16 patients (14.2%) in the procedural sedation group required escalation of therapy compared to 22 patients (14.6%) in the sub-dissociate ketamine group (p = 0.00). After adjusting for ISS and provider service at time of procedure, there was no significant difference in the composite primary outcome for procedural sedation versus sub-dissociative ketamine [OR 0.86 (CI 95%, 0.39 – 1.90, p=0.72)]. There were no significant differences in the secondary outcomes between groups as shown in Table 2.	Currently, the efficacy of sub-dissociative ketamine for orthopedic reductions is not well observed in the literature; however, ketamine remains widely utilized due to its analgesic properties. When using sub-dissociative ketamine, pharmacists can play a crucial role in providing real-time education on the time to optimal analgesic effect (10-15 minutes after IV administration). Additionally, emergency medicine pharmacists ensure optimal dosing and selection of sedative agents in the setting of orthopedic reductions. This study highlights a potential role for sub-dissociative ketamine for orthopedic reductions when utilized appropriately. Although, it is very imperative to weigh the benefits of a successful orthopedic reduction with the risks associated with inappropriate medication selection. A future prospective study implementing a protocol to attempt orthopedic reductions after 10 minutes after administration of sub-dissociative ketamine may help identify the optimal role of in this setting.
Miller, Hannah	hanmiller@mhs.net	Memorial Hospital Miramar	Continuation Rate of Antipsychotics at Discharge when Initiated for Intensive Care Unit Delirium	Antipsychotics can be used in the short-term management of Intensive Care Unit (ICU) patients to treat delirium. Continuation of antipsychotics after ICU discharge can lead to unnecessary costs, over usage and adverse effects. The purpose of this study is to determine the incidence of antipsychotics started for the treatment of delirium during ICU admission and continued upon hospital discharge.	An IRB-exempt retrospective chart review which included adult patients admitted to the ICU between January 1, 2022, and January 31, 2024 was performed. Electronic medical records from five hospital sites were used. Patients 18-89 years old who were admitted to the ICU with newly prescribed, scheduled antipsychotic medications during their ICU admission were included in the study. Patients were excluded if they had psychiatric conditions and/or were taking antipsychotic medications prior to ICU admission. Patient charts were analyzed by reviewing patient demographics, progress notes, medication orders, and treatment team documentation. Descriptive statistics were calculated for all demographic and baseline characteristics. The primary objective was to investigate the incidence of antipsychotic medication continuation following hospital discharge.	A total of 295 patient medical records were reviewed for this study. Of the 295 patient records reviewed, 120 patients met inclusion criteria for this study. A total of 65 patients (54%) had an antipsychotic regimen continued at the time of ICU discharge. Of the 65 patients, 15 (23%) patients were discharged directly from ICU and 50 (77%) patients were continued upon transfer to the floor. All patients downgraded to the floor on antipsychotics were discharged on the regimen. Antipsychotic continuation at hospital discharge was most common in patients discharged home (66%) and patients discharged to long-term care facilities (13.8%). When trending Confusion Assessment Method for the ICU (CAM-ICU) documentation, only 2 patients (1.8%) had a CAM-ICU of "yes" during their ICU admission. Twenty (17%) patients did not have an initial CAM-ICU documented, and ten patients (8%) did not have a CAM-ICU documented at the time of ICU downgrade or ICU discharge.	This study revealed that the majority of patients initiated on an antipsychotic for ICU delirium were continued at time of ICU downgrade as well as hospital discharge. This study has highlighted the need for improved documentation of CAM-ICUs across the healthcare system. Limitations of this study include incomplete or missing documentation available in medical records, inconsistent documentation due to variability of providers and sites, and the inability to determine causality due to the retrospective nature of this study.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Mitzel, Kayla	kaylamitzel@gmail.com	Baptist Hospital of Miami	Assessment of Stroke Priority Status on Door-to Reversal Time and Outcomes in Intracranial Hemorrhage	Approximately 10-15% of all strokes are hemorrhagic which can be subclassified as epidural, subdural, subarachnoid, intraparenchymal, intracerebral, or intraventricular hemorrhages. Patients who require oral anticoagulation for either stroke prevention in the setting of atrial fibrillation or for the treatment of deep vein thrombosis and/or pulmonary embolism are at an increased risk of intracranial hemorrhage (ICH). The emergent reversal of anticoagulation in the setting of ICH is critical, and it is essential that comprehensive stroke centers adhere to the American Heart Association (AHA) metrics for door-to-reversal within the designated 90 minutes. To improve door-to reversal times, Baptist Hospital of Miami Emergency Department and the Miami Neuroscience Institute have developed and implemented a novel process called "code ICH". The objective of this project is to evaluate patients classified as priority one versus non-priority one and compare AHA metrics for door-to-reversal times and clinical outcomes when diagnosed with ICH.	Single center observational, retrospective quality improvement project that compared priority 1 patients to non-priority 1 patients who were diagnosed with an ICH and taking an anticoagulant prior to admission. The study period occurred from January 1st 2024- April 4th 2025. The primary outcome was door-to-reversal time in priority 1 patients versus non-priority 1 patients. Secondary outcomes included door to ordering CT, time from ordering CT to receiving CT scan, discharge disposition, thrombosis, and death. Chief complaints of non-priority 1 patients were also assessed.	Priority 1 patients had a median door-to-reversal time of 80 minutes compared to a median of 158 minutes in non-priority 1 patients. The door to ordering CT scan had a median of 7 minutes for priority 1 and 54 minutes for non-priority 1. For CT scan ordered to receiving a CT scan, the median in priority 1 was 28 minutes compared to 86 minutes in non-priority 1. Common chief complaints of non-priority 1 patients included headache (40%), fall (26.7%), and hypertension (20%). Thrombosis did not occur in any patients in the priority-one group, but 2 (13.3%) patients had a thrombosis in the non-priority 1 group. Death occurred in 6 (30%) priority one patients and 1 (6.7%) non-priority one patient.	The door-to-reversal metric was met in the priority-1 patients, but not the non-priority 1 patients. The non-priority 1 patients had a median of 78 minutes longer for door-to-reversal. The percentage of death was higher in priority one patients, however, the acuity level of these patients was also higher. The strengths of the study included all patient were reversed with the appropriate agent. The limitations included the study design was a single site and retrospective. The future direction of this project include fast-tracking non-priority 1 patients to CT who present with complaints of a fall, headache, and hypertension if they are taking an anticoagulant.
Moning, Natalie	nataliemoning@gmail.com	AdventHealth Celebration	The risk of burnout in pharmacy residents and pharmacy residency preceptors in a clinical pharmacy setting	Burnout, or the mental, emotional, and physical exhaustion resulting from occupational conditions, is becoming more prevalent within the healthcare community. While stress is acute and short lived, burnout is a condition that develops over time and is associated with emotional and physical depersonalization.1 Often, prolonged exposure to acute stressors leads to chronic stress which eventually progresses into burnout. Individuals who may be at a higher risk of experiencing burnout include those with long workdays, high stakes job responsibilities, and tasks that extend beyond primary job duties. When prevalent among employees, healthcare systems stand to experience increased errors in patient care, diminished patient satisfaction, and prolonged time to patient recovery.2,3 The purpose of this research was to assess the burnout of pharmacy residents and preceptors in a clinical pharmacy setting and how it changes throughout the year.	An anonymous, voluntary, IRB exempt survey was sent via email in November 2024, January 2025, and March 2025 to determine if participants were at risk of experiencing burnout. Participants were included if they were pharmacy residents or preceptors for the 2024-2025 residency year and were a part of the Central Florida Division. Residents and preceptors could be included if they worked primarily in the inpatient or outpatient setting. Pharmacy residents and preceptors were excluded if they did not consent to participate in the anonymous survey. The primary outcome of this study was participant burnout which was evaluated via the Mini-Z survey score. The secondary outcome of this study was the utilization of mental health resources made available to pharmacy residents and preceptors during the residency year. The Mini-Z survey, a 10-point questionnaire evaluating stress and job satisfaction, was utilized to assess participant burnout in the workplace.3 Scores range from 10 to 50 points with total scores of 40 or greater indicating a joyful workplace. Within the Mini-Z survey, subsections are included to evaluate work pace, electronic medical record (EMR) stress, and the level of support within the work environment. Scores of 20 points or greater in subsection 1 indicate a supportive environment. Alternatively, a score of 20 points or greater in subsection 2 indicates an office with a manageable work pace and level of EMR stress. Following the Mini-Z survey, a series of institution specific questions were presented to participants to evaluate overall well-being. Participants had the opportunity to provide free text feedback on ways to improve levels of burnout experienced in the workplace and to report the mental health resources utilized throughout the year. To maintain consistency among the study sample, participants were asked to indicate which of the three surveys they had filled out previously.	Among the three surveys, 147 responses were collected with 59, 51, and 37 responses collected in November 2024, January 2025, and March 2025, respectively. Of the respondents, 22 were PGY1 residents, 13 were PGY2 residents, and 111 identified as pharmacy preceptors. Most responses came from those who worked in an inpatient setting versus an outpatient setting (112 vs. 35). Most respondents, 58%, reported working 40-50 hours on average per week and 32% of respondents reported having greater than 10 years of pharmacy practice experience. On average, pharmacy residency preceptors had the highest average Mini-Z score of 34.05 compared to 31.74 and 33.85 for PGY1 and PGY2 residents, respectively. Across the three surveys sent, Mini-Z scores were the highest in March 2025 across PGY1 and PGY2 resident responses (32.4 vs. 37.5). The lowest Mini-Z scores were collected in November 2024 across all respondent groups with average scores of 31.44, 32.88, and 33.71 for PGY1 residents, PGY2 residents, and preceptors respectively. Across all surveys, Mini-Z scores were higher for respondents who worked primarily in an outpatient setting versus an inpatient setting. Within both subsections of the Mini-Z survey, PGY1 pharmacy residents had the lowest average scores in either subsection with an average of 17.7 and 14.04 points for subsections 1 and 2. PGY2 pharmacy residents had the highest average scores within subsection 1 of 18.69 points. Comparatively, residency preceptors had the highest average score within subsection 2 of 15.75 points. Between all three surveys, PGY1 resident, PGY2 resident, and residency preceptor average subsection scores remained relatively consistent. Of note, scores for PGY2 residents within subsection 2 increased from 15.33 to 18.5 points from January 2025 to March 2025. When examining mental health resource utilization in a clinical pharmacy setting, overall use was low throughout the residency year. Of the respondents, 81% of PGY residents, 100% of PGY2 residents, and 82% of residency preceptors denied utilization of mental health resources. Of those who utilized mental health resources, preceptors exhibited the most diverse resource utilization patterns ranging from weekly to yearly resource use. Additionally, preceptors who utilized mental health resources on a quarterly basis had higher scores for subsection 1 of the Mini-Z survey with an average of 16.4 points. Of note, PGY2 residents denied mental health resource utilization, yet, exhibited the highest average scores for subsection 1 of the Mini-Z survey, either indicating under reporting or better coping strategies.	Overall, pharmacy residency preceptors exhibited the least burnout with an average Mini-Z score of 34.05 across all three surveys. Comparatively, PGY1 and PGY2 residents displayed slightly higher burnout levels which could potentially be attributed to the challenges and pressures faced during residency. Additionally, November 2024 saw the lowest average Mini-Z scores across all respondents, potentially indicating increased burnout experienced at the beginning of the residency year. However, the acute stress experienced during the beginning of the year due to the rigorous nature of a residency program bring into question: was burnout higher at the beginning of the year, or were participants exhibiting the effects of acute stress? Further research is warranted to further differentiate between burnout and high levels of acute stress. Additionally, further assessment of the relationship between high levels of acute stress and risk for developing burnout is needed. While additional investigation is warranted to examine the specific sources of burnout and potential interventions that could be made to mitigate work related stress, the findings overall suggest that the extent of burnout may vary based on role, work setting, and time of year. Additionally, although mental health resource utilization was relatively low across all participants, moderate use of mental health resources may correlate with higher Mini-Z survey scores. As a result, this data could highlight the benefits of more regular engagement with mental health resources in navigating the demands of a clinical pharmacy setting.
Monk, Shaynia	shaynia.monk@hcahealthcare.com	HCA Florida Ocala Hospital	Risk of intracranial hemorrhage between tenecteplase and alteplase with mechanical thrombectomy for ischemic stroke	Stroke is a major cause of long-term disability and death in the United States, with ischemic stroke accounting for 87% of all stroke cases. 1 Therapy such as fibrinolytics and mechanical thrombectomy are used to improve reperfusion and restore blood flow in patients who have experienced an acute ischemic stroke, but these therapies can increase the risk for intracranial hemorrhage. 1,2 Previously alteplase was the suggested thrombolytic of choice for acute ischemic stroke but recent guidelines from the American Heart Association and American Stroke Association suggest it may be reasonable to choose tenecteplase as an alternative to alteplase for the early management of acute ischemic stroke for eligible patients undergoing mechanical thrombectomy.2 Many hospitals have switched from using alteplase as the fibrinolytic on formulary for ischemic stroke to tenecteplase due to easier dosing and administration, as well as cost savings. Recent studies have demonstrated the use of tenecteplase when compared to alteplase has comparative efficacy. These studies also indicate there is no significant difference in the risk of intracranial hemorrhage. 3 Other studies comparing tenecteplase versus alteplase prior to mechanical thrombectomy have comparable risk of intracranial hemorrhage but, these studies are limited by confounding factors and smaller sample sizes. 4 This study aims to evaluate and compare the risk of intracranial hemorrhage between tenecteplase with mechanical thrombectomy versus alteplase with mechanical thrombectomy.	This was a retrospective, single center, chart review. Acute ischemic stroke patients were included if they were 18 years of age or older, received tenecteplase and underwent mechanical thrombectomy or received alteplase and underwent mechanical thrombectomy. Electronic health records from August 5, 2022 to September 5, 2024 were screened for inclusion, with a one month washout period included to account for the hospital-wide transition from alteplase to tenecteplase. Patients were excluded if INR was greater than 1.7 prior to thrombolytic administration, if they received heparin within 48 hours prior to thrombolytic administration and had an elevated PTT, received a low molecular weight heparin at anticoagulant dosing within 48 hours prior to thrombolytic administration, received a direct oral anticoagulant within 48 hours prior to thrombolytic administration, received dual antiplatelet therapy and tirofiban for complete occlusion of a carotid artery prior or during thrombectomy, did not receive a complete dose of thrombolytic, and if they were documented as pregnant or incarcerated. The primary outcome was intracranial hemorrhage per radiographic imaging during or up to 36 hours after thrombectomy. Secondary outcomes included symptomatic intracranial hemorrhage as defined by radiographic imaging and an increase in National Institute of Health 2 Stroke Scale (NIHSS) from baseline by greater than or equal to four points during or up to 36 hours after thrombectomy. Other secondary outcomes were patients discharge disposition and death during indexed hospitalization. Using IBM SPSS Statistics 30 software, a Chi-Square, Fisher's Exact, or Fisher-Freeman-Halton Exact test was used to analyze nominal data. A Mann Whitney U test was used to analyze nonparametric continuous data. A p-value of	94 patients were screened and 66 were included, with the most common reason for exclusion being patients receiving dual antiplatelet therapy and tirofiban prior or during mechanical thrombectomy. There were no statistically significant differences found in the baseline characteristics (Table 1). Additionally, there was no statistical difference in the primary outcome of intracranial hemorrhage in the tenecteplase versus alteplase group (8 (24.2%) vs 9 (27.2%) p= 0.778). Symptomatic intracranial hemorrhage occurred in 5 (15%) in the tenecteplase group versus 6 (18%) in the alteplase group (p=1.0). The primary location patients discharged to was an inpatient rehabilitation center (tenecteplase, 13 (39%) versus alteplase, 8 (24%) p= 0.057). Death occurred in 12% of the alteplase group versus 0% in the tenecteplase group (tenecteplase, 0 (0%) versus alteplase 4 (12%) p=0.114)).	This retrospective chart review indicated that there is no difference in incidence of intracranial hemorrhage in patients who undergo mechanical thrombectomy and receive tenecteplase or alteplase prior to the procedure. It also showed no difference in symptomatic intracranial hemorrhage, discharge disposition, or death. Future prospective studies with larger sample sizes are needed as this current study is limited by its retrospective design and small sample size.
Montague, Tyanna	tyanna.montague@gmail.com	Memorial Regional Hospital	Medication Adherence to Osimertinib in Patients Diagnosed with Metastatic Non-Small Cell Lung Cancer	Lung cancer is the leading cause of cancer-related death in the United States. Guidelines currently recommend osimertinib as first-line therapy for metastatic non-small cell lung cancer (NSCLC) with EGFR exon 19 deletion or exon 21 L858R mutations. Oral oncolytics allow for more patient autonomy; however, medication adherence has been a concern due to the various barriers patients may encounter. A previous study determined that adherence to oral oncolytics among patients with lung cancer is 64.7%, while a study comparing pharmacy type found that 83% of internal pharmacy users and 69% of external pharmacy were adherent. Non-adherence to these therapies has been associated with increased rates of physician visits, hospitalization, and longer hospital stays. The purpose of this study is to assess medication adherence to osimertinib in a diverse patient population receiving treatment at a comprehensive cancer center.	A retrospective chart review was performed at a large multi-site community cancer center with an affiliated specialty pharmacy who received osimertinib between January 1, 2018 and December 31, 2023. Inclusion criteria included patients 18 years and older with EGFR-mutated advanced NSCLC. Exclusion criteria included patients who received osimertinib with concurrent chemotherapy, and patients who received medication through a patient assistance program. Data were collected from electronic medical records and prescription refill history. Medication adherence was defined as having a proportion of days covered (PDC) of 90% or higher over a span of the first six months of therapy. A two-sample t-test was conducted to compare medication adherence, measured by the PDC, between patients using internal and external pharmacies. All statistical analyses were conducted using Stata/BE 18, and results were considered statistically significant at p < 0.05.	Of the 150 patient medical charts reviewed, 38 patients were included. The mean age was 63.2 years (SD = 10.5). The majority of patients were female (71.05%), married (57.89%), privately insured (68.42%), and non-smokers (71.05%). The study population included 42% Hispanic, 18% Black, 29% White, and 10% Asian. The majority of patients (65.79%) used an external pharmacy, while 34.21% used an internal pharmacy. Overall, 94.74% of patients were adherent to osimertinib with a PDC of 90% or higher. The combined mean PDC across all patients was 96.19%, with a mean PDC of 96.85% for internal pharmacies and 95.83% for external pharmacy users. (p= 0.53).	The findings from our study highlight that the majority of patients maintained high adherence rates regardless of where they filled their medications, reflecting the comprehensive approach to medication management within our healthcare system. This supports the efforts of the Memorial Healthcare System in ensuring appropriate coordination and execution of prescription refills when collaborating with both internal and external pharmacies, as demonstrated by the high adherence observed in both pharmacy types.
Mourino, Stephanie	stephanie.mourino@baptisthealth.net	West Kendall Baptist Hospital	Optimization of Evidence-Based Order Sets to Reduce Duplicate Medication and Drug-Drug Interaction Alerts to Alleviate Alert Fatigue in Pharmacists	Pharmacists play a critical role in patient safety by verifying the accuracy and appropriateness of medication orders. Clinical decision support (CDS) systems generate alerts to identify potential medication errors. However, excessive alerting can contribute to alert fatigue with an associated increase in the risk for errors. Previous studies have demonstrated that override rates reach up to 96%, with duplicate therapy and drug-drug interaction (DDI) alerts among the most frequently overridden medication safety alerts. At Baptist Health (BH) hospitals, these alerts often originate from harmonized evidence-based order sets contributing to alert fatigue within the system.	Duplicate therapy and DDI alerts originating from standardized order sets in a multi-center health system were systematically evaluated for removal. Using the health information technology platform's reporting portal, a baseline report of duplicate therapy alerts by volume was generated. Order sets with the highest number of alerts were reviewed and assessed for clinical relevance and alert removal. All BH hospitals on the shared electronic health record (EHR) were included. Evidence-based order sets were included for evaluation. Oncology, pediatric, and outpatient order sets were excluded from review.	A total of 358,393 duplicate alerts generated from 284 order sets were triggered over a 4-week period. Of these, 180,932 alerts were excluded based on predefined criteria, leaving 177,461 alerts for analysis. The project was stratified into two implementation phases. Phase I focused on the top 10 order sets resulting in the highest number of duplicate alerts, including those for heart failure, stroke, chest pain, hypertensive crisis, and post-tenecteplase stroke. Prior to implementation, these order sets generated 14,418 duplicate therapy alerts. Following implementation, only 1,612 duplicate alerts were triggered representing an 89% reduction. Similarly, DDI alerts decreased 72% from 1,019 to 289 post-implementation. Phase II alerts have been submitted for removal and are pending implementation in May 2025.	Inactionable alerts during the order verification process can contribute significantly to alert fatigue, which may increase the risk of medication errors. Duplicate therapy and DDI alerts are among the most frequently overridden alerts, often adding to this burden. By identifying and removing clinically irrelevant alerts, the goal is to alleviate alert fatigue and improve overall workflow efficiency for pharmacists. Following Phase I implementation, there was a notable reduction in alert volume for duplicate therapy and DDI alerts. These results highlight the positive impact of targeted alert optimization and support continued efforts to reduce unnecessary alert burden across the system.
Nelson, Savannah	snelson@tgh.org	Tampa General Hospital	Multidisciplinary population health initiative impact on controlling blood pressure	To reduce costs and focus on quality rather than quantity of care, Medicare Advantage plans incentivize contracted providers based on performance in value-based measures of care, including blood pressure control. Elevated blood pressure, defined by a systolic blood pressure (SBP) of greater than 120 mm Hg or a diastolic blood pressure (DBP) of greater than 80 mm Hg, effects more than half of the United States adult population and is a major preventable risk factor for cardiovascular diseases. One strategy endorsed by the U.S. Surgeon General to improve blood pressure is the coordination of multidisciplinary care teams who perform at the highest level of their licensure to provide holistic care to patients, such as the Patient-Centered Medical Home (PCMH) model. This model uses a patient-centered, culturally appropriate, and team-based approach to chronic disease management and improved quality of care. Literature describing the specific roles of members within collaborative population health initiatives for blood pressure control to achieve value-based measures is limited. This study aimed to assess the interventions made by nurses, primary care providers, and pharmacists within a multidisciplinary population health initiative to close care gaps and impact value-based measures for high blood pressure.	This was a retrospective, IRB-approved, single-center study of adult patients followed as part of the multidisciplinary population health initiative. Patients identified as having a care gap for controlling high blood pressure were included for data analysis if their care gap was addressed by the population health team. Patients were excluded from the data analysis if they were no longer assigned to a primary care provider in the organization, switched insurance providers, or were not locatable in the electronic medical record. Patients were included into the provider or pharmacist subgroups if they were seen by a primary care provider or pharmacist, respectively, for care gap intervention. The primary outcome of this study was the change in the CMS star rating for Domain 2, Measure C11: Controlling Blood Pressure from September 2023 to January 2024. Secondary outcomes included the total number of care gaps closed, the number of patients with qualifying blood pressures submitted by a population health nurse, and the number of instances where a repeat blood pressure was not conducted in which a nurse provided best practice education. The number and types of interventions made in the primary care provider and pharmacist subgroups were also assessed. The interventions made by pharmacists, primary care providers, and nursing education were analyzed using thematic analysis (Figure 1).	The CMS star rating for Controlling Blood Pressure improved from 2.0 to 3.0 from September 2023 to January 2024. Of 351 patients identified as having care gaps for controlling high blood pressure, 12 patients were excluded for no longer being with an organization provider or the same insurance payor. Upon clinical review by a population health team member, 226 patients were submitted to the payor portal with a qualifying blood pressure by a population health nurse. 45 patients noted as having an upcoming primary care provider visit before the end of 2023 were included in the primary care provider subgroup and 17 patients who did not have an upcoming provider visit were included in the pharmacist subgroup. Interventions made by primary care providers included: Modifications to antihypertensive medications (n=7, 21%) identification of side effects (n=3, 9%), reinforcement of medication adherence (n=2, 6%), and education regarding lifestyle and dietary interventions to improve blood pressure control (n=7, 21%). Care gaps were closed by providers for 26 patients who had a clinic blood pressure or properly documented home blood pressure of	A multidisciplinary population health initiative can improve value-based measures and close care gaps for blood pressure control in a PCMH. The distinct roles of each team member were crucial in addressing medication management, patient education, and accurate blood pressure measurement. Pharmacists can provide valuable education to patients regarding blood pressure monitoring, medication management, and lifestyle interventions. Limitations of this study include its retrospective nature, lack of standardized documentation, limited sample size, and absence of a comparator group. Continuous process improvement and exploring the program's impact on blood pressure goals are essential to optimize this initiative.
Ngo, Vina	vngo@mhs.net	Memorial Regional Hospital South	Evaluation of Outcomes Associated with Parenteral Anticoagulation Followed by Full or Truncated Lead-in Dosing of Apixaban or Rivaroxaban in Patients with Newly Acute Venous Thromboembolism	Direct oral anticoagulants (DOACs), are preferred options for acute venous thromboembolism (VTE) treatment. Apixaban and rivaroxaban do not require pre-treatment with parenteral agents. Current dosing guidelines for apixaban include an initial dosing period of 10 mg twice daily for seven days, and for rivaroxaban, 15 mg twice daily for twenty-one days, followed by a maintenance dose. There is limited guidance regarding whether the full initial dose duration of both agents is needed if patient was initially treated with a parenteral agent. This study aims to evaluate the risk of thrombosis and/or bleeding for the different initiation strategies.	This study was a retrospective chart review of patients with a new VTE initially treated with parenteral agents, low molecular weight heparin (LMWH) or unfractionated heparin (UFH), and transitioned to apixaban or rivaroxaban. Utilizing a report generated from the electronic medical record, patients with new diagnosis VTE started on parenteral anticoagulant from January to June 2024 were identified. Patients were included if they had a newly diagnosed VTE and were initially treated with either UFH or LMWH for at least two days followed by apixaban or rivaroxaban. Patients were excluded if they were younger than 18 years, previously on a DOAC, have an autoimmune thrombophilia, or treated with parenteral agents for less than two days. The primary outcome was the incidence of bleeding defined by International Society on Thrombosis and Haemostasias (ISTH). Secondary outcomes were the incidence of thrombosis, re-hospitalization within 30 days, time to event and hospital length of stay.	A total of 79 patients were included in this study. Of the 79 patients, 74 were prescribed apixaban and 5 patients were started on rivaroxaban. Of the 74 patients transitioned to apixaban, 61 (82.4%) received full lead-in doses and 13 (17.6%) received truncated duration of lead-in doses. Of the five patients on rivaroxaban, three (60%) received full lead-in doses and two (40%) received truncated duration of lead-in doses. Overall, 64 (81%) patients received the full lead-in doses and 15 (19%) received truncated doses. A total of five patients were readmitted due to bleeding or thrombosis, however they were not readmitted within 30 days of the initial encounter. There were four patients that had recurrent thrombosis and one that had a bleeding event. Of the four patients that had recurrent thrombosis, three patients received a truncated apixaban regimen and the one patient with a bleeding event received the full lead-in dose of apixaban.	The findings of this study suggest there may be an effect on outcomes associated with full or truncated lead-in doses of apixaban or rivaroxaban after more than 48 hours of parenteral anticoagulation, however the patients with events had confounding factors that may have contributed to outcomes.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Nguyen, Triet	trietnguyen108@gmail.com	Cleveland Clinic Martin Health - North Hospital	Evaluation of efficacy and safety of droperidol for the relief of acute migraine headaches versus metoclopramide	Headaches account for approximately 3.8 million Emergency Department (ED) visits annually in the United States, with migraines responsible for about 16% of these cases. Although the American Headache Society currently recommends only intravenous (IV) prochlorperazine, IV metoclopramide, and subcutaneous sumatriptan for managing acute migraines in the ED, some providers have increasingly utilized IV droperidol due to its favorable pharmacokinetic profile. However, the comparative efficacy and risk of adverse reactions between droperidol and metoclopramide for acute migraine treatment remain unclear.	This retrospective study compares the efficacy of droperidol and metoclopramide in treating acute migraine or headache in the ED. Conducted at Cleveland Clinic Martin North Hospital, data were collected from all Cleveland Clinic ED locations. Approved by the institutional review board, the study included patients over 18 years of age who received either IV droperidol or IV metoclopramide between May 1, 2023, and September 30, 2024. Patients were excluded if they had allergies or contraindications to the medications, were pregnant or lactating, or had recently used specific interacting medications. The primary predictor variables were the initial medication administered and its dosage, focusing solely on droperidol and metoclopramide. Demographic data were also collected to identify potential confounders. The primary outcome measured was the change in pain scores (on a 0–10 scale) from medication administration to reassessment. Secondary outcomes included adverse effects, incidences of akathisia, drowsiness, QTc prolongation, need for additional doses, hospital admission rates, and ED length of stay. A sample size of 194 patients was calculated to ensure adequate power for establishing non-inferiority between treatments.	Out of over 5,000 available patient records, 219 were reviewed, and 196 met the criteria (98 per group). The mean reduction in numeric pain scores within two hours was 5.2 points for the droperidol group and 4.6 points for the metoclopramide group (mean difference = 0.6; 95% confidence interval [CI], –0.070 to 1.43). This trend remained similar after two hours. Adverse events were reported by 7% (7/98) of droperidol patients and 2% (2/98) of metoclopramide patients (p = 0.088). A second dose was administered to 1% (1/98) of droperidol patients and 6% (6/98) of metoclopramide patients (p = 0.007). Hospital admissions occurred in 2% (2/98) of droperidol patients and 1% (1/98) of metoclopramide patients (p = 0.561). The median ED length of stay was 163 minutes for droperidol patients and 192 minutes for metoclopramide patients (p = 0.322).	Droperidol was not found to be non-inferior to metoclopramide in the treatment of acute migraine headaches in the ED. Both treatment groups showed similar rates of adverse reactions, need for a second dose, hospital admission, and median ED length of stay.
Noel, Lisebeth	lisavenoel@gmail.com	AdventHealth Tampa	Impact of Pharmacist Review of Admission Medication Reconciliations on 30-day Readmission Rates	Effective transitions between phases of care are critical to ensuring continuity and optimizing therapeutic outcomes. Previous studies have demonstrated that effective care transitions are associated with reduced 30-day readmission rates, decreased healthcare costs, and improved clinical outcomes. The purpose of this study is to evaluate the impact of a pharmacist-led initiative to retrospectively review completed admission medication reconciliations on 30-day readmission rates for patients 65 years and older with traditional Medicare insurance.	This single-center retrospective study evaluated the intervention of pharmacist review of admission medication reconciliations (AMR) for patients 65 years and older with traditional Medicare insurance. An intervention grou p of patients admitted to AdventHealth Tampa between September 1, 2024 and November 30, 2024, was compared to a control group from the same period in 2023 who did not receive this intervention. Patients were excluded from the study if they expired within the study time frame. Most participants received a medication history from one of the following: pharmacy technicians, nurses, pharmacy interns, pharmacists, or other clinicians. Upon admission, providers completed a medication reconciliation. Patients in the intervention group had a pharmacist review their AMR for potential clinical improvement measures. Pharmacists received education on how to identify eligible patients through the electronic health record (EPIC) and were encouraged to use a standardized SmartPhase to document the review of the AMR. For data collection, patients were identified based on the documentation of the review under a Medication Reconciliation i-Vent. The primary outcome was 30-day readmission rates. Secondary outcomes included readmission rates of Centers for Medicare and Medicaid Services (CMS) Core Measure disease states (heart failure, chronic obstructive pulmonary disease, pneumonia, myocardial infarction, coronary artery bypass grafting and elective total hip/knee arthroplasty) and the number of total interventions recommended with percentage of acceptance in the intervention group.	Of the 165 patients screened, 126 patients met the criteria for this study. For the primary outcome, 30-day readmissions occurred in 18 out of 85 (24.4%) patients in the intervention group compared to 10 out of 41 (21.1%) patients in the control group (P=0.6843). There was no statistically significant difference in 30-day readmission rates amongst patients with CMS Core Measures (P=0.1301). Further review of 30-day readmission rates for each CMS Core Measure did not yield any statistically significant difference. A total of 33 pharmacist recommendations were made to physicians in the intervention time frame, with an acceptance rate of 84.8% (n=28).	Retrospective pharmacist reviewed AMRs showed no significant difference in 30-day readmission rates for Medicare patients age 65 years and older. Study limitations included a sample size insufficient to detect power, a retrospective design, and limited study duration. Further investigation through a larger, randomized controlled study could more adequately explore the impact of pharmacist involvement in medication reconciliation review programs.
Nunez-Medina, Ricardo M.	nunezrm@pba.edu	Lee Health	Impact of Dihydropyridine Dehydrogenase Genetic Testing on Fluoropyrimidine Toxicity in a Multi-Center Health System	Fluoropyrimidines, including 5-fluorouracil, capecitabine and floxuridine, are vital treatments for various cancers but can cause severe toxicities due to genetic variations in the DPD enzyme, which is responsible for metabolizing these drugs. Genetic deficiencies in DPD can lead to prolonged exposure to toxic metabolites, increasing the risk of adverse effects like nausea, vomiting, diarrhea, mucositis, hand-foot syndrome and neutropenia. Pharmacogenomic testing for DPD gene variants helps predict a patient's ability to metabolize these drugs, enabling more personalized treatment with adjusted dosages or alternative therapies. Despite evidence supporting the benefits of preemptive DPD testing, its adoption remains inconsistent due to barriers like limited provider awareness and reimbursement issues. This study aims to evaluate the incidence of fluoropyrimidine toxicity with and without DPYD testing and assess healthcare providers' knowledge and confidence in implementing genetic testing.	This study was a mixed method with retrospective manual chart review of clinical notes, conducted across a large health-system (four hospitals and one cancer institute) in the United States, aimed to assess the incidence of fluoropyrimidine-associated toxicities in patients who received chemotherapy with or without DPYD genetic testing. The study included adults diagnosed with colon, esophageal, or pancreatic cancer between January 2018 and September 2024, focusing on those treated with 5-fluorouracil, capecitabine, or floxuridine. Additionally, this study included a prospective survey among health care providers. The primary outcome was to compare the toxicities experienced by patients who underwent DPYD testing versus those who did not, while secondary outcomes included evaluating toxicity rates across cancer types and incident of hospitalization due to toxicity. Additionally, healthcare providers' knowledge and confidence level regarding DPYD genetic testing were assessed.	Of the 408 patients screened, 299 patients met inclusion criteria for the study, with 293 patients in the no-DPYD test group and only 6 patients in the DPYD test group. Among patients receiving fluoropyrimidine-based chemotherapy, no significant difference in toxicity incidence was observed between the DPYD test group (66.7%) and the no-DPYD test group (66.2%) (p = 0.98). Among fluoropyrimidine-related toxicities, nausea was the most common toxicity reported in both groups (32.7% in the no-DPYD test group vs. 50% in the DPYD test group; p = 0.97), followed by neutropenia (37.6% in the no-DPYD test group vs. 50% in the DPYD test group). When stratified by cancer type, similar incidences of fluoropyrimidine-induced toxicity were observed across various cancers: colon cancer (DPYD test 68.9% vs. no-DPYD test 66.7%, p = 0.93), pancreatic cancer (DPYD test 50% vs. no-DPYD test 64%, p = 0.68), and esophageal cancer (DPYD test 100% vs. no-DPYD test 61.9%, p = 0.44). Despite the observed toxicity, no significant difference in hospitalization rates was noted between the DPYD test group (50%) and the no-DPYD test group (26%) (p = 0.19). The average length of hospital stay was 9 days in the DPYD test group compared to 4 days in the no-DPYD test group (p = 0.1), and the total number of hospitalizations was one in both groups (p = 0.39).Additionally, an electronic survey of healthcare providers revealed that while 92% were familiar with pharmacogenetics, 52% lacked experience in ordering or adjusting chemotherapy based on pharmacogenetic results. A majority (85.9%) believed that DPYD testing could reduce fluoropyrimidine toxicity, and 71.4% supported its implementation in their institution. However, 51% of healthcare providers expressed a lack of confidence in proceeding with treatment based on DPYD test results.	In conclusion, DPYD testing did not reduce fluoropyrimidine-related toxicities in patients receiving fluoropyrimidine-based chemotherapy. This is likely because most genetic testing was conducted in response to adverse effects rather than prior to treatment. There were no significant differences between groups across cancer types, in hospitalization incidents, or in average length of hospital stay. Although the findings were not statistically significant due to low sample size in the DPYD test group , over half of the patients still experienced fluoropyrimidine-related toxicities. These results highlight the importance of implementing preemptive DPYD testing to minimize toxicity risks and potentially reduce hospitalizations. However, the study has limitations, including difficulty in distinguishing whether observed adverse effects were due to fluoropyrimidine or other chemotherapy agents, and reliance on patient chart documentation for data collection. Survey results indicated that while most healthcare providers acknowledge the value of DPYD testing, there is a notable gap in knowledge and clinical practice regarding the effective use of DPYD test results. This emphasizes the need for targeted training to ensure the successful integration of DPYD testing into clinical care.
Oglesby, Jessica	jessica.oglesby@jax.ufl.edu	UF Health Jacksonville	Rates of Euglycemia After Insulin Sliding Scale Order Parameter Adjustment	Diabetes mellitus affects approximately 38.4 million Americans, making it one of the most widespread disease states in the United States. Glycemic control is crucial in the management of diabetes, aiming to maintain blood glucose levels within a target range while avoiding hypoglycemia. Among hospitalized individuals, hyperglycemia and hypoglycemia are associated with adverse outcomes, including increased morbidity and mortality. The 2024 American Diabetes Association (ADA) Standards of Care recommends initiating insulin for the inpatient treatment of persistent hyperglycemia once a non-critically ill patient experiences > 2 glucose readings ≥ 180 mg/dL within 24 hours. To align with the ADA recommendations, and as part of the UF Health Jacksonville Glycemic Stewardship Initiative, the correction insulin protocols were rewritten on March 19th, 2024, so that no correction insulin was administered until blood glucose was above goal (> 180 mg/dL). We hypothesize that the adjustments made to sliding scale insulin will result in an increased percentage of patients who are euglycemic. The goal of this study will determine if the adjustment of insulin correction scale order parameters impacted overall glucose control in hospitalized patients. By investigating the effectiveness of this new policy, we seek to contribute valuable evidence supporting safer and more effective insulin management strategies in our hospital.	This is a single-center, retrospective, observational study evaluating patients with a correctional insulin sliding scale ordered at UF Health Jacksonville between January 1st- March 18th, 2024 compared to March 19th - June 30th, 2024. Patients will be included if they are at least 18 years of age, were admitted to a non-ICU service, and received at least 2 doses of correctional insulin sliding scale (insulin aspart and insulin regular) per hospital standard scales more than 24 hours from admission. The primary endpoint is to compare rates of glucose control (defined by percentage of blood glucose readings between 70-180 mg/dL out of total point of care testing) before and after sliding scale parameter adjustment. Secondary endpoints include the incidence of rates of hypoglycemia in hospitalized patients before and after initiative implementation, incidence of rates of hyperglycemia in hospitalized patients before and after initiative implementation, whether or not patients required treatment (Dextrose 50%) for hypoglycemia, whether or not patients required ICU admission for any glycemic event, and hospital length of stay.	A total of 400 patients were included; 200 pre-adjustment and 200 post-adjustment. Baseline characteristics were similar with the exception of higher A1c levels in the post-adjustment group (Table 1.) The study found that the adjustment of sliding scale insulin parameters resulted in a statistically significant decrease in euglycemia rates, with the pre-adjustment group achieving euglycemia 54.4% of the time compared to 50.0% in the post-adjustment group (p = 0.011). Hyperglycemia rates were higher in the post-adjustment group at 50.0% versus 43.7% in the pre-adjustment group (p = 0.012), while rates of hypoglycemia, ICU admissions, and DSOW requirements remained similar between groups.	The findings suggest that the adjustment of sliding scale insulin parameters, while aligning with ADA guidelines, resulted in decreased glucose control without increasing hypoglycemia rates. Higher baseline A1c levels in the post-adjustment group may have contributed to the reduced euglycemia rates, indicating that additional factors beyond the parameter adjustment may have impacted glycemic outcomes.
Okoli, Munachimso	muna.okoli@gmail.com	Tallahassee Memorial Healthcare	Comparison of furosemide and metolazone based regimens to furosemide drip in acute heart failure	Many heart failure (HF) patients are hospitalized for acute exacerbation. This presents as volume overload with symptoms of dyspnea, edema, and pulmonary congestion and diuretics are used to treat these symptoms. However, many patients still have inadequate diuresis despite escalating doses of diuretics. This is scenario is known as diuretic resistance. The guidelines make two suggestions to overcome refractory volume overload, but there is no mention of a preferred method. The objective of this project is to compare the safety and efficacy of continuous infusion of furosemide (CIF) to a combination of intermittent boluses of furosemide and metolazone (F+M) in HF patients with diuretic resistance.	This study was a retrospective chart review using the electronic medical records of patients at Tallahassee Memorial Healthcare (TMH). Adults 18 years of age or older, admitted to the TMH main hospital with documented HF with symptoms of acute exacerbation between August 1, 2022, and July 31, 2024, were identified via a Cerner-generated report. Patients who had received a CIF or F+M after failing two separate intravenous intermittent boluses of furosemide were included in the data collection. Patients were excluded if they were a pregnant woman, required mechanical renal replacement therapy, or had a baseline serum creatine of greater than or equal to 5 mg/dL. The efficacy endpoint was the total length of stay (LOS) and safety endpoint was change in serum creatinine levels from baseline to discharge. Secondary endpoints were change in weight and change in sodium, potassium, and magnesium levels from baseline to discharge, and total urine output while on the diuretic medication regimen.	195 patient records were reviewed with 93 meeting the inclusion criteria for the study: CIF (n = 50) and F+M (n = 43). Majority of patients in both groups were males (52% CIF and 53% F+M) with mean age of 72 years (SD 13 years) for CIF and 70 years (SD 14 years) for F+M. There were no differences in LOS for CIF compared to F+M (6.1 vs. 6.0 days; p =0.2). There was no significant difference between CIF and F+M for the change in serum creatinine levels (-0.019 vs. 0.018; p=0.7). There was no significant differences between baseline to discharge for weight (-6.1 vs. -6.2; p=0.3), sodium (0.6 vs. -0.04; p=0.5), potassium (-0.3 vs. 0.2; p=0.5), or magnesium (0.1 vs. 0.1; p=0.4). The total urine output was significantly higher in patients on CIF compared to F+M (8,364 vs. 5,205; p=0.03).	In this retrospective chart review, there were no significant differences in LOS, change in serum creatine, weight, sodium, potassium, or magnesium when either CIF or F+M was used in treatment of patient in acute heart failure exacerbation with diuretic resistance. The use of a CIF resulted in a greater amount of total urine output when compared to F+M.
Okwunwanne, Zenobia	zenobia2B@Live.com	Miami VA Healthcare System	Evaluation of the distribution of naloxone kits in patients diagnosed with opioid use disorder at the Miami Veterans Administration (VA) Healthcare System	United States (U.S) military veterans have been significantly affected by the opioid overdose crisis, with drug overdose mortality rates rising by over 50% between 2010 and 2019. Although opioid prescribing significantly declined between 2010 and 2016, overdose trends still reflect those seen in the non-veteran U.S. population. One approach to reducing overdose risk is to focus on understanding high-risk subpopulations in order to decrease mortality and instill harm-reduction measures.	This IRB-approved retrospective chart review was performed using the Computerized Patient Record System (CPRS) and the Opioid Overdose Education and Naloxone Distribution (OEND) dashboard for all patients identified having a diagnosis of OUD. Patients identified as having OUD were reviewed to determine the need of a naloxone kit. Patients identified as in need of a naloxone kit were contacted to receive counseling on naloxone's role in overdose prevention. Patients were asked for consent to receive a naloxone kit in the mail. Those who consented had a naloxone order placed and documentation made in their chart. Patient data was collected and analyzed.	he study reviewed 88 patients diagnosed with opioid use disorder (OUD) to assess the distribution and acceptance of naloxone kits as part of a harm-reduction strategy. Of the patients contacted, 11 accepted the offer to receive a naloxone kit and 25 declined. Fifty-two patients were not able to be reached.	The preliminary findings of this study suggest that engaging veterans in naloxone distribution efforts presents significant challenges, with a notable portion of patients either declining to receive a naloxone kit or unable to be reached.
Osei Assibey, Michael	michaelkosak.oseiassibey@outlook.com	Tallahassee Memorial Healthcare	Evaluating the impact of haloperidol and droperidol in treatment of cannabinoid hyperemesis syndrome in the emergency department	The prevalence of cannabinoid hyperemesis syndrome (CHS) has increased over the past two decades due to increased cannabis use nationwide. Patients presenting to the emergency department (ED) with CHS symptoms are refractory to conventional first-line antiemetics, such as 5-HT3 antagonists and antihistamines. The recent Guidelines for the Reasonable and Appropriate Care in the Emergency Department (GRACE-4) recommends the use of haloperidol or droperidol to aid in the management of patients presenting with CHS. Various prospective studies have compared haloperidol or droperidol with different antiemetics, but none have compared both agents directly. This study evaluates the treatment impacts of droperidol and haloperidol on CHS in the ED.	This retrospective chart review of electronic medical records was conducted in two EDs of 106 beds at Tallahassee Memorial Healthcare (TMH). Adults 18 years of age or older, presenting to the ED with signs and symptoms of CHS between August 1, 2022, and July 31, 2024, were identified via a Cerner-generated report. Patients with documented cannabis use who received either droperidol or haloperidol for CHS treatment were included in the study. Patients were excluded if they were admitted to the hospital, pregnant or breastfeeding, allergic or intolerant to study drugs or received both droperidol and haloperidol during the same encounter. The primary endpoint was the total ED length of stay (LOS). Secondary endpoints included use of other antiemetics, time from drug administration until ED discharge (TUD) after last drug administration, median dose of study drugs and frequency of doses used.	2135 patient records were reviewed with 208 meeting the inclusion criteria for the study: haloperidol (n = 111) and droperidol (n = 97). A numerically larger number of females were in each treatment group (65% haloperidol and 56% droperidol) with mean age of 40 years (SD 18 years) for haloperidol and 39 years (SD 17 years) for droperidol. There were no differences in LOS for haloperidol compared to droperidol (7:39 vs. 7:02 hrs; p =0.263). The TUD after last drug administration was not significantly different between haloperidol and droperidol (5:41 vs. 4:58 hrs; p = 0.873). The median dose used was 5.0 mg IV for haloperidol and 2.5 mg IV for droperidol with no difference in the frequency of dose. The number of other antiemetics used was significantly lower in patients on droperidol compared to haloperidol (0.9 vs. 1.4; p <0.001). Antiemetics that were used the most in addition to haloperidol and droperidol were ondansetron (63 vs. 44) and diphenhydramine (59 vs. 26).	In this retrospective chart review, there were no differences in LOS and TUD when either haloperidol or droperidol was used in treatment of patients with CHS in the ED. The use of droperidol resulted in lesser use of other antiemetics compared to haloperidol. Future studies should compare first and second-generation antipsychotics at multiple study centers with option of switching patients from IV to PO for possible discharge for CHS treatment.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Parsons, Sierra	nyleerara@gmail.com	Sarasota Memorial Hospital	Impact of a Clinical Decision Support Tool on Testing and Diagnosis of Heparin-Induced Thrombocytopenia in a Large Community Health Care System	Misdiagnosis of heparin immune thrombocytopenia (HIT) is common problem given multiple etiologies of thrombocytopenia and extensive use of heparin. Guidelines recommend use of the 4T score to estimate the probability of HIT and assist in the decision for diagnostic testing. Patients with intermediate or high probability scores (>4) should undergo further laboratory testing. A clinical decision support tool requiring the calculation of a 4T score was implemented in the hospital electronic medical record at Sarasota Memorial Hospital in June 2023. This study seeks to explore the impact of this clinical decision support tool on optimizing the evaluation and diagnosis of HIT in the institution.	This single-center, IRB-approved, retrospective study included adult inpatients ordered an immunoassay such as heparin induced platelet antibody testing (HAT) or functional assay such as a serotonin release assay (SRA) for suspected HIT. Patients who were pregnant or less than 18 years old were excluded. Patients ordered heparin antibody testing between July-December 2022 or between July-December 2023 were assigned to the pre and post intervention groups, respectively. The primary outcome was number of HAT tests ordered per 1000 patient admissions. Secondary outcomes included the number of HAT and SRAs ordered in each group, number of duplicate HAT and/or SRAs ordered within a visit, number of HATs ordered with a low 4T score (0-3), provider versus retrospective investigator 4T scores, number of positive HATs and their associated 4T score, inappropriate documentation of heparin allergy in patient's electronic health record (EHR), hospital length of stay, and cost of laboratory testing and alternative anticoagulants. Data was retrieved from the Clinical Performance Management platform and EHR and collected using Excel and REDCapB. Outcomes were analyzed using descriptive statistics with JMP ® used for inferential statistics. Inferential statistics included t-tests and Mann-Whitney U test as appropriate for interval, ratio, or ordinal data and Chi-Square for nominal data.	Of the 226 patients screened, 133 and 69 patients were included in the pre- and post-intervention group, respectively. There were 4.7 HAT tests per 1000 admissions in the pre-group versus 2.06 in the post-group (p<0.001). This was a 56% reduction in the rate of HAT tests ordered in the post-group per 1000 patient admissions (OR 0.44, 95%CI (0.33-0.59)). Overall, 145 HATs and 28 SRAs were ordered in the pre-group compared to 69 HATs and 10 SRAs ordered in the post-group. Twelve duplicate HATs were ordered in 11 patients in the pre-group versus none in the post-group (p=0.014). In both the pre- and post-groups, the investigator 4T score was low in 74.4% and 76.8% of patients, respectively. Median investigator 4T score was 3 [IQR:2-4] in the pre-group and 3 [IQR:2-3] in the post-group, whereas the median clinician score in the post-group was 4 [IQR 4-5] (p<0.001). Sixteen (12%) patients in the pre-group compared with 3 (4.4%) patients in the post group had a positive HAT with a low investigator 4T score, but no patients in either group had a positive SRA. Only 2.97% of patients across both cohorts had a positive SRA. In patients with a negative SRA result, 6% of patients retained a heparin allergy at discharge in their EHR in the pre-group and 4.3% in the post-group. No difference was observed in median length of stay (13 vs 12 days; p=0.78). Total cost of HIT testing and bivalirudin as an alternative anticoagulant was $103,218 vs $36,711 in the pre- and post-group, respectively.	The implementation of the 4T clinical decision support tool significantly decreased HIT laboratory testing ordered in the post group compared to the pre group. This led to more appropriate ordering of HIT testing and reduced expenditure on alternative anticoagulants, resulting in an estimated cost savings of $63,507 in a 6-month period. Only patients with intermediate or high 4T scores based upon investigator scoring had a positive SRA further validating the integrity of the 4T score. There was a statistically significant difference in retrospective investigator post-group scoring compared to clinician scoring, highlighting the need of additional prospective resources including, but not limited to antithrombotic stewardship review to further improve the utilization of HIT laboratory testing based upon the 4T score. Limitations of this study include reliance on chart documentation for accurate 4T scoring and potential outcome bias regarding investigator 4T scoring. Overall, this study supports the continued use of the 4T scoring tool and identifies the need for further resources devoted to prospective review of HIT laboratory orders and appropriate follow up of testing results.
Pellett, Danielle	danielle.pellett@orlandohealth.com	Orlando Regional Medical Center-Orlando Health	Systolic blood pressure control in critically ill patients with spontaneous intracerebral hemorrhage	Spontaneous intracerebral hemorrhage (ICH) is a life-threatening condition accounting for 10–15% of all strokes, with high morbidity and mortality. Hypertension is the most significant modifiable risk factor, and systolic blood pressure (SBP) control is a cornerstone of management. The optimal SBP target to balance hematoma expansion versus potential ischemic injury remains controversial. The American Heart Association/American Stroke Association updated guidelines in 2022. Recommendations included initiating blood pressure lowering treatment within 2 hours of ICH onset and reach a target SBP within 1 hour. In patients presenting with a SBP between 150 to 220 mmHg, lowering to a range of 130 to 150 mmHg is safe but a target less than 130 mmHg is potentially harmful. In addition, avoiding peaks and large variability in SBP may improve functional outcomes. Gaps in knowledge remain, however. The safety and efficacy of early blood pressure lowering in patients with SBP greater than 220 mmHg, those with large and more severe ICH, and those requiring surgical decompression were not adequately represented in previous studies. In October 2022, Orlando Health implemented institutional guidelines for SBP management in critically ill patients with spontaneous ICH. In patients with an initial SBP between 150-220 mmHg, a SBP goal less than 150 mmHg is recommended. In patients presenting with a SBP greater than 220 mmHg, an SBP goal less than 176 mmHg is recommended. This study aims to compare the management and clinical outcomes of spontaneous ICH patients before and after guideline implementation.	This was a retrospective chart review of adult patients admitted to the intensive care unit (ICU) at ORMC with spontaneous ICH. Patients were placed into one of two groups based on whether they were treated pre- or post-implementation of the spontaneous ICH guideline (October 2022). Patients were categorized into pre-guideline (May 1, 2021 – September 30, 2022) and post-guideline (November 1, 2022 – May 30, 2024) groups. Patient charts were identified through the electronic medical record (EMR). The primary outcome was the incidence of hematoma expansion, defined as worsening hemorrhage on repeat head computed tomography (CT) scan within 24 hours of the initial scan. Secondary outcomes included neurologic deterioration, cerebral ischemia, ICU/hospital length of stay (LOS), in-hospital mortality, incidence of acute kidney injury (AKI) within 72 hours, SBP variability, incidence of hypotension and use of vasopressors. Data were extracted from the EMR and analyzed in SPSS software using Student's t-test, Mann-Whitney U test, Chi-squared, or Fisher's exact test as appropriate.	A total of 150 patients were included in the study, with 75 in the pre-guideline group and 75 in the post guideline group. The incidence of hematoma expansion was similar between the two groups, occurring in 27% of patients pre-guideline versus 29% post-guideline (p=0.72). Neurologic deterioration was observed in 35% of patients in the pre-guideline group compared to 24% in the post-guideline group (p=0.17). ICU and hospital length of stay were similar between groups, with medians of 3 and 8 days, respectively (p=0.35; p=0.70). In-hospital mortality was 25% pre-guideline versus 23% post-guideline (p=0.81). There was a trend toward less SBP variability in the post-guideline group (79 mmHg vs. 69 mmHg) (p = 0.18). The incidence of acute kidney injury (AKI) was 35% in the pre-guideline group and 36% in the post-guideline group (p=0.87). Hypotension requiring vasopressors was significantly lower in the pre-guideline group (17%) compared to the post-guideline group (7%) (p=0.045).	Implementation of an institutional SBP management guideline for spontaneous ICH patients was associated with no difference in the incidence of hematoma expansion, neurologic deterioration, ICU/hospital length of stay, and in-hospital mortality. However, post-guideline patients demonstrated a significantly lower incidence of hypotension requiring the need for vasopressor use, suggesting improved hemodynamic stability. Additionally, there was a trend toward less SBP variability and hypotension in the post-guideline group, although it did not reach statistical significance. One-third of the overall patients developed an AKI within 72 hours, underscoring a need for further research into the optimization of blood pressure management to avoid renal adverse events in patients with spontaneous ICH.
Pierce, Austin	Austin.Pierce@va.gov	Bay Pines VA Healthcare System	Evaluation of a Pharmacist-Led Weight Loss Clinic in an Outpatient Veterans Affairs (VA) Population	diagnosis of obesity (BMI ≥ 30kg/m2) is associated with increased morbidity, mortality, and burden of healthcare costs; thus, clinical guidelines recommend pharmacotherapy (in addition to diet, exercise, and behavioral modifications) to those meeting the criteria for obesity. Additionally, the aforementioned therapies are recommended in patients with a BMI ≥ 27 kg/m2 that have comorbidities such as diabetes, hypertension, hyperlipidemia, etc. Therapeutic success with pharmacologic methods is defined as weight loss of at least 5% body weight after three months of therapy and is recommended to be continued. Weight loss of less than 5% at three months signals potential failure and may warrant discontinuation and trial of an alternative agent(s). A past quality improvement project on weight management medication prescribing at the Bay Pines VA Healthcare System led to the initiation of a pharmacist-led pilot program outlining a protocol/order set for the use of weight management medications including: phentermine/topiramate, naltrexone/bupropion, orlistat, semaglutide and tirzepatide aimed at improving patient outcomes related to weight management. The purpose of this study is to evaluate the pharmacist-led management of weight loss medications versus those of other providers.	This is a single-center retrospective cohort study conducted at the Bay Pines VA Healthcare System. Utilizing the electronic health record (EHR) system, patients who have active prescriptions for one of the formulary approved weight management medications will be identified. A chart review of each patient will be completed and patients included in a pharmacist-led pilot program will be compared against patients on the same medications managed by non-pharmacist providers. Efficacy data will include the change in weight (pounds [lbs] and percent [%] body weight) at baseline, 1 month, 2 months, 3 months, 6 months, and 12 months thereafter, as well as reduction in total BMI. Compliance and follow up will be compared between the pharmacist led group versus the non-pharmacist led group. Reported adverse drug events will be recorded as safety data. Participation in comprehensive lifestyle interventions such as MOVE!, TeleMOVE!, Registered Dietitian (RD), Whole Health, and/or enrollment in a non-VA nutrition program will be tallied. Exclusion criteria will include expired patients.	Results and conclusions will be presented at the Florida Residency Conference	Results and conclusions will be presented at the Florida Residency Conference
Pierre, Jude	Judesidneypierre@gmail.com	Baptist Hospital of Miami	Improving Pharmacist Readiness in Transitioning to an Academic Medical Center	Pharmacists play an important role in optimizing medication therapy and supporting interprofessional care. As healthcare systems expand, pharmacists are increasingly expected to provide not only accurate medication dispensing, but also real-time clinical decision support. Preparing pharmacists for these evolving demands is essential, especially when transitioning from a community hospital setting to an academic medical center. To support this transition, a structured internal medicine pharmacotherapy curriculum has been designed to refresh clinical knowledge, review updated guidelines, and enhance confidence among experienced clinical pharmacists.	This was a single-site, IRB-exempt, qualitative improvement initiative that included a structured internal medicine pharmacotherapy curriculum, implemented from January 2025 to February 2025. The primary objective of the initiative was to assess the average score on a pre- and post-curriculum comfort level survey, while the secondary objective was to evaluate the average post-curriculum clinical competency score. The same pre- and post-curriculum comfort level survey was administered before and after the curriculum. Additionally, the curriculum included eight 30-minute presentations, delivered in four one-hour blocks, with each presentation followed by a post-curriculum competency test consisting of 2–3 questions. Twenty-eight pharmacists were screened to participate in the curriculum, with pharmacists being included in the project if they completed both pre- and post-curriculum comfort level surveys and completed all post-curriculum competency tests. Those who did not meet these criteria were excluded from the final analysis. The objective of this project was to develop a structured internal medicine pharmacotherapy curriculum to improve clinical competency and comfort level of clinical pharmacists, to support internal medicine residents in preparation for transitioning to an academic medical center.	Of the 28 screened pharmacists, 22 completed both comfort level surveys and all post-curriculum competencies. Following completion of the curriculum, pharmacists reported a mean increase of 2.8 points in comfort level on a Likert scale ranging from 1 (least confident) to 10 (most confident), with 40% of respondents indicating a score of 10. The average clinical competency score across all participating pharmacists was 89%, with 18/22 (82%) achieving a score of ≥80%. Notably, six pharmacists (27%) achieved a perfect score of 100%.	The implementation of a structured internal medicine pharmacotherapy curriculum resulted in significant improvements in the clinical confidence of participating pharmacists, with post-curriculum competency scores reflecting a high level of clinical knowledge and performance. These findings underscore the importance of proactive, targeted educational initiatives in transitioning pharmacy staff to academic clinical environments. Such programs may serve as a model for other institutions undergoing similar transformations, promoting high-quality care through improved pharmacist readiness.
Porben Guzman, Laura	laura.porbenguzman@baptisthealth.net	Baptist Hospital of Miami	Evaluation of migraine treatment in the emergency department	Migraine has been recognized by the World Health Organization as a major public health concern due to its significant impact on individuals and healthcare systems. In the United States alone, migraines lead to approximately 1.2 million emergency department (ED) visits each year. Despite the frequency of these visits, fewer than 25% of patients experience sustained headache relief following acute migraine treatment in the ED. This highlights a critical gap in effective management. The economic burden associated with migraines in the U.S. is substantial, with annual costs estimated to range from $36 billion to over $56 billion. The treatment of acute migraines in emergency settings is highly heterogenous, underscoring the need for standardized and more effective treatment strategies. First-line therapy for migraine treatment in the ED typically includes the use of intravenous (IV) fluids, non-opioid analgesics and antidopaminergic to alleviate symptoms. If the previous agents fail, therapy can be escalated to triptans or dihydroergotamines. Other medications can be used as adjunct therapy, such as magnesium and valproic acid. Opioids are generally avoided due to their limited effectiveness, potential for abuse and less favorable side effects. This project aimed to implement an evidence-based treatment algorithm for acute migraine management in the ED.	Single site retrospective chart review at Baptist Hospital of Miami (BHM) from January-April 2025 pre and post implementation of an evidence-based treatment algorithm. A total of 100 adult patients presenting with chief complaint of migraine between the specified timeframe were included, 50 in the pre-implementation arm and 50 in the post-implementation. Pregnant women were excluded. The primary outcome was the percentage of patients who received evidence-based migraine treatment. Secondary outcomes were the percentage of patients treated with opioids, percentage of patients admitted without migraine abortion and percentage of ED re-presentation due to migraine.	Algorithm implementation improved guideline-based migraine treatment adherence in the ED from 74% to 88%. The most used medications for migraine abortion were IV fluids, antiemetics and non-opioid analgesics. Utilization of algorithm led to a decrease from 26% to 12% in opioid use for acute migraine management. There was a 50% decrease in hospital admission due to abortion of migraine in the ED. Also, zero patients re-presented to the ED for migraine treatment following implementation of treatment algorithm.	The results of this study demonstrate the impact of migraine treatment optimization in the ED. By implementing an easy to follow, evidence-based algorithm, there was a significant decrease in unnecessary opioid prescriptions. Limitations include the small sample size, generalizability of findings, the subjectivity of patient reported pain severity and inability to capture re-admissions to other health care facilities. Future directions include developing an ED migraine treatment order set utilizing the treatment algorithm, emphasizing "treat to street" migraine care in the ED and, assessing inpatient prescribing trends for migraine management.
Prevost, Jacob	jacobpre99@gmail.com	Bay Pines Veterans Affairs Healthcare System	Semaglutide in alcohol use disorder: a retrospective cohort study	Alcohol use disorder (AUD) is a prevalent substance use disorder worldwide leading to preventable death and comorbidity. Despite the availability of FDA-approved medications, including disulfiram, naltrexone, and acamprosate, as well as topiramate off-label, less than 2% of the US population with AUD receive FDA-approved pharmacotherapy. Drug-drug interactions, burdensome dosing, and negative adverse effects limit patient compliance with treatment. Semaglutide is a glucagon-like peptide-1 agonist (GLP-1RA) approved for the treatment of type 2 diabetes mellitus and weight loss, though this drug has been hypothesized as a viable option for use in AUD. Recent patient case series and retrospective cohort studies suggest that semaglutide may reduce symptomology, incidence, and recurrence of AUD. Given its relatively few drug interactions, once-weekly dosing, and concurrent benefit in weight management, semaglutide may pose as a favorable alternative for patients receiving treatment for AUD. This study intends to build on preliminary evidence and drive thesis-generation support for the use of semaglutide in AUD.	This multi-center retrospective cross-sectional cohort study was conducted at the Bay Pines VA Healthcare system and included patients throughout the regional VA Healthcare System. The VA Corporate Data Warehouse (CDW) was queried for electronic health record (EHR) data of patients who met the enrollment criteria from June 1, 2017, to August 31, 2024, and specifically included those with AUDIT-C scores reported both before and after an order for semaglutide. Additional data collected from identified patients included prescription information for semaglutide, AUDIT-C scores and presence of other primary treatment regimens for AUD. AUDIT-C data was stratified across severity groups 4-5 (moderate-risk), 6-7 (high-risk), 8-12 (severe-risk). Both within group change in AUDIT-C and inter-group comparisons were conducted to assess the potential impact of semaglutide on AUDIT-C scores.	Results and conclusions will be presented at the Florida Residency Conference.	Results and conclusions will be presented at the Florida Residency Conference.
Prosser, Maggie	maggiegraceprosser@gmail.com	UF Health Jacksonville	Accuracy of Methicillin-Resistant Staphylococcus aureus (MRSA) Nares Surveillance Tests in Below the Knee Skin and Soft Tissue Infections	Skin and soft tissue infections (SSTIs), particularly those below the knee, including diabetic foot infections, are prevalent in hospitals and can range from mild to life-threatening. Methicillin-resistant Staphylococcus aureus (MRSA) is a common pathogen in these infections. Current guidelines recommend empiric MRSA coverage for patients with specific risk factors; however, many patients are placed on this treatment even in the absence of such factors. Importantly, existing guidelines lack recommendations for de-escalating therapy before confirming culture results, which could lead to unnecessary prolonged use of broad-spectrum MRSA antibiotics. MRSA is often colonized in the nares, and the MRSA nares polymerase chain reaction (PCR) test is increasingly used in hospitals to assess colonization. Studies have demonstrated high negative predictive values (NPV) of 94-99% for the MRSA nares PCR in pneumonia, leading to its endorsement as a de-escalation tool in recent guidelines. While smaller studies on SSTIs have reported low positive predictive values (PPV), the NPV remains high, around 92-99%. Utilizing the MRSA nares PCR test could facilitate earlier de-escalation of therapy, potentially improving outcomes and reducing adverse events associated with unnecessary antibiotic use.	This retrospective study examined adults that were admitted for any type of skin and soft tissue infection, including diabetic foot infections and osteomyelitis, that was occurring below-the-knee from January 1st, 2021 to October 1, 2024 at UF Health Jacksonville (Downtown and North Campuses). We included patients in the study if they had some type of culture done from their site of infection and if they also had a MRSA nares surveillance test done within 14 days of those cultures being collected.	There were a total of 216 cultures identified that were collected from a source that was below the knee that were identified to be included in the study. Main reasons specimens had to be excluded from the study was either due to duplicate cultures for a singular patient or the MRSA nares were not collected within 14 days of the culture. In total, 117 patients were able to be included in the study after exclusion was completed. Out of the 117 patients, 90 of them had a negative MRSA nares surveillance test, but only 86 of them were actually found to not have MRSA in their culture result. For the remaining 27 patients that tested positive on their MRSA nares, 13 of the patients tested positive for MRSA in their collected cultures. From the data that was collected, a negative predictive value of 95.556% and positive predictive value of 48.14% was found (p-value = <0.001). Also, the specificity and sensitivity of the collected data was 86.0% and 76.47% respectively.	This study discovered that when analyzing the utility of MRSA nares for predicting the occurrence of MRSA infection in an infection that was below-the-knee that the negative predictive value of 95.56%. These results might show a falsely elevated negative predictive value due to the high occurrence of a culture negative result on cultures.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Qu, Yiyuan	michelle.yuan.qu@gmail.com	St. Joseph's Hospital	Risk of hypertriglyceridemia between soy-based and mixed oil-based intravenous lipid emulsions	Hypertriglyceridemia is a relatively common complication from total parenteral nutrition (TPN). Soybean oil-based lipid emulsions have historically been the only available lipid product, but newer mixed-oil based lipid emulsions are thought to have several potential safety benefits including reduced risk of parenteral nutrition-associated liver disease, anti-inflammatory effects, and reduced risk of hypertriglyceridemia. This study seeks to provide further evidence for the use of mixed oil-based lipid emulsions to reduce the risk of hypertriglyceridemia.	Patients were excluded if the nares test and cultures were collected more than 14 days apart and each patient was only included for their first inpatient encounter and the other subsequent encounter were not included. Primary endpoint is discovering the sensitivity, specificity, positive and negative predictive values for MRSA nares surveillance tests to predict presence of clinical MRSA SSTI below the knee.	A total of 142 patients were included in the study. The mean change in TG from baseline was 12.0 mg/dL in the Intralipid group and -10.9 mg/dL in the SMOFlipid group. The difference in the primary outcome between the two groups was 22.9 mg/dL (95% CI 2.1, 43.7), with patients receiving Intralipid more likely to experience an increase in their TG level and patients receiving SMOFlipid more likely to experience a decrease in TG level.	In adult patients receiving parenteral nutrition, those who received mixed-oil based intravenous lipid emulsions had less increase in their triglyceride levels from baseline to day 7-10 compared to those who received soy-based intravenous lipid emulsions. Overall, the mixed-oil group had a decrease in their serum triglyceride level, while the soy-based group had an increase in their level. There was no difference seen in the length of hospital stay or mortality between the two groups.
Quibeuf, Caitlin	caitlin.quibeuf@ufhealth.org	UF Health - Shands Hospital	Phenobarbital versus benzodiazepines for alcohol withdrawal syndrome in patients with burn injuries	Alcohol withdrawal syndrome (AWS) is a life-threatening condition that arises from the abrupt cessation of prolonged alcohol use leading to an imbalance between inhibitory gamma- aminobutyric acid (GABA) and excitatory glutamate neurotransmission. This imbalance can precipitate autonomic instability, agitation, delirium, seizures, and, in severe cases, death. Though benzodiazepines have long been the standard of care for AWS, phenobarbital has recently gained interest as an alternative agent due to its dual mechanism of action-enhancing GABA activity while also antagonizing N-methyl-D-aspartate (NMDA) and alpha-amino-3-hydroxy-5- methyl-4-isoxazolepropionate (AMPA) receptors. Studies in emergency department and medical/ surgical ICU populations suggest phenobarbital may reduce mechanical ventilation rates and ICU length of stay. Despite this emerging evidence, its role in the management of AWS in patients with burn injuries remains largely unknown as studies in this patient population are sparse. Managing AWS in burn patients presents unique challenges due to altered pharmacokinetics, increased metabolic demands, and heightened respiratory risks. In January 2022, a phenobarbital- based AWS protocol was implemented in the burn unit at our institution as an alternative to the existing benzodiazepine-based Clinical Institute Withdrawal Assessment for Alcohol (CIWA-Ar) protocol. Therefore, the purpose of this study was to compare phenobarbital to benzodiazepines for the management of AWS in burn patients.	This was an IRB-approved, single-center, retrospective, cohort study conducted at a 27-bed burn unit within a large academic medical center. Adult patients with < 20% total body surface area (TBSA) burns admitted between January 2020 - October 2024 who received treatment for AWS were included. Patients intubated before initiating treatment for AWS were excluded. Patients were stratified into two cohorts based on initial treatment strategy: those receiving benzodiazepines per the CIWA-Ar protocol and those treated with phenobarbital under the new protocol.	We identified 22 patients meeting inclusion criteria. Baseline characteristics were similar between groups (Table 1). There was no difference in the incidence of mechanical ventilation between those who were placed on the CIWA-Ar protocol versus the phenobarbital protocol (9 vs. 5 patients, P=0.18) (Table 2). There were significant differences in the duration of intubation (24 vs 2 hours, P=0.05), ICU length of stay (10 vs. 1 day, P=0.001), hospital length of stay (28 vs. 10 days, P=0.007), and average daily exposure to benzodiazepines (1.03 vs. 0.06 mg, P=0.001), favoring the phenobarbital group (Table 2).	There was no significant difference between the groups with respect to the incidence of mechanical ventilation. However, there was a significant difference in the duration of intubation, ICU and hospital length of stay, and average daily benzodiazepine exposure. Larger, prospective trials are warranted to assess this further as literature is currently lacking in this patient space.
Rajeev, Sreelakshmi	srrajeev@mhs.net	Memorial Hospital Pembroke	Evaluating the Role of Glucagon-Like-Peptide-1 Receptor Agonists as Adjunctive Therapy for Suboptimal Weight Loss Following Bariatric Surgery	Obesity is a chronic condition closely linked to metabolic and cardiovascular diseases, and its management often involves multiple strategies. While bariatric surgery is one of the most effective interventions for achieving significant and sustained weight loss, not all individuals experience lasting success with surgery alone. For those patients, glucagon-like-peptide-1 (GLP-1) receptor agonists have recently gained attention for their proven ability to support sustained weight loss and improve related health issues. As GLP-1 receptor agonists continue to demonstrate strong outcomes in the treatment of obesity, there is growing interest in understanding their role following bariatric surgery. Recent studies suggest that GLP-1 receptor agonists may enhance weight maintenance outcomes after bariatric surgery, indicating a need for further research into their role as adjunctive therapy. However, there remains a notable gap in the literature regarding the inclusion of recent U.S. data, particularly as newer GLP-1 receptor agonists have become more widely used. Investigating the role of GLP-1 receptor agonists in long-term weight management post-surgery can provide valuable insights for optimizing treatment strategies and enhancing patient care. This research will contribute to a better understanding of how these medications can be effectively integrated into post-bariatric care.	The primary outcome was the incidence of mechanical ventilation while on the AWS protocol. Secondary outcomes included daily benzodiazepine exposure, ICU length of stay, hospital length of stay, and the incidence of new hypotension following phenobarbital administration. New hypotension was defined as a drop in systolic blood pressure (SBP) to <90 mmHg or mean arterial pressure (MAP) to <65 mmHg within one hour of phenobarbital administration, provided this change was not present before administration or attributable to other causes.	Out of 878 patients screened, 54 met the inclusion criteria, with the majority undergoing laparoscopic sleeve gastrectomy. Of the included patients, 30 were prescribed semaglutide, while 24 were prescribed tirzepatide. The average age of the patients was 45 years, and most were female (n = 44). On average, GLP-1 receptor agonist (GLP-1RA) therapy was initiated approximately four years after bariatric surgery, with a mean treatment duration of nine months. During this period, patients experienced a mean weight loss of 13.02 kg (p <0.001). Additionally, patients experienced a mean reduction in BMI of 4.59 (p < 0.001) and a modest average decrease in systolic blood pressure of 2.31 mmHg.	The findings of this study demonstrate that GLP-1 receptor agonist (GLP-1RA) therapy, particularly with semaglutide and tirzepatide, leads to significant reductions in BMI and body weight in the post-bariatric surgery population. While we assessed all GLP-1 receptor agonists, the included patients were specifically on these two medications. Although the weight loss and cardiovascular benefits of GLP-1 receptor agonists have been well-established in large randomized controlled trials, this study highlights a critical aspect: the need for continued pharmacological support following bariatric surgery. While bariatric surgery is intended to provide permanent weight loss, many patients struggle to maintain long-term weight management, which highlights the importance of adjunctive therapies like GLP-1 receptor agonists in the post-surgery phase. Based on these findings, GLP-1 receptor agonists may be considered an adjunct in post-bariatric surgery care to optimize weight maintenance and improve long-term health outcomes. Additionally, this study highlights the potential for pharmacist-led interventions in this population, where pharmacists can play a crucial role in monitoring treatment, adjusting dosages, and offering personalized care for patients using GLP-1 therapy after surgery.
Rangel García, Jose Daniel	jose.rangel@leehealth.org	Lee Health - Cape Coral Hospital	Assessment of analgesic efficacy and functional mobility in surgical patients administered liposomal bupivacaine compared to standard bupivacaine	Liposomal bupivacaine (LB) is an extended-release formulation of standard bupivacaine (SB) that is FDA-approved for interscalene brachial plexus nerve blocks and surgical site infiltration. Off-label use of LB has increased due to its potential to prolong analgesia, improve patient satisfaction, and reduce opioid consumption and pain scores. The American Society of Anesthesiologists, however, does not provide guidance on liposomal bupivacaine use in peripheral nerve blocks. The safety and efficacy of LB for postoperative regional analgesia via non-FDA-approved nerve blocks remain unestablished, particularly when used with adjunct analgesics. Furthermore, despite a restriction limiting LB to 10 mL per case within the health system, overall utilization and associated costs have not declined. Comparative studies evaluating LB and SB in terms of opioid consumption, functional recovery, and patient satisfaction over 24 to 72 hours have shown no significant differences in pain control, mobility, or opioid use. Notably, studies reporting favorable outcomes for LB often have financial ties to its manufacturer. Given the inconsistent evidence supporting LB's superiority over SB, the higher cost compared to SB, and the increasing off-label use within the health system, this study aimed to assess the analgesic efficacy and impact on postoperative functional mobility of LB versus SB. The objective was to identify cost-saving opportunities, minimize LB use, and support the integration of clinically equivalent, cost-effective alternatives into anesthesia protocols.	This was an IRB approved, multi-site, retrospective chart review of 400 patients conducted across four adult acute care facilities in southwest Florida. Patients were included in the study if they were American Society of Anesthesiologists Physical Status Classification (ASA) I – III and received LB or SB in any combination for general, orthopedic, neurological, cardiothoracic, or obstetrical and gynecological surgeries occurring between July 1, 2023, and December 31, 2023. Patients were excluded if they had a history of opioid use disorder or dependence. Each patient was only counted once. If a patient underwent a subsequent, unrelated surgical procedure, they were considered a new patient. Data analysis was performed utilizing descriptive statistics. The primary outcomes were mean postoperative opioid consumption (in MME) at 24, 48, and 72 hours post-surgery, mean postoperative pain score at 24, 48, and 72 hours post-surgery, and mean time (in post-operative days) to functional mobility post-surgery.	Of the 194 patients included, 102 received LB and 92 received SB. 97 patients of the LB group also received SB. Demographics were similar between the LB and SB groups except for age (67.7 vs 58.7 years, p<0.01). The LB group had more ASA III patients compared to SB (ASA III 77.5% vs 58.7%, ASA II 19.6% vs 35.9%, ASA I 2.9% vs 5.4%, p=0.02). For the primary outcome results, a significant difference was demonstrated in pain scores at 24 hours between LB and SB groups (no pain 9.8% vs 9.8%, mild pain 12.8% vs 1.1%, moderate pain 23.5% vs 33.7%, severe pain 53.9% vs 55.4%, p=0.01). Pain scores in both LB and SB groups at 48 (p=0.52) and 72 hours (p=0.07) did not show statistical significance. MME consumption at 24 (13.8 vs 18.8, p=0.64), 48 (30 vs 37.5, p=0.20), and 72 hours (47.5 vs 59.4, p=0.44) demonstrated no statistical significance. Neither functional mobility (1 vs 1 day, p=0.38) nor post-surgical ambulation (40 vs 25 feet, p=0.26) were able to show statistical difference. For the secondary outcomes, no difference in time to first dose of opioid administration post procedure in LB and SB groups (4 vs 2.6 hours, p=0.09) was evident. Length of postoperative hospital stay was significantly longer in the LB group (2.1 vs 1.3 days, p=0.03). Despite similar MME consumption in both groups, a significant difference in total dosage of acetaminophen as an adjunctive medication (3600 vs 2050 mg, p=0.03) was established, but there was no difference in total dosages of other adjunctive medications such as gabapentin (750 vs 800 mg, p=0.07), ibuprofen (2400 vs 1000 mg, p=0.52), and ketorolac (30 vs 22.5 mg, p=0.59).	The administration of LB was not associated with any additional benefits in lowering pain scores, decreasing cumulative opioid consumption, or improving functional mobility. Despite the health system approved restriction of 10 mL of LB per case, 72 of 102 patients in the LB group received more than 10 mL. LB did not significantly reduce time to first opioid administration post procedure, hospital length of stay, or adjuvant pain medication utilization compared to SB. This study supports the recommendation to restrict further LB usage within the health system due to lack of benefit compared to SB and increased financial burden.
Rautio, Alexander	alexrautio1138@gmail.com	Ascension St. Vincent's Riverside	Piperacillin/tazobactam versus cefepime for the management of pneumonia in critically ill patients with pre-existing acute kidney injury	Two commonly utilized beta-lactam antibiotics, piperacillin/tazobactam (PTZ) and cefepime, have demonstrated efficacy in critically ill patients with pneumonia. However, their usage does not come without the potential risk of undue adverse effects, including acute kidney injury (AKI). AKI is associated with poor outcomes in intensive care unit (ICU) patients, therefore, proper agent selection based on adverse effect profile is pertinent to ensure safety in this patient population. Existing literature comparing the renal outcomes of cefepime versus PTZ in patients with concomitant AKI is limited. The purpose of this investigation was to evaluate the safety of PTZ versus cefepime for the treatment of pneumonia in critically ill patients with pre-existing acute kidney injury.	This retrospective, observational cohort study was conducted at four hospitals within the same health system. Subjects ≥18 years of age who were admitted to the ICU, received either cefepime or PTZ for ≥48 hours, and had a diagnosis of pneumonia with a concurrent AKI at the time of antibiotic administration were included. Subjects were excluded if they received the alternate study drug for a duration of >72 hours prior to start of AKI, had acute glomerulonephritis, had a history of chronic kidney disease (CKD) with unknown baseline serum creatinine (SCr), received renal replacement therapy (RRT) prior to initiation of antibiotics, or received other systemic antibiotics for a concomitant infection. The primary outcome was the time to resolution of AKI. Secondary outcomes included in-hospital mortality, hospital/ICU length of stay, 14-day incidence of neurological side effects, 14-day incidence of new-onset RRT, 30-day emergency room (ER) visit, 30-day readmission, 30-day incidence of C. difficile infection, switch from one study drug to the alternative study drug, escalation to a broader antibiotic agent, progression of AKI stage during therapy, and change in SCr from start to end of therapy. To detect a difference of 2 days with a standard deviation of 5.4 days, it was estimated that 232 subjects would be required to achieve 80% power with an alpha of 0.05. For continuous data, including the primary outcome, a student's t-test was used. Wilcoxon rank-sum was used to analyze ordinal data. Chi-square or Fisher's exact test were used to analyze categorical and nominal data.	A total of 1,296 subjects were screened with 122 subjects being included in the final analysis: 61 subjects in each group, piperacillin/tazobactam and cefepime. The most frequent reason for exclusion was the absence of AKI prior to the initiation of antibiotic therapy, for which 537 subjects were excluded. Most of the baseline characteristics - including age, sex, comorbidities, and concomitant nephrotoxin use - were similar between both groups. Of note, there was a statistically significant difference in the use of concomitant antibiotic(s) between the piperacillin/tazobactam group and the cefepime group (51.67% vs 83.33%, p < 0.001). This difference was largely driven by increased usage of vancomycin in the piperacillin/tazobactam group and increased usage of metronidazole in the cefepime group. For the primary outcome of time to resolution of AKI, there was no statistically significant difference between the two groups (3.64 days vs 2.92 days, p=0.499). Similarly, there were no differences between the two groups with regard to any of the secondary outcomes of the study. Although there was a higher 14-day incidence of neurological side effects in the cefepime group (18.33% vs 10%, p=0.191), as well as higher incidences of switching to the alternate study drug (6.67% vs 11.67%, p=0.343) and higher incidences of 30-day readmission (8.33% vs 11.67%, p=0.543) and ER visits (6.67% vs 11.67%, p=0.340), these differences were not found to be statistically significant. One strength of this study is the analysis of multiple secondary clinical endpoints. Limitations include the retrospective design and reliance on accurate documentation in the electronic medical record. Notably, this study was underpowered to detect any statistically significant difference in the primary outcome between the two groups. This investigation adds to the growing body of literature detailing the safety outcomes of two antibiotics commonly used to treat pneumonia by demonstrating a lack of significant difference between the two drugs on renal outcomes. Based on the results of this study, concomitant kidney injury does not preclude the use of one drug over another in critically ill subjects with pneumonia.	In critically ill patients with pneumonia and pre-existing AKI, no statistically significant difference in time to AKI resolution was found between the PTZ and cefepime groups.
Reece, Blair	blair.reece@jax.ufl.edu	UF Health Jacksonville	Comparison of ceftriaxone versus cefazolin plus or minus gentamicin for Gustilo-Anderson grade 3 open fractures	Open fractures are defined as a broken bone in which there is an open wound or breach in the soft tissue envelope near the site of the break, generally resulting from a high-energy trauma. This exposes bone and deep tissue to the environment providing a direct path for bacterial entry. The severity of open fractures is classified using the Gustilo-Anderson system, with grade 3 representing the most severe type, characterized by extensive soft tissue damage. Infection rates for grade 3 fractures can be as high as 55%, where factors like antibiotic use, timing, and surgical debridement play a crucial role in their management. Currently, the Eastern Association for the Surgery of Trauma (EAST) guidelines recommend antibiotics targeting skin flora and gram-negative bacteria for grade 3 fractures with the standard therapy being a first-generation cephalosporin plus an aminoglycoside. The purpose of this study is to compare the rate of treatment failure up to one-year post-injury in patients with grade 3 injuries receiving EAST guideline recommendations (cefazolin + gentamicin) or ceftriaxone prophylaxis.	This IRB approved, single-center, retrospective, observational cohort study included adult patients who received cefazolin plus or minus gentamicin or ceftriaxone monotherapy for the treatment of grade 3 Gustilo-Anderson open fractures. Data was obtained by reviewing electronic medical records of patients from January 2018 to June 2023. Patients were excluded if they sustained fractures involving the skull, mandible, hand or spine, if they expired within one year of injury, or if the fractures were a result of water-related or farm-related incidents. The primary endpoint was the rate of treatment failure within one-year post-injury for patients who received cefazolin plus or minus gentamicin versus ceftriaxone. Secondary endpoints included the time to initial debridement procedure, time to first antibiotic administration, treatment failure for patients receiving short term (≤72 hours) versus long term (>72 hours) prophylaxis, length of initial hospitalization, and recurrence of infection with the same organism within 6 months of the initial culture. Non-parametric data is presented as median [IQR]. Categorical variables are presented with frequencies and percentages and compared using chi-square or Fisher exact test whereas continuous variables were tested using Kruskal-Wallis test. All analyses were run using SPSS Statistics for Windows, version 29 (IBM Corporation, Armonk, NY).	In total, 139 patients were included with 89 receiving cefazolin plus or minus gentamicin and 50 receiving ceftriaxone. Median patient age was 38 years, with comparable injury severity across the groups, as indicated by a median ISS of 10 (Table 1). Patients who received cefazolin plus or minus gentamicin had shorter hospital stays, with a mean duration of 8 days compared to 11 days for those receiving ceftriaxone (p= 0.007). Additionally, the mechanism of injury differed between the groups (p = 0.03). No other significant differences between group demographics, site of injury, timeline of care, or surgical interventions were observed. A higher proportion of patients in the ceftriaxone group met the composite treatment failure outcome, however it was not statistically significant (cefazolin plus or minus gentamicin 29% vs. ceftriaxone 38%; p = 0.03). The rate of treatment failure at 30 days was similar between groups, and there was no increased incidence of acute kidney injury in either group. Additional secondary outcomes are reported in Table 2.	Overall, both cefazolin with or without gentamicin, and ceftriaxone resulted in similar efficacy in preventing post fracture infections, specifically in Gustilo-Anderson grade 3 open fractures. Due to the limitations of a relatively small population size and retrospective nature of this study, prospective studies are needed to confirm these results and determine the most optimal agent that confers the appropriate spectrum of activity for this fracture type.
Renesca, Starr	starr.renesca@hcahealthcare.com	HCA Florida Largo Hospital	The effect of thymoglobulin versus steroid-based induction protocols on post-operative infection rates in orthotopic liver transplant patients: a retrospective study.	The risk of acute rejection following a liver transplant is greatest during the initial months postoperatively. Immunosuppression induction, administered during perioperative transplantation phase as a prophylactic therapy, is associated with improvements in graft and patient survival outcomes.1,2 Since the first successful cases of solid organ transplantation, corticosteroids were the historical mainstays for immunosuppression induction.3 However, their long-term use is associated with adverse effects including metabolic complications and increased susceptibility to infections.4,5 To reduce corticosteroid-related morbidity, antithymocyte globulin (ATG) has been used as an alternative induction agent. ATGs are polyclonal animal antibodies that cause immunosuppression by acting on T-cell surface antigens and depletes circulating lymphocytes.4,6 Among the ATG formulations, thymoglobulin (rabbit-derived ATG) has demonstrated superior efficacy compared to ATGAM (horse-derived ATG), with fewer opportunistic infections and adverse effects.7 However, administration of thymoglobulin may infrequently cause infusion related reactions, with the most common adverse effect being cytokine release. Despite the increased adoption of thymoglobulin as an induction immunosuppression for liver transplants, its impact on postoperative infection rates versus steroid induction remains unclear. In addition, its substantially higher cost and potential association with increased infection rates may lead to greater healthcare expenditures and prolonged hospitalization.8 The aim of this study is to retrospectively asses and compare the incidence of postoperative infections in liver transplant recipients who received thymoglobulin for immunosuppression induction versus steroid-based protocol.	This was a single center, retrospective cohort study comparing adults (18 years of age or older) who received thymoglobulin or steroids for induction immunosuppression therapy prior to liver transplantation between November 2022 to February 2025. Patient profiles were reviewed through the electronic medical record to identify induction therapy at time of transplant. Postoperative infections were identified based on fever, microbiology-confirmed infection, and administration of antibiotic therapy. CMV infections were assessed using CMV PCR results and evidence of antiviral therapy at treatment doses.	A total of 70 liver transplant patients were evaluated within the study time period with 48 receiving thymoglobulin and 22 with methylprednisolone. One patient was excluded from the thymoglobulin group due to missing data. The primary outcome was to compare the incidence of post-operative infection rates between thymoglobulin vs steroid groups or cohorts. The results showed a lower incidence of infection in the thymoglobulin group (20 patients) vs steroids (13 patients) (41.67% vs 59.09%). The secondary outcome assessed CMV infection rates, revealing a higher incidence in the steroid (3 patients) vs thymoglobulin group (1 patient) (13.64 % vs 2.08%).	Based on research findings, the use of thymoglobulin for induction immunosuppression in liver transplant patients results in lower overall incidence if post-operative infection rates and occurrence of CMV. This study suggests that thymoglobulin may offer an advantage over steroids, however further research with a larger sample size would be needed to support these findings. Despite its potential clinical benefits, thymoglobulin may impose financial burden due to its high costs (thymoglobulin induction $1119.47 per vial vs solumedrol 500mg $9.79 per vial), which may contribute to increased overall healthcare expenditures.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Reyes Jimenez, Alejandra	Alejandra.Reyes6@gmail.com	West Kendall Baptist Hospital	Evaluation of Remote Clinical Interventions within a Healthcare System: A Quality Improvement Project	Vigilanz® is a clinical decision support system used at Baptist Health South Florida (BHSF) to identify patient care opportunities and document pharmacist-driven interventions. Vigilanz® alerts are categorized into High priority and Medium priority, with the goal turnaround time of the High priority being within 4 hours and Medium priority within 8 hours. A previous BHSF pre-implementation project showed opportunity for improved response times to the Vigilanz® alerts. Hospitals within the BHSF health system have harmonized policies, protocols, and formularies to standardize medication management throughout the system. Pharmacy & Therapeutics (P&T) approved protocols allow for automatic dose adjustments, IV to PO conversions, and other changes without the need to first reach out to the provider. Vigilanz® alerts pharmacists for opportunities to utilize these protocols based on real time data. The previous pre-implementation project identified that about 20% of all Vigilanz® alerts were protocol-driven alerts and 40% of these alerts were not addressed within goal turnaround time. Collaboration between different acute care hospitals within the same health system was possible due to this harmonization, and there were three PGY-2 residents available to pilot this collaboration during the weekends as part of their residency staffing requirements.	The quality improvement project time period was from April 1, 2024 to December 31, 2024. The pre-implementation period was from April to June and the post-implementation period was from October to December. The project intervention was the implementation of a remote clinical intervention workflow. Starting September 7, 2024, PGY-2 pharmacy residents began providing eight-hour remote coverage on Saturdays and Sundays for five BHSF acute care hospital sites to review a targeted subset of Vigilanz® alerts that could be acted upon automatically per protocol. Data was not collected for the July to September quarter, because it contained the implementation period. A Vigilanz® report was generated to collect data from April 1 to June 30, 2024 (pre-implementation), and October 1 to December 31, 2024 (post-implementation). Report data included alert generation and review times, intervention categories, and protocol-driven versus non-protocol-driven alerts. Data was filtered to include only weekends. Analysis was done to obtain the volume of all alerts and protocol-driven alerts, the number of alerts reviewed, and average time to review alerts. Pre- and post-implementation data comparisons for various endpoints were made to assess the impact of the remote PGY-2 resident workflow. The primary endpoint was the time to review of protocol alerts. The secondary endpoints were the time to review of all alerts, amount of manual interventions, percent of alerts reviewed, and amount of alerts resolved with no action necessary.	Analysis of the primary endpoint show that as a system the time to review protocol alerts reduced by 3.2 hours. Analysis of the secondary endpoints show that as a system the time to review all alerts reduced by 1.5 hours, the percent of manual interventions made increased by 31%, the percent of alerts reviewed increased by 22%, and the number of alerts resolved with no action necessary decreased by 13.6%.	Introducing a dedicated shift to address protocol-driven alerts not only improved the time to review protocol alerts, but also all alerts in general. Additionally, there was a significant increase in the percent of alerts reviewed overall. The increase of interventions made independently of Vigilanz® alerts (manual interventions) highlight the importance of reducing alert workload. The reduction in alerts resolved with no action necessary illustrates the effectiveness of our ongoing review of alerts for relevancy. The overall impact of this project was positive with favorable results for all endpoints. Faster response to alerts may increase medication safety and reduce adverse events. By alleviating protocol alert workloads, inpatient pharmacists can devote more time to other patient care activities, optimizing overall quality of care.
Rhodes, Lauren	lauren.rhodes@ascension.org	Ascension Sacred Heart Pensacola	Comparative effects of different initial midodrine dosing strategies on norepinephrine discontinuation in the intensive care unit	Intensive care unit (ICU) discharge is often delayed due to ongoing need for intravenous vasopressor medication to maintain hemodynamic stability. Several studies have reviewed the addition of midodrine to vasopressors to determine if it results in a quicker vasopressor discontinuation. However, it appears no studies have compared initial midodrine dosing strategies when evaluating vasopressor discontinuation. This study aimed to compare the effect of initial midodrine doses of 5 mg or 10 mg of midodrine on time to discontinuation of norepinephrine monotherapy. In addition, this study reviewed the safety, efficacy, and impact on transitions of care associated with midodrine use in this setting.	This single center retrospective cohort study was conducted at a large healthcare facility. Patients were included in the study if they were 18 years or older, admitted to the ICU, on norepinephrine for greater than 24 hours, initiated on and received at least 3 doses of midodrine 5 mg or 10 mg, and met discharge criteria from the ICU. Discharge criteria was defined as discontinuation of vasopressors other than norepinephrine and lack of mechanical ventilation. Patients were excluded if they had prior midodrine use, a history of hypotension, continuous renal replacement therapy or hemodialysis at the time of midodrine initiation, transferred from another facility on vasopressors, or transitioned to hospice or comfort care within 72 hours of vasopressor cessation. Pregnant patients were also excluded.The primary endpoint of this study was time to wean off norepinephrine from the first dose of midodrine. Secondary endpoints included ICU length of stay (LOS), hospital LOS, percentage of patients who were re-initiated on vasopressors, midodrine dose and frequency at norepinephrine discontinuation, percentage of patients discharged on midodrine, percentage of patients weaned off midodrine, bradycardic events while on midodrine, and non-survival to discharge.	A total of 200 patients were reviewed and 43 patients were included in this study (22 patients in the 5 mg group and 21 patients in the 10 mg group). The 5 mg group had a lower time to vasopressor discontinuation in comparison to the 10 mg group. For the primary endpoint, the median time in hours from midodrine initiation was 31.5 hours in the 5 mg group and 45.6 hours in the 10 mg group. A Wilcoxen Rank Sum test was performed for the primary endpoint. When accounting for the five additional covariates (age, sex, BMI, midodrine treatment duration	We were unable to determine a conclusive relationship between the use of midodrine at initial doses of either 5 mg or 10 mg on timing of vasopressor discontinuation. Further research is warranted in this population.
Richards, Macy	macy.richards@baycare.org	Morton Plant Hospital	Evaluating time to treatment of tenecteplase vs alteplase for in-hospital acute ischemic stroke	There is limited data regarding the use of intravenous thrombolysis in patients who experience acute ischemic strokes during hospitalization and most of the studies done focus on strokes that occur in the outpatient setting. Though research exists supporting the use of tenecteplase over alteplase amongst strokes that arrive in the emergency department, it is unclear how each agent performs when used for treatment of in-hospital acute ischemic strokes. The purpose of this study is to evaluate the difference in onset to treatment time between tenecteplase versus alteplase in patients who develop in-hospital acute ischemic strokes.	This was an Institutional Review Board approved, retrospective, multi-center, non-interventional cohort study evaluating tenecteplase versus alteplase for in-hospital acute ischemic strokes. Data was collected consecutively for alteplase-treated patients between the dates of November 1, 2018 to October 31, 2021 and for tenecteplase-treated patients between the dates of January 1, 2022 to January 31, 2025. The primary outcome was onset to treatment time (OTT), defined as the moment the patient first experienced symptoms of a stroke to the time of treatment with an intravenous thrombolytic agent. Secondary outcomes consisted of: onset of symptoms to head computed tomography time (OTC), head computed tomography to treatment time (CTT), Modified Rankin Scale (mRS) score change from baseline to discharge and at 3 months, National Institutes of Health Stroke Scale (NIHSS) score change from baseline to 24 hours and at discharge, length of stay, reasons for delay in care, disposition upon discharge, new ischemic stroke within the first 21 days following acute ischemic stroke, in-hospital mortality and mortality at 3 months, major bleeding, and angioedema. A total of 20 patients were needed in each group to achieve a power of 80% and an alpha of 0.05. The following statistical tests were utilized: Chi-square, Fisher's exact, paired t-test, and Mann-Whitney.	A total of 83 patients were included with 30 patients in the alteplase group and 53 patients in the tenecteplase group. Baseline characteristics were balanced except for age, sex, and race in which the tenecteplase group was found to have a statistically significantly lower age, lower proportion of males, and a lower proportion of patients who were white when compared to alteplase. The primary outcome of OTT was not statistically significant between tenecteplase (42.0 minutes [IQR = 34.00 – 59.50]) and alteplase (47.5 minutes [IQR = 33.50 – 90.25]) and with a p = 0.341. Tenecteplase had a statistically significantly lower CTT of 25.0 minutes [IQR, 15.00 – 49.50] compared to alteplase with 44.5 minutes [IQR 26.75 – 83.50]. A greater proportion of patients in the tenecteplase group experienced early neurological improvement vs the alteplase group (26.28% vs 14.72%); p = 0.026. Though not statistically significant, the average onset to treatment time was shorter in the tenecteplase group (52.2 minutes) vs the alteplase group (72.7 minutes); p = 0.324. More patients in the tenecteplase group (75.5%) also had an onset to treatment time less than the goal of 60 minutes than the alteplase group (60%); p = 0.140. The median length of stay was found to be 5 days in the tenecteplase group and 4 days in the alteplase group; p = 0.154.	There was no statistically significant difference in onset to treatment time (OTT) between tenecteplase vs alteplase for in-hospital acute ischemic stroke. There was a significant reduction in CT to treatment time amongst those who received tenecteplase. A higher proportion of tenecteplase-treated patients experienced early neurological improvement compared to alteplase.
Rieser, Marianna	rieserma2@gmail.com	HCA Florida Brandon Hospital	Optimizing Antibiotic Discontinuation during Neonatal Sepsis Evaluation	Neonatal sepsis is a bloodstream infection occuring within the first 28 days of life and remains a leading cause of infant mortality. Early-onset sepsis is suspected and/or diagnosed within the first 3 days of life. Late-onset sepsis is categorized as beyond 3 days of life. Management of suspected neonatal sepsis is dependent on the duration of empiric antibiotics for blood culture Time to Positivity (TTP). Blood culture results and clinical signs and symptoms of illness can help optimize or end antibiotic therapy. Guidance from the American Academy of Pediatrics suggests discontinuing antibiotics for neonatal sepsis evaluation if cultures are sterile after 36 to 48 hours, unless there is evidence of a site-specific infection. Standard practice in the Neonatal Intensive Care Unit (NICU) at HCA Florida Brandon Hospital involves discontinuing empiric antibiotics after 48 hours if there is no growth of organisms from blood cultures. While this protocol is standard across many pediatric hospitals across the United States, there are limitations for continuing empiric antibiotics based on the window of blood culture TTP. The blood culture TTP window affects several factors in the treatment and management of the neonate, including the number of antibiotic doses administered, the presence of active IV lines, and the potential length of hospital stay. If applicable, reducing the evaluation from 48 to 36 hours may reduce antibiotic exposure, IV line use, and duration of stay.	This is a single-center, retrospective, observational study conducted at a 36-bed Level III neonatal intensive care unit (NICU). Neonates who underwent sepsis evaluation from August 1st, 2019, to July 31st, 2024, were identified using ICD-10 codes. Neonates with positive blood cultures were reviewed. TTP was defined as the hours between culture collection and the first documentation of positive Gram stain results. Only the first positive blood culture during the sepsis evaluation period was included; subsequent positive blood cultures were excluded because of prior antibiotic administration. Additionally, patients were excluded if they were transferred before culture results were obtained, had incomplete data, received antibiotics before the culture draw, or expired during the sepsis rule-out time period.	A total of 277 positive blood culture results were identified using ICD-10 codes for neonatal sepsis, reflecting 128 unique patients. The frequency of positive blood cultures ranged from 3 to 24 for each patient. Out of the 128 patients with positive blood cultures, only 41 met the inclusion criteria. Of the 41 neonates analyzed, 11 had early-onset sepsis, and 30 had late-onset sepsis. Length of stay ranged from 4 to 194 days. The average weight of neonate(s) at the time of sepsis evaluation was 1.94 kg. The average gestational age was 31.67 weeks. The average hospital length of stay was 54.8 days. Staphylococcus epidermidis was the most common organism identified, accounting for 15 (36.59%) of the blood cultures. Prevalent organisms included Staphylococcus species: MRSA 5 (12.2%), S. capitis 3 (7.32%), and S. warneri 2 (4.88%). Streptococcus species: S. agalactiae 2 (4.88%). Enterobacteriaceae: E. coli 3 (7.32%), and K. pneumoniae 2 (4.88%). Overall, the average TTP for Gram stain results was 27.97 hours (range 13.33-69.02). The average TTP for final culture results was 67.73 hours (range 27.03-107.02). Overall, 35 (85.37%) Gram stains resulted in < 36 hours, 4 (9.76%) resulted between 36-48 hours, and 2 (4.88%) resulted in > 48 hours. Of the final culture results, 1 (2.44%) resulted in < 36 hours, 2 (4.88%) resulted between 36-48 hours, and 38 (92.68%) resulted in > 48 hours.	The majority of Gram stain results (85.37%) were positive within 36 hours, which can support the discontinuation of antibiotics prior to the current practice of 48 hours. Although not all Gram stains resulted during this time period, neonates are often hospitalized longer than this due to monitoring of comorbid conditions, given their critical status. If necessary, antibiotics can be reinitiated if blood cultures return positive beyond the 36-hour mark. Further research on this topic with a larger sample size is needed to substantiate these findings.
Rivera Rivero, Dayanshly	dayanshly@gmail.com	Bay Pines Veterans Affairs Healthcare System	Evaluating an electronic order set's impact on timely administration of direct oral anticoagulant reversal agents in a Veterans Hospital	The use of direct oral anticoagulant agents (DOACs) for the prevention and management of thromboembolic diseases has surged over the past decade. However, the inherent bleeding risks associated with DOACs demand prompt intervention, especially in high-risk scenarios. Anticoagulant reversal agents like andexanet alfa and idarucizumab, as well as the off-label use of 4-factor prothrombin complex concentrate (4F-PCC), are crucial for managing severe bleeding or preparing for urgent surgeries. Delays in administering these reversal agents can significantly increase patient morbidity and mortality, underlining the necessity for efficient and reliable ordering processes. This study aims to evaluate the effectiveness of a standardized electronic order set to expedite the administration of DOAC reversal agents at Bay Pines Veterans Affairs Healthcare System, with the goal of improving clinical outcomes by reducing administrative delays.	This pre-post intervention study will evaluate the impact of a standardized electronic order set for DOAC reversal agents in the emergency department and intensive care units. Data will be collected retrospectively for the pre-intervention period and prospectively following implementation. Primary outcomes include time from order entry to pharmacy verification, pharmacy verification to administration, and frequency of medication errors. Eligible patients are those who received andexanet alfa, idarucizumab, or 4F-PCC for life-threatening bleeding or urgent procedures during the study period. Cases will be identified through the electronic health record and chart review. Data points collected will include patient demographics, clinical indications, medication details, and corresponding timestamps. Patients with incomplete data or unadministered orders will be excluded.	Unable to report due to institutional constraints .	Unable to report due to institutional constraints .
Rivera Vargas, Kevin O.	kevin.riveravargas@bmcjax.com	Baptist Medical Center Wolfson Children's Hospital	Impact of Dalbavancin on Hospitalization Rates for Cellulitis	Cellulitis is a common infectious disease state responsible for millions of emergency department visits each year. These visits frequently result in hospitalization and subsequently a heavy burden to the healthcare system and affected patients. This study aimed to evaluate the impact of dalbavancin compared to alternative antibiotics on hospitalization rates for patients with cellulitis treated in the emergency department.	This was an IRB-approved, retrospective chart review across Baptist Health System hospitals and freestanding emergency departments in northeast Florida. It included adult patients who presented to the emergency department, were diagnosed with cellulitis, and received antibiotics. Patients were excluded if they presented with complicated cellulitis (e.g., necrotizing fasciitis, diabetic foot ulcers, facial cellulitis), had a history of allergic reactions to glycopeptides, were pregnant, had concomitant infections, unrequired hospitalization for reasons other than cellulitis. The study population was divided into two groups: those who received dalbavancin and those who received other antibiotics. A sample size of 151 patients was determined based on an 80% power and an alpha of 0.05. Patients were randomly selected from an initial cohort of eligible cases. Data was collected using the health system's electronic health record, focusing on emergency department encounters, cellulitis diagnosis, and antibiotics administered. Patient data was obtained through manual record review, and cost-related data was provided by the health system's finance department. Statistical analysis was conducted using Epi Info™ software, employing appropriate tests to compare primary and secondary endpoints between the two groups.	Baseline characteristics of the two groups were similar but did differ in median years of age (65 [42- 79] vs 46.5 [37-66.5]; p< 0.001) and oral temperature (36.7 oC [36.5-36.9] vs 36.8 oC [36.7-38.4], p< 0.001) with the dalbavancin group being older and colder than their counterparts. The dalbavancin group also had a higher proportion of patients with a 90-day history of cellulitis (27% vs 1%, p	This study showed that dalbavancin significantly reduces hospitalization rates for patients with cellulitis treated in the emergency department. This is despite patients treated with dalbavancin having a greater frequency of 90-day history of cellulitis and prior antibiotic use. Duration of hospitalization was slightly shorter in the dalbavancin group, but this may have been attributed to differences in illness severity or treatment strategies. The use of dalbavancin was associated with higher overall health care cost. Study limitations include the inability to capture hospitalizations at institutions that do not share medical record data which may impact the accuracy of hospitalization outcomes and overall cost analysis. Furthermore, our cost analysis does not incorporate reimbursement rates due to the complexity of medical insurance companies and variability in patient coverage. Based on the findings of our study dalbavancin may serve as an effective option to reduce the annual burden of cellulitis on the healthcare system and patients by decreasing hospitalization. Further research is warranted to evaluate long-term outcomes, cost effectiveness across different healthcare settings and broader implementation strategies.
Rivera-Correa, Stephanie	stephaniezrc21@gmail.com	Walgreens & Nova Southeastern University- Miami, FL	Evaluating consumer willingness to accept healthcare recommendations from artificial-intelligence and community pharmacists	Artificial Intelligence (AI) refers to the capacity of machines to carry out or perform tasks that ordinarily require human intelligence such as sensing, learning, and decision-making. Benefits of AI include automation of repetitive tasks, faster insights from data, and fewer human errors. In the pharmaceutical setting, AI is used to detect adverse drug reactions, assist clinical decision support systems including medical error prevention, robotic dispensing systems, and predictions of future drug purchases. These benefits can be applied to allow higher value, individualized, and reliable patient care. The potential benefits of AI are limited by the willingness to adopt and implement such technologies. Studies have been conducted on perceptions of the adoption and implementation of AI in private practice and other health-care settings, but little is reported on the perceptions and trust of AI in community pharmacy consumers. Community pharmacies are often the first point of contact for patients seeking healthcare recommendations due to ease of access and affordability. This study aims to evaluate the willingness of community-based pharmacy consumers to accept AI-based healthcare recommendations compared to pharmacist-based healthcare recommendations. Secondary objectives of this study include evaluation of the level of trust associated with AI-based and pharmacist-based healthcare recommendations and evaluation of barriers to trust or acceptance of AI-based and pharmacist-based recommendations.	An IRB-approved, 30 question, in-person exploratory survey questionnaire was developed and administered to consumers in two community-based pharmacies located in South Florida. Participants were identified by engagement in health-related products or services in the pharmacy. Participants must be 18 years of age or older and have purchased, are interested in purchasing, or have received no-cost pharmacy products or services. This may include prescriptions, vaccines, over-the-counter (OTC) items, medical devices, or pharmacist advice or consultation services. To assess face validity, the survey instrument was reviewed to evaluate the clarity, relevance, and appropriateness of each question in relation to the intended constructs. Feedback was used to refine the survey items to ensure they accurately reflected the target concepts and were easily understood by the intended population. Once consent was obtained verbally, the survey began by collecting socio-demographic information followed by an evaluation of utilization of pharmacy and AI services. The surveyor presented to the participant scenarios of common issues and asked if they would accept a non-specific recommendation from an AI source or a pharmacist using a 5-point numeric rating scale. Similar but not identical scenarios were paired so that an AI and pharmacist recommendation were separately assessed in each of the following focus areas: OTC cough/cold product, prescription medication, cosmetic/personal care item, herbal product, and vaccination. Participants rated the level of trust associated with AI-based and pharmacist-based healthcare recommendations using a 5-point numeric rating scale. Using open response questions, participants described barriers to trust of AI-based and pharmacist-based recommendations.	A total of 64 individuals were surveyed. Acceptance of pharmacist-based and AI-based recommendations were highest for OTC cough and cold products (89% and 45%, respectively) and lowest for vaccines (50% and 25%, respectively). Across other categories, pharmacist recommendation acceptance rates were 69% for prescription medications, 75% for cosmetic/personal care items, and 66% for herbal products, while AI recommendation acceptance rates were 25%, 34%, and 41%, respectively. On average, 70% of respondents accepted pharmacist recommendations across all categories, compared to 34% for AI recommendations. Among respondents, 86% reported feeling confident in pharmacist recommendations, compared to only 42% for AI recommendations. Three percent of participants reported low confidence in pharmacist recommendations, whereas 31% of respondents reported low confidence in AI recommendations.	Pharmacist recommendations demonstrated a higher overall acceptance rate across all categories when compared to AI recommendations. Among the different types of recommendations, pharmacist advice regarding OTC cough and cold products was the most likely to be accepted, whereas vaccine recommendations provided by AI were least likely to be accepted. Trust in pharmacist recommendations may be strengthened by developing personal relationships with patients, providing evidence-based advice, and increased access by pharmacists to individual patient medical histories. In contrast, trust in AI-based recommendations may be enhanced by improving transparency regarding data sources, incorporating human oversight into AI decision-making processes, and increasing user familiarity and comfort with AI technologies. Implementation of AI programs in community-based pharmacies to support workflow and patient care should consider a hybrid approach with the option for human interaction and transparency of data sources.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Roach, Sara	sara.roach@ufhealth.org	UF Health Jacksonville	The effect of baseline cardiac function on vasopressin response in septic shock patients	Septic shock has been characterized by a high level of vasopressin in the early stages, followed by a decrease in levels, for reasons that have not yet been elucidated. Inversely, through maladaptive processes, vasopressin concentrations remain markedly elevated in heart failure. These processes may blunt the vasopressin deficiency typically seen in septic shock, resulting in a less substantial decline in comparison to patients without baseline cardiac dysfunction. These maladaptive processes resulting in increased vasopressin concentrations additionally have deleterious effects on the myocardium. Vasopressin has been shown to reduce cardiac function, promote ventricular hypertrophy and cardiac remodeling, while simultaneously increasing afterload. While it has been shown to retain vasodilatory effects on the pulmonary vasculature, an attribute potentially beneficial for those with right ventricular dysfunction. This effect may present a burden to those with isolated left ventricular dysfunction, increasing preload to the left ventricle, which is ill-equipped to handle the increased volume. This constellation of pathologies introduces a difficult clinical scenario in which vasopressin may not only be ineffective in septic shock but could be potentially detrimental. Thus, the purpose of the current study was to evaluate the impact of baseline cardiac dysfunction on hemodynamic response to vasopressin in septic shock patients.	This was a single-center, retrospective, case-control study evaluating patients admitted to the medical intensive care unit for septic shock from January 1, 2020, to July 10, 2022. Patients must have been at least 18 years of age, admitted with a diagnosis of septic shock, and received both a vasoactive agent and vasopressin for at least 6 hours. Patients were excluded if they were transferred from another inpatient institution, were participating in an investigational trial, were pregnant or incarcerated, expired within 24 hours of septic shock (defined as the time of initiation of vasopressors), atrial fibrillation at time of septic shock onset, or had cardiac arrest at time of septic shock onset. Via baseline echocardiograms within the past year from admission and documentation of past medical history of heart failure when no baseline echocardiograms were available, subjects were stratified into heart failure versus non-heart failure groups for comparison. The primary endpoint was hemodynamic response to vasopressin within 6 hours after initiation, which was defined as a mean arterial pressure (MAP) of ≥ 65 mmHg and a reduction in catecholamine requirements measured in norepinephrine equivalence. Secondary endpoints included mortality, catecholamine requirements at 24, 48, and 72 hours defined by norepinephrine equivalences, fluid volume balance at shock resolution and ICU discharge, and new requirement of hemodialysis. Statistical analysis was performed utilizing SPSS with Chi squared, Fisher's exact, and Kruskal-Wallis tests being performed as applicable	A total of 609 patients were screened and 137 met inclusion criteria. 16 patients had EF ≤ 40%, and 121 had EF > 40%. No significant differences were found regarding baseline characteristics. The primary outcome of hemodynamic response to vasopressin at 6 hours after initiation was not found to be significantly different between the EF ≤ 40% group and the EF > 40% group (59% vs 33.9%, p = 0. 324). There was not a significant difference in catecholamine requirements at hours 24, 48, or 72, nor were there differences in the other aforementioned secondary endpoints.	This study did not show any significant differences in the use of vasopressin in septic shock patients based on differences in EF. As this study did not meet power, larger studies need to be performed in order to determine if there is a role for vasopressin in this population.
Rosario Saltares, Yasnny	yasnny.rosariosaltares2@baycare.org	Winter Haven Hospital â€“ BayCare Health	Risk factors of patients who demonstrated hemorrhagic conversion following tenecteplase administration for acute ischemic stroke: a case-control study	Recently, tenecteplase (TNK) has become the thrombolytic agent of choice for acute ischemic stroke (AIS). While TNK has several advantages compared to alteplase, it has not yet been approved by the FDA for the treatment of AIS. Nonetheless, there is contradictory information on the rate of intracerebral hemorrhage (ICH) following TNK administration and scarce literature on risk factors that increase the risk of hemorrhagic conversion. The purpose of this study is to contribute to existing literature by identifying and further evaluating risk factors for hemorrhage associated with TNK administration in patients with AIS.	This is an Institutional Review Board (IRB) approved, retrospective case-control study conducted between December 1, 2021, and June 30, 2024. Patients were initially identified by generating a report through Discern Analytics 2.0 of patients that received TNK within a large not-for-profit healthcare system composed of 16 hospitals. Patients were included if they were 18 years of age or older and received TNK for AIS. Patients were excluded if they did not meet the age requirement, received TNK for any other indication, were imprisoned, or were pregnant. Patients were allocated into case and control groups based on hemorrhagic conversion (defined as cerebral hemorrhage confirmed by CT or MRI occurring within 36 hrs after TNK administration) or no hemorrhagic conversion after TNK administration, respectively. Data collected included but was not limited to sex, weight, initial systolic and diastolic blood pressure, dose of TNK administered, and initial blood glucose level. Provider documentation was utilized to determine maximum National Institutes of Health Stroke Scale (NIHSS) scores 36 hours post-TNK administration. The risk factors for hemorrhagic conversion evaluated include history of hypertension, stroke, diabetes, or chronic liver disease, diagnosis of SARS-CoV 2 during admission, age, sex, presence of large vessel occlusion, body mass index (BMI), antiplatelet therapy prior to admission, and initial NIHSS. Odds ratios (OR) were calculated for each risk factor to determine the independent impact each had on the risk of hemorrhagic conversion. Multivariate logistic regression was then performed to evaluate the impact of all factors together on the risk of hemorrhagic conversion.	A total of 273 patients were screened with 207 meeting inclusion criteria and 66 patients being excluded. A total of 188 patients were allocated into the control group while cases included a total of 19 patients. Baseline characteristics (Table 1) were found to be equally distributed between the groups except for initial NIHSS (6 vs. 11; p=0. 006) and maximum NIHSS (6 vs. 19; p=0.006) which were both found to be significantly higher in the hemorrhagic conversion group. A Firth multivariate logistic regression model was run on the risk factors evaluated to determine the odds (Table 2) of them causing hemorrhagic conversion post-TNK administration. The only factor found to convey a statistically significant risk for hemorrhagic conversion was initial NIHSS with an OR of 1.0664 (95% CI 1.00-1.13; p=0.049).	According to previous studies, risk factors for hemorrhagic conversion post-TNK administration have not been officially established. Based on this study, individuals with lower initial NIHSS scores have a lower likelihood of hemorrhagic conversion post-TNK administration. Results demonstrated that for every one-point increase of initial NIHSS, odds of hemorrhagic conversion increased by 6.6%. This study reinforces the importance of identifying risk factors for hemorrhagic conversion post-TNK administration and should prompt further research in the aforementioned area. Limitations of this study include its retrospective design and its small sample size. A larger sample size could improve the regression model's reliability by adding more data points. This would allow for more precise estimates of the relationship between risk factors and hemorrhagic conversion.
Rovelo, Melanie	melanierovelo@gmail.com	Miami Veterans Affairs	Evaluation of naloxone kits prescribed to patients diagnosed with stimulant use disorder	Prescribing naloxone nasal spray to patients with stimulant use disorder can be life-saving, although stimulants like cocaine or methamphetamine do not directly cause opioid overdoses. Many stimulant users may unknowingly consume opioids, particularly fentanyl, which is often mixed with stimulants, increasing the risk of opioid overdose. Additionally, stimulant users often have increased contact with opioid users, increasing the chance of witnessing an overdose. By providing naloxone, healthcare providers equip patients with a tool to reverse opioid overdose and significantly reduce the risk of death. Prescribing naloxone to stimulant users promotes harm reduction and safety, addressing the opioid and stimulant crises.	This Institutional Review Board (IRB) approved retrospective chart review was performed using the Computerized Patient Record System (CPRS) and the Opioid Overdose Education and Naloxone Distribution (OEND) dashboard for identified patients with a diagnosis of stimulant use disorder to assess the appropriate prescribing of naloxone. Data collected includes patient demographics, comorbidities, medication regimen profiles, adverse drug reactions, prescription history for naloxone, urine toxicology screen and history of overdose. Patients in need of a naloxone kit were contacted to offer the naloxone kit as well as provide counseling.	There were 475 actionable patients in need of a naloxone kit identified by the dashboard on September 16, 2024. At the start of data collection, 66% of patients identified with stimulant use disorder had an active prescription for naloxone. The national goal for calendar year 2024 for this metric was to maintain at least 70%. On October 31, 2024 (end of calendar year 2024) the number of actionable patients decreased to 382 and the percent of patients with stimulant use disorder with an active naloxone kit increased to 71.10% following pharmacist-led interventions.	Results of the study demonstrate an increase in the number of naloxone kits prescribed to patients with stimulant use disorder.
Sabbagh, Jenna	Jenna.sabbagh@icloud.com	Orlando Health Orlando Regional Medical Center	Peri-operative vs post-operative amiodarone for the prevention of post-operative atrial fibrillation in cardiac surgery patients	Post-operative atrial fibrillation (POAF) is one of the most common complications of cardiac surgery, and is associated with various adverse outcomes, including increased stroke risk, mortality rates, and length of stay in intensive care units and overall hospital stays. Per the 2023 ACC/AHA/ACCP/HRS Guideline for the Diagnosis and Management of Atrial Fibrillation, the use of prophylactic amiodarone for the prevention of POAF is a reasonable intervention, however, no specific dosing regimen is recommended. To date, all trials have compared either peri-operative (both pre- and post-operative administration) or post-operative amiodarone use against placebo or other antiarrhythmics, and no studies have compared peri-operative use against post-operative only amiodarone therapy. The purpose of this study is to evaluate if the incidence of POAF differs with the use of peri-operative amiodarone compared to post-operative amiodarone.	This study was a retrospective chart review of randomly selected, elective cardiac surgery patients admitted to OHORMC from 05/01/2021 to 09/30/2024. Patients were identified using institutionally collected data used for STS reporting. Patients were included if they underwent coronary artery bypass graft (CABG) or valve surgery with normal sinus rhythm at the time of surgery. Major exclusion criteria included emergent cardiac surgery, a history of atrial fibrillation/flutter or ablation, or use of class I or III antiarrhythmic agents within the last 2 years. The primary outcome was the incidence of post-operative atrial fibrillation indicated by a diagnosis of POAF as captured in STS data. Secondary outcomes included intensive care unit (ICU) and hospital lengths of stay, ICU readmission rates during the same stay, 30-day readmission and mortality rates, atrial fibrillation treatment types, incidence of early amiodarone discontinuation, and incidence of adverse effects of amiodarone.	A total of 500 patients were screened for inclusion, with 404 patients evaluated, and a total of 100 patients included for analysis (50 patients were randomly selected from each group for data collection). Baseline characteristics of both groups were similar, with majority of patients being Caucasian males that had undergone CABG (84% in the peri-operative group, 78% in the post-operative group). The most prescribed pre-operative dosing regimen was 400 mg PO BID x3 days (68% in the peri-operative group), and the most prescribed post-operative regimen was 200 mg PO BID x10 days in both the peri-operative (82%) and post-operative (80%) groups. POAF occurred in 5 patients (10%) of the peri-operative group, and in 6 patients (12%) of the post-operative group (p=0.75). ICU and hospital lengths of stay were similar in both groups, as were 30-day readmission and mortality rates. When looking at safety outcomes, early discontinuation rates of amiodarone were similar amongst the two groups (18% vs 16%, p=0.8). The incidence of hypokalemia was similar in both groups (12% vs 14%, p=0.8), while the incidence of hypomagnesemia was higher in the post-operative group (6% vs 20%, p=0.04). Adverse effects of amiodarone were also similar between both groups.	Among elective cardiac surgery patients who had received either peri-operative or post-operative amiodarone, there was no difference in the incidence of POAF. Currently, these data suggest that the use of post-operative amiodarone regimens can have similar impacts on the incidence of POAF in comparison to perioperative regimens.
Salcedo, Milagros	milagros.salcedo@baycare.org	St. Joseph's Hospital	The Utilization of Carbapenem versus Non-carbapenem agents for Extended-Spectrum Beta-Lactamases in Escherichia coli and Klebsiella pneumoniae Urinary Tract Infections	Enterobacteriaceae are gram-negative bacteria that can produce extended-spectrum beta-lactamases (ESBLs), which include Escherichia coli (E. coli) and Klebsiella pneumoniae (K. pneumoniae). ESBLs hydrolyze the beta-lactam ring in the structural backbone of penicillins, cephalosporins, and the monobactam, aztreonam. The presence of these ESBLs limits therapeutic treatment options for infections, including urinary tract infections (UTIs). Carbapenems were traditionally used in the first line setting as they are not hydrolyzed by beta lactamases and quickly became the preferred agent of choice. However, the growing incidence of carbapenem-resistant strains led to the search for alternative treatment options. In January of 2019, BayCare published "Carbapenem alternatives for ESBL UTI" guidance, citing the effectiveness of cefepime and piperacillin-tazobactam for proven susceptible isolates. The purpose of this study is to evaluate the system wide use of carbapenems versus non-carbapenem alternatives for ESBL UTIs.	This study was a retrospective, multicenter chart review conducted across BayCare Health system using Cerner medical records database. The retrospective chart review compared the pre- and post- publication period of a system wide clinical guideline on carbapenem alternatives for ESBL UTIs. The pre-publication was defined between January 1, 2018 to June 30, 2018. The post-publication period was defined between January 1, 2024 to June 30, 2024. Patients were included if they were 18 years of age or older, admitted to a BayCare hospital, receiving treatment for ESBL producing E. coli or K. pneumoniae, received carbapenems empirically for UTI or non-carbapenems, including cefepime, piperacillin-tazobactam, nitrofurantoin, fosfomycin, trimethoprim-sulfamethoxazole, or fluoroquinolones as antimicrobial therapy, or if they UTI urine culture resulted in ESBL E. coli or K. pneumoniae. Patients were excluded if they were receiving antibiotics for additional sources of infection, receiving antibiotics for a polymicrobial urine culture, if they had a documented allergy to more than one non-carbapenem group, or if they had a diagnosis of pyelonephritis. The primary outcome of this study was the percentage of patients on appropriate non-carbapenems for ESBL E. coli or K. pneumoniae UTI in the pre- and post- period. The secondary outcomes of this study were total length of antibiotic therapy, total length of carbapenem therapy, length of stay, percent of patients discharged with home healthcare or to an outpatient infusion center to receive IV carbapenems, and 30-day readmission rates.	A total of 311 patients were screened in the pre-publication period and a total of 270 patients were included. A total of 493 patients were screened in the post-publication period and a total of 154 patients were included. The percentage of patients on appropriate non-carbapenems ESBL E. coli or K. pneumoniae UTI was higher in the post-group versus pre-group (54% vs 27%; p-value <0.001). Patients who were continued on carbapenems were further analyzed for no contraindication to more than or equal to one non-carbapenem alternative agent. Results were lower in the post-group versus the pre-group (75% vs 96%; p-value <0.001). The mean total length of stay was lower in the post-group versus the pre-group (8.4 vs 9.3 days; p-value = 0.033). The total length of carbapenem therapy was lower in the post-group versus the pre-group (3.9 vs 9 days; p-value <0.001). The mean length of stay was lower in the post-group versus the pre-group (7.4 vs 7.8 days; p-value = 0.705). The percentage of patients discharged with home healthcare or to an outpatient infusion center to receive IV carbapenems was lower in the pre-group versus the post group (16% vs 24%; p-value = 0.052). The 3	There was a significant difference in the percentage of patients on appropriate non-carbapenems for ESBL E. coli or K. pneumoniae UTI in the pre- and post- publication period of a system wide clinical guideline on carbapenem alternatives. In the post-publication period, there was an increase in how often we are using non-carbapenems alternative agents.
Salem, Kristen	kristen.salem@adventhealth.com	AdventHealth Daytona Beach	Linezolid versus adjunctive clindamycin for the treatment of necrotizing skin infections	Necrotizing skin and soft tissue infection (NSTI) are severe, rapidly progressing infections in which the release of bacterial exotoxins may cause endothelial injury and a hyperactive immune response leading to extensive tissue damage and possible septic shock.1,2 Although there are many organisms that may be associated with NSTIs, a few notable toxin-producing organisms are Staphylococcus aureus, Streptococcus pyogenes, and Clostridium species. Delay in appropriate treatment is associated with irreversible tissue death, systemic toxicity, and mortality.3 There is a reported annual incidence of 0.4 per 1,000 cases in the United States, and a global mortality rate of 23.1%.2,4 Antibiotics that directly suppress toxin protein synthesis may provide clinical benefit and improve mortality. Historically, the most utilized antibiotic antibiotic is clindamycin, which binds to 50S ribosomal subunits, disrupting peptide formation and inhibiting bacterial protein synthesis.4 This agent is commonly used in conjunction with empiric broad-spectrum antibiotics, however, the duration of antibiotic necessity is unclear. Recent literature has reported antibiotic use for 48 to 96 hours.3 Infectious Diseases Society of America (IDSA) guidelines only make clear recommendations for the use of adjunctive clindamycin in the treatment of NSTI caused by Streptococcus pyogenes and Clostridium species.5 However, there is an abundance of literature suggesting benefit in utilizing a protein synthesis inhibitor, also referred to as an antitoxin antibiotic, for other causative gram-positive organisms.7 Due to its similar inhibition of bacterial protein production through 50S ribosomal subunit antagonism, the use of linezolid as an antitoxin in clinical practice has grown in recent years.8 With heightened emphasis on antibiotic associated toxicities, such as incidence of Clostridioides difficile infection (CDI) with clindamycin use and vancomycin-induced nephrotoxicity, literature has suggested the theoretical benefits of using linezolid as an alternative to clindamycin for adjunctive toxin suppression in the treatment of NSTI.9,10 Recently there has been an increase in literature displaying the utilization of linezolid in a field of treatment due to clinical practice habit and lack of robust evidence-based support. However, there is a need for additional larger clinical investigations to evaluate the efficacy and safety of linezolid versus clindamycin in combination with an antibiotic with adequate methicillin-resistant Staphylococcus aureus (MRSA) activity for the treatment of necrotizing skin and soft tissue infections.	This was a multicenter, retrospective cohort study conducted at a large healthcare system. Adult patients admitted from April 2022 to December 2024 with a diagnosis of NSTI that received either linezolid or clindamycin with an adjunctive anti-MRSA agent for at least 48 hours were included in the final analysis. The primary outcome was 30-day mortality. Secondary efficacy outcomes included 60- day mortality, 90-day mortality, 90-day readmission, and 90-day infection recurrence. The secondary safety outcomes of this study were incidence of acute kidney injury (AKI), CDI, suspected serotonin syndrome, and new onset thrombocytopenia. Using JASP 0.19. 3.0 software, patient data was analyzed for statistical significance using Chi-squared test for categorical data and Mann Whitney test for continuous data. A logistic univariable regression analysis was conducted to assess covariate association with the primary outcome.	Baseline characteristics are outlined in Table 1. A total of 144 patients were included (n=53, linezolid; n=91, clindamycin) in the final analysis. Although there was no statistically significant difference observed in the primary outcome, the clindamycin group demonstrated a higher 30-day mortality (0% vs 4.4%; p=0.12), as outlined in Table 2. No statistically significant differences were noted among the secondary outcomes 60-day mortality (3.8% vs 5.5%, p=0.64), 90-day mortality (5.7% vs 8.8%, p=0.51), 90-day readmission (41.5% vs 42.9%, p=0.88), and 90-day recurrent infection (20.8% vs 26.4%, p=0.45). A greater incidence of AKI was observed in the clindamycin group (9.4% vs 33.0%, p<0.001). However, there was no significant difference between the groups with incidence of new onset thrombocytopenia (5.8% vs 1.1%, p=0.28) and CDI (0.0% vs 1.1%, p=0.44). The following predictors were identified with a statistically significant association for the primary outcome: APACHE II score (OR 0.86, p<0.001).	The study demonstrated no statistically significant difference in the primary outcome of 30-day mortality. The only secondary outcome that produced a statistically significant difference was an increased incidence of AKI observed in the clindamycin group. Limitations of the study include the retrospective design and limited sample size, as well as lack of readmission and mortality data from outside health systems. This study adds to the growing body of clinical literature in an area of hesitancy within clinical practice.
Salman, Abdallah	Abdallahsalman733@gmail.com	Baptist Hospital of Miami	Evaluation of Thrombotic Outcomes Post Reversal of Direct Oral Anticoagulant Related Intracranial Hemorrhage	Intracranial hemorrhage (ICH) related to direct oral anticoagulants (DOACs) is associated with both high morbidity and mortality necessitating prompt reversal of anticoagulation. The 2022 American College of Cardiology / American Heart Association guidelines provide a class 2A recommendation for andexanet alfa and a class 2B recommendation for 4-factor prothrombin complex concentrate (4F-PCC) for the reversal of DOAC-associated ICH.. The 2024 Annexa-I trial provided the first comparison of thrombotic events between patients who received andexanet alfa and 4F-PCC. This study aimed to further evaluate the incidence of thrombotic events following anticoagulation reversal in patients with DOAC-associated ICH and to identify potential barriers for anticoagulation reinitiation.	This multicenter, retrospective chart review was conducted across seven hospitals within Baptist Health South Florida from January 2019 to January 2025. Adult patients presenting with DOAC-related ICH who received either andexanet alfa or 4F-PCC were included. Key exclusion criteria included trauma-related ICH, lack of a stable hemorrhage on radiographic findings, recent thrombotic events, or prior use of reversal agents. Data collected included patient demographics, reversal agent administered, intensive care unit (ICU) length of stay (LOS), hospital LOS, thrombotic events, mortality, and timing of anticoagulation reinitiation. Statistical analyses included Fisher's Exact Test, Mann-Whitney U Test, or Student's t-test. The primary outcome was the incident of thrombotic events. Secondary outcomes included time to stable hemorrhage as based upon radiographic findings, time to initiation of anticoagulation, 28-day mortality, ICU LOS, and hospital LOS.	A total of 81 patients were included (andexanet alfa: n=40; 4F-PCC: n=41). Thrombotic event rates were 10% for andexanet alfa versus 7.2% for 4F-PCC (p=0.71). Patients who received andexanet alfa had significantly shorter time to stable hemorrhage based upon radiographic findings (8.3 vs. 14.3 hours, p=0.03) and anticoagulation reinitiation (3.7 vs. 6.8 days, p=0.03). No significant differences were observed in 28-day mortality, ICU LOS, or hospital LOS. No patients were restarted on full-dose anticoagulation during their hospitalization.	There was no significant difference in thrombotic event rates between andexanet alfa and 4F-PCC for DOAC-related ICH reversal. Andexanet alfa was associated with a significantly reduced time to stable hemorrhage on radiographic imaging and earlier initiation of anticoagulation.

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Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Sanchez, Elizabeth	72lizsanchez@gmail.com	UF Health Spanish Plaines Hospital	Tenecteplase trek in charting the course of clot care: A retrospective evaluation of efficacy and safety of tenecteplase and alteplase	Tenecteplase has emerged as an alternative to alteplase for acute ischemic stroke treatment. Studies, including the ATTEST trial and a 10-hospital observational study, have shown that the safety and efficacy of tenecteplase is non-inferior to alteplase. Tenecteplase provides reduced hospital costs and advantages in preparation and administration, supporting its consideration as a standard treatment.	Retrospective chart review was utilized to assess patients who were admitted to UF Health Central Florida Hospitals receiving either alteplase or tenecteplase for the treatment of ischemic stroke. Inclusion criteria are patients aged 18 years or older and admitted from March 11th, 2022 to October 11th, 2024. Patients who received a tissue plasminogen activator (tPA) for a condition other than ischemic stroke were excluded from this study. The primary outcome focused on any adverse events experienced including incidence of intracerebral hemorrhage (ICH), other bleeds, angioedema, or other adverse events. Secondary outcomes include a change in NIH score (systematic severity assessment tool) from before to after administration and the door-to-needle time. The Fisher's Exact Test and descriptive statistics were used to determine if there were statistically non-random associations for NIH score changes within 48 hours and any adverse events. A p-value score of 0.05 or less is considered statistically significant.	Demographics A total of 106 patients were reviewed, 55 receiving alteplase and 51 receiving tenecteplase. The average age of patients was 69 years, ranging between 31 and 95 years. Patients aged 65 years or older accounted for 68.9% of the total population. Ethnically white patients accounted for 78.8% of the population, and males accounted for 48.1%. Adverse Events Patients who received alteplase had a higher incidence of ICH, at 20%, compared to those who received tenecteplase, at 11.8% (p=0.30). Other bleeds were experienced in 12.7% of patients who received alteplase, compared to 15.9% for those who received tenecteplase (p=0.77). The incidence of at least one adverse event was similar between patients who received alteplase (40%) and those who received tenecteplase (39.2%) (p=1.00). Patients who received alteplase and experienced at least one adverse event were, on average, 7 years older (73 years) than those who received tenecteplase and had an adverse event (66 years). NIH Scores For patients with a baseline NIH score between 0 and 25 (to qualify for treatment with tPA), the average reduction in NIH score post-administration for alteplase is 3.13, compared to 0.94 for tenecteplase. Overall NIH scores were reduced in 91.9% of patients who received alteplase compared to 69.8% of patients who received tenecteplase. The p-value of the Fisher's Exact Test for NIH score reduction after administration in patients is 0.003. Door-to-needle times The average door-to-needle time for alteplase was 69.1 minutes, compared to 81.9 minutes for tenecteplase. 16.7% of alteplase patients received treatment within 45 minutes, compared to 14.6% for tenecteplase (p=1.00). Limitations The study evaluated a small sample size of just over 100 patients, with a predominantly elderly and ethnically white population. NIH scores, although relatively objective, have a subjective component and were only assessed within 48 hours of treatment. Additional limitations included occasionally incomplete documentation and follow-up data for transferred patients. A portion of patients who received tPA may not have experienced a true stroke, but this could not be confirmed due to incomplete follow-up data.	There is no statistically significant correlation between the choice of medication and the rate of adverse events, including ICH. While the p-value of 0.30 was not statistically significant for the incidence of ICH, there was a trend of increased likelihood in the alteplase group. A statistically significant p-value of 0.003 for NIH score reduction suggests that the observed association is not likely due to change. However, NIH scores contain a subjective component and this study's limited sample size could affect the confidence level of this p-value. Additionally, there is no significant difference in door-to-needle times between the two medications.
Scrime, Caleb	caleb.scrime@mmhhs.com	Manatee Memorial Hospital	Delayed P2Y12 Inhibitor administration in non ST elevation myocardial infarction patients requiring coronary artery bypass graft surgery	P2Y12 inhibitors are a critical component in the management of acute coronary syndrome (ACS), particularly in patients undergoing coronary interventions. However, the 2023 European Society of Cardiology (ESC) guidelines advise against their administration in non-ST elevation acute coronary syndrome (NSTE-ACS) patients with unknown coronary anatomy when early invasive management is planned within 24 hours. Premature administration of P2Y12 inhibitors can delay coronary artery bypass grafting (CABG) in patients with three-vessel disease due to required washout periods, leading to extended hospital stays, increased costs, and potential complications. This study aimed to evaluate the impact of withholding P2Y12 inhibitors before coronary anatomy is known on hospital length of stay, surgical delays, and patient outcomes.	A retrospective and prospective observational study was conducted, including patients aged 18 years or older who were diagnosed with NSTEMI, confirmed by elevated cardiac biomarkers and/or ischemic ECG changes, and later identified as CABG candidates following coronary angiography. Patients were excluded if they had STEMI, received thrombolysis at another facility, underwent elective CABG, or presented with unstable angina. A proposed protocol to delay P2Y12 inhibitor administration until after coronary anatomy was identified was initially rejected by the cardiology team. To evaluate the impact of this approach, patient data from January 2022 to December 2024 were reviewed. The co-primary outcomes were hospital length of stay and surgical delay, measured in days. Secondary endpoints included mortality, renal insufficiency, cost of hospital stay, cost of blood products, prolonged intubation exceeding 24 hours, and 30-day readmission rates. Baseline patient characteristics, including age, BMI, serum creatinine, and prior P2Y12 inhibitor use, were collected. Statistical significance was determined using t-tests and Fisher's exact tests.	A total of 51 patients met the study criteria, with 10 patients receiving a P2Y12 inhibitor before coronary angiography and 41 patients not receiving pretreatment. Baseline demographics were similar between the two groups. Clopidogrel was the only P2Y12 inhibitor administered before angiography, although the preference for ticagrelor and prasugrel has increased in eligible patients. The average hospital length of stay was significantly shorter in patients who did not receive pretreatment compared to those who did (12.6 vs. 24.8 days; p=0.0278). Similarly, surgical delays were significantly reduced in the no-pretreatment group (3.8 vs. 7.6 days; p=0.0001). There was no difference in mortality between the two groups. The average hospital cost was lower in the no-pretreatment group ($45,092 vs. $70,769; p=0.02), as was the cost of blood products ($969.88 vs. $2,169; p=0.0149). Prolonged intubation was observed less frequently in the no-pretreatment group (2.38% vs. 20%), but this difference was not statistically significant (p=0.0944). Similarly, no significant difference in acute kidney injury rates was observed. However, 30-day readmission for cardiac dysfunction was significantly lower in the no-pretreatment group (9.52% vs. 40%; p=0.0379).	Withholding P2Y12 inhibitors before coronary anatomy is identified in NSTE-ACS patients, was associated with reduced hospital length of stay, shorter surgical delays, lower readmission rates, and decreased hospital costs. No differences were observed in mortality or acute kidney injury rates, and while prolonged intubation showed a slight reduction, it was not statistically significant. These findings suggest that delaying P2Y12 inhibitor administration until after coronary angiography may optimize patient outcomes, minimize unnecessary treatment delays, and reduce healthcare costs. Further research may be warranted to validate these results and refine clinical protocols for managing NSTE-ACS patients who may end up requiring CABG. These findings support current guideline recommendations.
Shams, Nicole	nicole.shams@baptisthealth.net	Homestead Hospital	Enhancing glycemic control post implementation of a clinical surveillance program	Research shows inadequate glycemic control affects approximately one-third of hospitalized patients, contributing to prolonged hospital stays, increased mortality, and elevated healthcare costs. This quality improvement (QI) project aimed to evaluate both the quantitative and qualitative impacts of a Clinical Pharmacy Surveillance Program (CPSP) in identifying glycemic management interventions and improving glycemic control in an inpatient setting.	This was a two-phase, single-center quality improvement (QI) project conducted in an acute care hospital. The primary outcome was to compare the number of clinical interventions before and after the implementation of the CPSP. The secondary outcome was to evaluate the time required to achieve glycemic control during the pre- and post-implementation periods. During the pre-implementation phase (January–June 2023), data were collected using the hospital's electronic health system, with strict adherence to privacy standards through credentialed access. In the post-implementation phase (August 2023–January 2024), the CPSP report identified patients who would benefit from pharmacist interventions. Quantitative data were defined as the number of documented interventions pre- and post-CPSP implementation, totaling 231 and 714 interventions, respectively. Qualitative data were defined as pharmacist-led interventions that resulted in glycemic control within a specified time frame during both periods. For the qualitative analysis, a random sample of 100 patients aged 18 years or older was selected from each phase. Intervention reports were reviewed to collect information on blood glucose (BG) levels <60 mg/dL, single BG values >300 mg/dL, or ≥5 readings >200 mg/dL. Additional data points included the use of basal, prandial, and correction-scale insulin; pharmacist-driven adjustments; time to reach glycemic control; and point-of-care (POC) blood glucose monitoring. Target ranges were defined as 140–180 mg/dL for hyperglycemia and ≥70 mg/dL for hypoglycemia. A two-group comparison design was used to evaluate the differences between the pre-intervention group (Group 1) and the post-intervention group (Group 2). Statistical analysis employed a two-sided Z-test with unpooled variance at a 0.05 significance level, with equal participant numbers in each group to ensure reliable comparisons.	Following the implementation of the Clinical Pharmacy Surveillance Program (CPSP), the number of pharmacist-led interventions increased by 52%, from 231 interventions in the pre-implementation phase to 714 in the post-implementation phase. Qualitative findings demonstrated a 32% improvement in achieving glycemic control, with rates increasing from 44% pre-implementation to 76% post-implementation. Glycemic control within the first 24 hours improved significantly, rising from 7 patients (17%) in the pre-implementation phase to 30 patients (44%) in the post-implementation phase. In contrast, glycemic control achieved after 24 hours was higher prior to CPSP implementation (83%) compared to the post-implementation phase (56%). These findings suggest that the majority of glycemic improvements occurred earlier in the treatment process following the introduction of the clinical surveillance program.	The implementation of the Clinical Pharmacy Surveillance Program (CPSP) significantly enhanced the identification and execution of pharmacist-led interventions for glycemic control in hospitalized patients. The program not only increased the number of interventions but also improved the achievement of glycemic control, particularly within the first 24 hours of intervention. Despite these improvements, glycemic control was achieved in only 32% of cases overall, indicating room for further enhancement. This remains an ongoing initiative, as the findings highlight the need for targeted glycemic control education and training for pharmacists to strengthen their clinical recommendations and ultimately improve patient outcomes.
Sharma, Urvashi	urvi.sharma93@gmail.com	HCA Florida Brandon Hospital	Evaluation of Vancomycin in Patients with Neutropenic Fever	Neutropenic fever is an oncologic emergency that affects patients with solid tumors and hematological malignancies receiving chemotherapy. It is defined as single oral temperature ≥ 38.3°C or a temperature ≥ 38°C sustained over 1 hour and an absolute neutrophil count of < 500 cells/ mm3 or an expected decrease to < 500 during the next 48 hours. The use of broad spectrum antibiotics is indicated as severe sepsis and septic shock can occur. Monotherapy with an anti-pseudomonal beta-lactam is considered first-line therapy. Empiric use of vancomycin is reserved for patients with central venous catheter infections, skin and soft tissue infections, pneumonia, unstable hemodynamics or recent/recurrent gram-positive infections. In a comparative study looking at vancomycin use in patients with neutropenic fever, more than 30% of patients received inappropriate empiric vancomycin therapy.	This is a single-center, retrospective observational study conducted at a 479-bed community teaching hospital. Patients receiving vancomycin for the indication of neutropenic fever will be identified using antibiotic indications entered by providers upon order entry between August 2021 to July 2024.	Of the 36 patients with a diagnosis of neutropenic fever 15 patients met the guideline definition for neutropenic fever. Only 10 patients received vancomycin appropriately and a total of 9 patients were de-escalated/discontinued from vancomycin by 72 hours.	From August 2021 to July 2024, the number of patients with a physician diagnosed indication of neutropenic fever was relatively small and from that sample size not every patient met the guideline definition for neutropenic fever. For the patients who did meet clinical criteria, majority did receive vancomycin appropriately and were de-escalated by 72 hours.
Shaunak, Allison	allison.shaunak@jax.ufl.edu	UF Health Jacksonville	Vasopressor administration and line-associated complications	Systemic shock is a life-threatening consequence of an inciting event defined by the inability of the cardiovascular system to effectively meet the body's oxygen demands, ultimately resulting in end-organ damage. Effective management relies on addressing the shock state's underlying pathology(s), addressing hypovolemia if present, and timely administration of appropriate vasoactive agents, as delays in restoring perfusion can increase morbidity and mortality. It is common practice for vasopressors to be administered via central venous catheters due to concerns for phlebitis and extravasation, leading to local tissue ischemia. However, recent studies indicate these complications are rare, which has led to increased peripheral administration in routine care and a recommendation from the Surviving Sepsis Campaign to initiate peripheral administration of vasopressors rather than delaying initiation until central venous access is secured. Peripheral administration of vasopressors also has the advantage of avoiding a procedure and subsequent potential complications such as central line-associated bloodstream infections, pneumothoraces, deep vein thrombosis, and bleeding events. Clinicians must weigh the potential risks of central-line associated adverse events against the concerns surrounding peripheral administration of vasopressors. The purpose of the current study is to evaluate the difference in adverse effects associated with varying approaches to vasopressor administration.	This is a single-center, multi-site, retrospective observational study evaluating patients admitted to a critical care service between January 2015 and December 2023. Patients were included if they were 18 years or older and received vasopressors for the treatment of shock, based on physician diagnosis. Exclusion criteria were sole administration via intraosseous route, patient deceased within 24 hours of vasopressor initiation, central line present on admission, vasopressors utilized for indications other than shock, patients receiving cardiothoracic surgery during admission, presence of thoracic penetrating trauma on admission, pregnancy, and age greater than 90 years. The primary endpoint was the composite rate of line-associated complications, defined as clinically relevant hematoma, retroperitoneal bleed, pneumothorax, blood stream infection, arterial puncture, extravasation, necrosis, thrombus, or cardiac arrest. Secondary endpoints included central line avoidance, and factors associated with central line avoidance. Patients were dichotomized into low dose and high dose groups based on the maximum rate of norepinephrine equivalents (NE) received with a cutoff of 15 mcg/min. Based on a study by Bell et al., we expected an absolute difference in complication rates of 6%. Given this, with an accepted power of 80% and an alpha of 5%, we estimated 248 patients to be required.	A total of 576 patients were screened, 247 of which were included and analyzed. Of these, 172 did not experience a line associate complication while 75 patients experienced at least one line associated complication, for an overall complication rate of 30.3%. Of the 247 patients, 96 had a maximum dose of vasopressors 15 mcg/min NE (high dose). Baseline characteristics are detailed in Table 1. Patients receiving low dose vasopressors were less likely to be admitted to the medical ICU service or have a component of distributive shock, were older, had lower initial lactates, and had lower SOFA scores compared to the high dose group. Of the 96 patients who received low dose vasopressors, there were a total of 228 peripheral and central lines, compared to 366 lines in the high dose group of 151 patients. The composite number of complications were higher in the high dose group, with 14.6% of lines in the low dose group associated with a complication compared to 22.7% of patients in the high dose group (p = 0.016). The most common complication was extravasation, followed by thrombus/blister/necrosis. Additional secondary outcomes are reported in Table 2. There was a difference in the number of vasopressors running at the time of complication, as seen in Table 2 (p=0.049). Duration of vasopressors at time of complication was not different between groups (low dose 13.5 hours [3.6-35.0] vs. 13.5 hours [5.9-39.4], p = 0.56). A logistic regression was performed considering the association of the following variables to experiencing a complication of a line: age, initial lactate, receipt of epinephrine, maximum dose of norepinephrine, and receipt of vasopressin. The R-square value was 0.049 and the model was a good fit (p=0.8). None of the variables were significant predictors of a line complication.	Patients receiving higher doses of vasopressors were more likely to experience line-associated complications. Secondary outcomes, including factors associated with line avoidance, will be reported at the Florida Residency Conference.
Shine, Dionna	Dionna.Shine@ufhealth.org	UF Health Jacksonville	Clinical Outcomes of Adult Patients with Pneumonia or Bacteremia Infections caused by Achromobacter spp.	Achromobacter species are non-fermenting, catalase- and oxidase-positive obligate aerobic rods. Current literature on the clinical management of infections caused by Achromobacter species mainly consists of case series focused on patients with immunocompromising conditions. Achromobacter spp. are intrinsically resistant to many commonly used antibiotics. In 2024, the Infectious Diseases Society of America released a guidance document on treating resistant Gram-negative organisms but did not include Achromobacter spp. In addition, clinicians have limited guidance from microbiology organizations as there are no established Achromobacter-specific susceptibility breakpoints noted by the Clinical & Laboratory Standards Institute, and limited established breakpoints for trimethoprim/sulfamethoxazole, meropenem, and piperacillin/tazobactam from the European Committee on Antimicrobial Susceptibility Testing. The purpose of this study was to evaluate clinical outcomes in adult patients with serious infections with Achromobacter spp.	This single-center retrospective study examined adults with an initial episode of bacteremia or pneumonia caused by Achromobacter spp., admitted from January 1, 2012, to December 31, 2024. Treatment with definitive antibiotic therapy for ≥ 4 days was required for inclusion. Patients were excluded if the organism was resistant to all study drugs (piperacillin-tazobactam, ceftazidime, cefepime, meropenem, ciprofloxacin, levofloxacin or trimethoprim-sulfamethoxazole), if a patient had a diagnosis of cystic fibrosis if deemed colonization by the treatment team, or if the patient transferred to another facility, died, or initiated hospice care within 48 hours from collection of the index culture. Primary endpoints were a composite of clinical failure: all-cause mortality, discharge to hospice, persistent (ongoing fever or leukocytosis on day 7 of effective antibiotics warranting an antimicrobial change), recurrent infection within 10 days of discontinuing treatment, and microbiological relapse from any site on day 7-30 post start of effective antibiotics. Patient demographic and clinical data were evaluated based on the status of clinical failure. Secondary endpoints included 30-day in-hospital mortality, length of stay (LOS), and infection-related length of stay (I-LOS).	A total of 166 blood or respiratory cultures with Achromobacter spp. in 131 patients were identified during the study period, and 73 patients met the inclusion criteria. The primary reasons for exclusion were receipt of	This study found that clinical failure was primarily driven by persistent infection at day 7 of effective therapy. Several factors were associated with clinical failure, including clinical severity as determined by the qSOFA score and Pitt bacteremia score, ICU admission, and mechanical ventilation. The study was limited by its small sample size and potential confounding factors, such as diverse treatment regimens and polymicrobial infections. Future studies should evaluate clinical outcomes from common treatment regimens in conjunction with microbiology data to help refine treatment approaches.
Shufet, Jillian	jshufet01@gmail.com	Sarasota Memorial Hospital	Impact of Pharmacy-Driven Multimodal Stewardship Interventions on Linezolid Use for Pneumonia	Pneumonia is a leading cause of infection-related hospital admissions in the United States, often complicated by respiratory failure and sepsis. Timely and appropriate empiric treatment is essential, but unnecessary use of broad-spectrum antibiotics can lead to treatment failure, prolonged illness, and antimicrobial resistance. Methicillin-resistant Staphylococcus aureus (MRSA) is a significant pathogen in hospital-acquired pneumonia (HAP) and community-acquired pneumonia (CAP), contributing to higher morbidity and mortality compared to other pathogens. The Infectious Diseases Society of America (IDSA) guidelines recommend empiric anti-MRSA therapy, such as vancomycin or linezolid, in patients with underlying risk factors for MRSA infection. Use of an MRSA nares polymerase chain reaction (PCR) screening has proven to be an effective antimicrobial stewardship tool in ruling out MRSA, given its high negative predictive value in this population. Recent literature evaluating pharmacist-driven protocols for MRSA nasal PCR screening for vancomycin showed decreased antibiotic duration and improved outcomes. This study aimed to assess the impact of multimodal antibiotic stewardship interventions on the duration of linezolid therapy for pneumonia patients.	A retrospective, quasi-experimental study was conducted at two hospitals in the Sarasota Memorial Hospital Care System. The pre-intervention group included patients treated from November 2023 to March 2024, and the post-intervention group included patients from November 2024 to March 2025. Interventions included implementing a pharmacy driven protocol, developing a new linezolid order set that includes MRSA PCR nasal swab option, and real-time MRSA PCR result alerts via a computerized decision support tool (Vigilanz). These interventions were implemented in October 2024, with training provided to physicians and pharmacists. Patients aged 18 or older who received linezolid for suspected or confirmed HAP or CAP, based on ATS/IDSA criteria, were included. Patients with extra-pulmonary infections, ventilator-associated pneumonia, or those transferred to comfort care or discharged before MRSA PCR results, if performed, were excluded. The primary endpoint was the duration of linezolid therapy (hours), with secondary endpoints including hospital length of stay, number of pharmacist interventions, and 30-day readmission. Data was collected from electronic medical records using REDCap. Continuous variables were analyzed using t-tests (parametric) or Mann-Whitney U tests (non-parametric), while categorical variables were analyzed using chi-square or Fisher's exact tests. Data was analyzed using JMP®.	A total of 148 patients were screened, with 100 meeting inclusion criteria—50 assigned to the pre-intervention group and 50 to the post-intervention group. Baseline characteristics were comparable between the two groups. The primary outcome, duration of linezolid therapy (in hours), was shorter in the post-group compared to the pre-group, however, this was not statistically significant (27.06 vs. 34.93 hours, p=0.203). The number of patients with a documented pharmacist intervention was significantly higher in the post-group (22 vs. 10, p<0.01). Otherwise, no significant differences were observed in secondary outcomes, including initial linezolid dose administered orally (20% vs 24%, p=0.629), hospital length of stay (5.66 vs 4.98, p=0.496), ICU length of stay, in days (6.16 vs 2.47, p=0.07), inpatient mortality (8% vs 6%, p=0.695), or 30-day readmission rates (16% vs 18%, p=1). MRSA PCR screening was ordered at similar rates in both groups—36% vs 54%. There were no differences in the type of provider ordering the MRSA PCR screens or the proportion of positive MRSA PCR results. Following protocol implementation, 38.3% of MRSA PCR screens were ordered via the linezolid order set. Data on time from ordering MRSA PCR screens to time of collection was recorded. There was a delay observed in the MRSA PCR screening process with 52% experiencing a delay of at least 6 hours between order and collection, and 33% experiencing delays of 12 hours or more. Delays in MRSA PCR screening suggest potential workflow inefficiencies that may contribute to prolonged use of linezolid therapy. Limitations of the study include single-center, small sample size, and retrospective design. With only 100 patients included, the study may have been underpowered to fully capture the protocol's impact. Reliance on pharmacist documentation may have led to underreporting, potentially underestimating the true extent of intervention activity.	The implementation of multi-modal stewardship interventions in patients with pneumonia treated with linezolid resulted in an increase in the number of pharmacist interventions but did not significantly decrease the duration of therapy. No significant differences were found in clinical outcomes including mortality or 30-day readmission, which support the safety of antibiotic de-escalation in patients with a low risk of MRSA infection. Further studies evaluating these outcomes in larger, more diverse populations and over longer time periods may be beneficial.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Smith, Lindsey	lindsey101.smith@gmail.com	Sarasota Memorial Hospital Venice	ofImpact of pharmacist-led rounds in the intensive care unit to oversee non-pharmacological delirium prevention	A.Delirium is an acute encephalopathy which frequently occurs in patients admitted to the intensive care unit (ICU), especially if they are elderly or mechanically ventilated. The occurrence of delirium can lead to increased falls, length of stay, and mortality. There is not sufficient evidence to show pharmacological therapy is effective for delirium prevention. However, there is evidence of multicomponent non-pharmacological interventions significantly reducing the duration and incidence of delirium. The current methods utilized for delirium prevention in an ICU will be compared to the use of a refined non-pharmacologic checklist system driven by pharmacists to achieve optimal delirium prevention.	A.This is a two-phase prospective cohort study that has received IRB approval. Patients 18 years of age or older, with admission to the ICU at Sarasota Memorial Hospital Venice between October 2024 to March 2025, who are mechanically ventilated for less than 24 hours, and score greater than or equal to 40% on the PRE-DELERIC calculator will be included. In phase one, the first 25 patients meeting inclusion criteria will receive the current standard of care for delirium prevention and will be followed until ICU discharge. Once this data has been collected, phase two will begin by identifying 25 additional patients who meet inclusion criteria while simultaneously implementing a checklist of multicomponent non-pharmacological treatments which will be monitored by pharmacists and followed until ICU discharge. The primary outcome of this study is a negative intensive care delirium screening checklist (ICSDC) score. Secondary outcomes include the number of delirium-free days, the number of patients requiring medication for delirium management, the number of medications used per patient for delirium management, time from ICU admission to ICU discharge, time from intubation to physical therapy consult, fall incidence, and mortality.	A.Observational phase:B.For the primary outcome, there were 16 out of 25 patients (64%) that achieved a negative ICSDC score. Therefore, 9 patients were positive for delirium. For secondary outcomes, there were 5 patients (20%) that required medication for delirium management. Each of those 5 patients received one medication for delirium management. The average time from ICU admission to ICU discharge was 5 days and the average time from intubation to physical therapy consult was 3 days. C.From this observational phase, there were some distinct nonpharmacological interventions that could be optimized, which include the following: (1) ensure the lights in the patient's room are turned on during the day and off at night, (2) retime medications overnight to allow for at least 4 hours of consecutive sleep, (3) restart home psychiatric and pain medications as soon as possible, (4) ensure physical therapy is consulted from the first day of intubation, (5) attempt to utilize music therapy after discussing music preferences with family, and (6) have a discussion about delirium prevention on rounds more routinely. B.Interventional Phase:C.For the primary outcome, there were 17 out of 25 patients (68%) that achieved a negative ICSDC score. Therefore, 8 patients were positive for delirium. For secondary outcomes, there were 6 patients (24%) that required medication for delirium management. The average time from ICU admission to ICU discharge was 6 days and the average time from intubation to physical therapy consult was less than 1 day. D.All 6 potentially meaningful nonpharmacological interventions identified in the observational study were implemented in this phase.	There is no clinically significant difference seen between standard of care and having pharmacist-led rounds to optimize nonpharmacological interventions for delirium prevention.
Smith, Tanner	tanner.smith@ufhealth.org	UF Health Jacksonville	Intravenous Phenobarbital for Moderate to Severe Alcohol Withdrawal in the Emergency Department	Alcohol withdrawal syndrome (AWS) is a potentially life-threatening condition that can occur in individuals with alcohol use disorder (AUD) when they abruptly reduce their alcohol intake. Alcohol withdrawal results in a hyperexcitable state, causing symptoms such as tremors, anxiety, seizures, and delirium tremens. 1,2 According to a report by SAMHSA, there were an estimated 8,566,725 alcohol-related ED visits in the United States from January 2021 through September 2023. Over 1 million (12%) of these visits are due to alcohol withdrawal symptoms.3 The 2024 American Society of Addiction Medicine (ASAM) Guidelines on Alcohol Withdrawal Management defines moderate alcohol withdrawal as a CIWA-Ar score of 10-18, and severe withdrawal as a score ≥ 19. ASAM guidelines state benzodiazepines (BZDs) are the first-line treatment for AWS. 4 However, phenobarbital has emerged as a potential alternative. Both phenobarbital and BZDs enhance GABA activity, but phenobarbital provides mechanistic, pharmacokinetic, and pharmacodynamic advantages over BZDs to control hyperexcitability.6 A randomized control trial by Rosenson found that adding a single IV phenobarbital loading dose reduced ICU admission compared to lorazepam alone. A retrospective study by Ibarra found that more phenobarbital patients were discharged by day 2. This study aims to compare the efficacy and safety of a single IV dose of phenobarbital combined with symptom-triggered benzodiazepines (STBs) with alternative care in the treatment of moderate to severe acute alcohol withdrawal, including STBs alone, or IM phenobarbital with STBs.	This is a single-center retrospective cohort study evaluating subjects admitted to the emergency department between January 1st, 2015 - January 10th, 2025. Patients aged ≥ 18 years with moderate to severe AWS who received IV phenobarbital plus STBs or an alternative treatment regimen are included. Alternative treatment regimens include STBs alone, or IM phenobarbital with STBs. The primary outcome is the total benzodiazepine dose administered (measured in IV lorazepam equivalents [IVLE]) within 48 hours. Secondary outcomes include time to symptom resolution, disposition from ED, intubation rates, length of stay, ICU length of stay, and rates of adverse effects. Categorical data was described using Chi-square and Fisher's exact testing and continuous data was analyzed using the Wilcoxon rank-sum test.	A total of 88 patients were included; 44 patients in the phenobarbital group and 44 patients in the alternative care group. Baseline characteristics between groups were similar, except for a higher initial CIWA-Ar score in the phenobarbital group (21.5 vs 14, p = 0.034). For the primary outcome of total BZDs at 48 hours, the phenobarbital group saw a median dose of 5.5 mg IVLE versus the alternative care group with 29 mg IVLE (p < 0.001). CIWA-Ar scores were significantly lower in the phenobarbital group at 6 (5 vs 14, p < 0.001), 12 (7 vs 12.5, p < 0.001), and 24 hours (5 vs 11.5, p < 0.001) when compared to the alternative care group. Patients in the phenobarbital group had a higher likelihood of being discharged from the ED (25% vs 0%, respectively; p < 0.001) and a decreased hospital length of stay (3 days vs 5 days, respectively; p = 0.005). Phenobarbital did not decrease ICU length of stay. There was no difference in rates of adverse events.	A single dose of IV phenobarbital significantly reduced total BZD dose required over a 48-hour time period. This, along with the improved CIWA-Ar scores in the phenobarbital group, represent phenobarbital's ability to adequately control the symptoms of alcohol withdrawal without an increased risk of adverse effects. Additionally, phenobarbital was able to decrease hospital admissions for alcohol withdrawal which may decrease resource utilization and healthcare costs. Objective: By the end of this presentation, the audience should be able to understand the advantages and disadvantages to using IV phenobarbital for alcohol withdrawal in the emergency department.
Solis Nolasco, Ivette	solisnolasco.im@gmail.com	Orlando Health Orlando Regional Medical Center	Remdesivir versus usual care in the treatment of patients with COVID-19	Remdesivir was approved by the Food and Drug Administration in 2020 for the treatment of COVID-19 requiring hospitalization or not requiring hospitalization but having a high risk for progression to severe COVID-19. Literature evaluating patients with COVID-19 during periods when Omicron was the predominant SARS-CoV-2 variant has found infection with Omicron variants is associated with reduced risk of severe disease when compared to Delta and pre-Delta variants. Limited evidence exists evaluating remdesivir against supportive care in patients with COVID-19 during the Omicron era.	This retrospective cohort study was conducted between January 2023 and December 2024 across seven hospitals in a large community system in central Florida. Patients were included if they had a primary diagnosis of COVID-19 and required at least 2 liters of nasal cannula support for a minimum of 24 hours and were excluded if they required a higher level of oxygen support. The primary outcome was progression of oxygen supplementation defined as requirement of HFNC, mechanical ventilation, or ECMO. Clinical and demographic data were collected and analyzed using REDCap® and SPSS®.	A total of 172 patients met inclusion criteria, 120 patients received remdesivir and 52 patients received usual care defined as nasal cannula support with or without steroids. The median age was 77 years (IQR: 67-85) and the most common comorbidities were hypertension (73.8%), chronic pulmonary diseases (43%), and diabetes mellitus (37.2%). No difference in progression of oxygen supplementation was observed between groups (19 (15.8%) remdesivir versus 7 (13.5%) usual care, p=0.16). A post-hoc analysis demonstrated a significant association between Charlson Comorbidity Index and risk of progression of oxygen support (OR 1.98 [1.07-3.68] p=0.03).	No difference in progression of oxygen supplementation was observed between groups, which suggests there was no additional benefit of remdesivir for the treatment of hospitalized patients with COVID-19 during a period when Omicron was the predominant SARS-CoV-2 variant. However, due to the limited sample size, this study may be underpowered to detect smaller effect sizes and establish statistical significance. Further large-scale prospective studies are needed to validate these findings.
Stalas, Jennifer	jstalas@gmail.com	AdventHealth Celebration	Impact of a pharmacist-led post-intensive care syndrome clinic for neurocritical care patients	Patients admitted to neurocritical care units are at high risk for post-intensive care syndrome (PICS) due to the severity of their underlying neurological conditions, prolonged critical illness, and complications during hospitalization, including prolonged sedation, intubation, and pain management.1 PICS refers to the long-term physical, cognitive, and mental impairments that can persist in survivors of critical illness. Approximately 25% to 66% of all patients will develop at least one symptom of PICS following intensive care unit (ICU) admission, including but not limited to, physical manifestations (vital sign changes, glycemic changes, decreased mobility, muscular atrophy, increased susceptibility to infection) and mental health manifestations (sleep concerns, anxiety, depression, PTSD).2 These manifestations may lead to a need for complex follow up care and transitional services post discharge. Patients discharged from neurocritical care units are at high risk for hospital readmission due to vascular events, infection, or recurrent neurologic events.3,4,5 Pharmacist interventions, particularly during transitions of care, have been shown to improve patient outcomes and reduce hospital readmission rates by addressing medication-related issues and improving patient education and adherence. The purpose of this study was to investigate whether a pharmacist-led post-intensive care clinic resulted in improved patient outcomes, specifically hospital readmission rates, compared to standard post-discharge care for neurocritical care patients.	A retrospective cohort study was conducted between August 1, 2024, and February 28, 2025. This study was exempt from Institutional Review Board (IRB) review. Patients admitted to the neurosurgical intensive care unit with a diagnosis of spontaneous intracerebral hemorrhage (sICH), aneurysmal subarachnoid hemorrhage (aSAH), acute ischemic stroke (AIS), or status epilepticus (SE) during admission were included. Patients were excluded if they were discharged to inpatient rehab, deceased, diagnosed with an intracranial neoplasm, transferred to another hospital, discharged to hospice, lived out of country, discharged against medical advice, followed with the Veteran's Affairs clinic, declined pharmacy services, or saw a pharmacist in another service line after hospital discharge. Patients who were discharged from the ICU by a provider that signed a collaborative practice agreement (CPA) were contacted by a pharmacist within 7 days of discharge to be scheduled for a PICS visit. The primary outcome was 30-day hospital readmission rates. Secondary outcomes included the total number of changes made to patient medication lists, the number of medication discrepancies identified and resolved, and pharmacist interventions under the CPA. Descriptive statistics were used to compare 30-day readmission rates between patients who completed a visit with a pharmacist and eligible patients not seen by a pharmacist post discharge.	A total of 60 patients met inclusion criteria to be reviewed, 15 of which were seen by a pharmacist in the PICS clinic. Out of the 15 patients that completed a visit with a pharmacist, only 1 patient (6.7%) was readmitted within 30 days and there were no additional readmissions within 60 days. Out of the 45 patients that were not scheduled for a visit with the pharmacist, and therefore received standard post-discharge care, 6 patients (13.3%) were readmitted within 30 days and 12 patients (26.7%) were readmitted within 60 days. In other words, patients who received care in the pharmacist-led PICS clinic had an absolute risk reduction of 6.6% for 30-day readmission and 20% for 60-day readmission compared to those who received standard post-discharge care. Although the patients who met with a pharmacist demonstrated a numerically lower readmission rate, the difference did not reach statistical significance for thirty-day readmissions (p=0.666, Fisher's exact test) or sixty-day readmissions (p=0.153, Fisher's exact test). With an alpha level of 0.05, post hoc power analysis indicates 6.9% power for thirty-day readmissions and 32.9% power for sixty-day readmissions, indicating that lack of statistical significance may be due to lack of power and the data does demonstrate clinical significance. A total of 16 changes were made to patient medication lists, 20 medication discrepancies were identified and resolved, and 17 interventions were instituted under the CPA. Pharmacist interventions or recommendations were made in 11 out of 15 (73.3%) patients seen.	Reduced readmission rates were observed in post neurocritical care patients who received care in a pharmacist-led PICS clinic as compared to those who received standard post-discharge care. Pharmacists optimized patient medication regimens, identified and resolved potentially harmful medication discrepancies, and increased patient understanding of medication regimens, monitoring, and lifestyle changes.
Stepter, Jaelyn	jaelyn.stepter@gmail.com	Orlando Health Orlando Regional Medical Center	Safety and efficacy of protocolized versus standard care for alcohol withdrawal syndrome in critically ill trauma patients	Alcohol withdrawal syndrome (AWS) is an acute complication that occurs following abrupt cessation of alcohol intake in patients who chronically consume alcohol. There are various screening tools available to assess for alcohol withdrawal syndrome, with the most common being the Clinical Institute Withdrawal Assessment Alcohol-Revised (CIWA-Ar) and the Modified Minnesota Detoxification Scale (mMINDS). In trauma patients, many symptoms of alcohol withdrawal may overlap with the physiological response to traumatic injury making it difficult to identify the true severity of withdrawal. Currently, no screening tools for AWS have been validated in the trauma population. The aim of this study was to evaluate the safety and efficacy of protocolized versus standard care for AWS in the trauma population.	This was a retrospective study evaluating trauma patients initiated on treatment for alcohol withdrawal syndrome. Critically ill trauma patients between 18 and 88 years old who received benzodiazepines or phenobarbital as protocolized treatment or as standard care for AWS for at least 12 hours were included in the study. Protocolized treatment was defined as treatment of AWS with a symptom-based treatment algorithm utilizing the mMINDS scoring tool. Standard care was defined as use of benzodiazepines or phenobarbital without an order for the mMINDS treatment algorithm. The primary outcome was mechanical ventilation free days at 28 days in patients receiving protocolized treatment versus standard care. Secondary outcomes included duration of mechanical ventilation, total benzodiazepine equivalent dose (midazolam equivalents) during stay, if adjunctive agents were required, hospital and intensive care unit (ICU) length of stay (LOS). Safety outcomes included the incidence of new onset delirium, oversedation, seizures, and hospital/ventilator acquired pneumonia.	Forty-nine critically ill trauma patients were treated for alcohol withdrawal syndrome with 23 patients in the protocolized treatment group and 26 patients in the standard care group. The baseline characteristics were similar between groups, although the standard care group had more patients that were in alcohol withdrawal on presentation (standard care 27% vs protocolized treatment 4%; p = 0.05). There was no difference in mechanical ventilation free days at 28 days between groups (standard care 28 days vs protocolized treatment 26 days; p = 0.39). The secondary and safety outcomes were statistically insignificant. Although insignificant, the standard care group had a higher median total benzodiazepine dose per day (standard care 9.1 mg vs protocolized treatment 6.5 mg; p = 0.98).	Mechanical ventilation free days at 28 days between patients receiving protocolized treatment versus standard care for AWS was not statistically significant. Additionally, this study did not show a difference between secondary and safety outcomes. This demonstrates that further education on the mMINDS algorithm as well as identifying barriers to following the stepwise approach may be required. Further exploration evaluating protocolized versus standard care treatment of AWS in critically ill trauma patients may be warranted.
Strezovski, Jillian	jillianstrez@gmail.com	Manatee Memorial Hospital	Impact of non-reimbursable medications that are expired or wasted on cost effectiveness	Manatee Memorial Hospital is a 295 bed acute care hospital in Bradenton, FL with 66 automated dispensing cabinets. This hospital has two waste procedures, one is through a pharmaceutical waste company that the hospital contracts with for disposal of medications and the other is with a reverse distributor. Some medications that are non-reimbursable include: intravenous (IV) medications, oral syringes, crash cart syringes; pre-filled syringes; vaccines; open/used medications; and broken/damaged medications. The purpose of this project is to evaluate the non-reimbursable medications that are most impactful to cost effectiveness in order to identify opportunities to create hospital-wide inventory improvements to reduce cost.	This is a sequential, single-site review that has a pre-intervention data collection from September 1, 2024 through October 31, 2024 and a post-intervention data collection from December 23, 2024 through January 31, 2025. Inclusion criteria: medications from all areas of the hospital, medications compounded using binary connectors/ready-to-use delivery systems and batches, and non-reimbursable medications that are disposed of through a reverse distributor. Medications excluded are: reimbursable medications from the reverse distributor, Advanced Cardiovascular Life Support, rapid sequence intubation medications, reversal agents, controlled substances, high-dose allopiates, benzodiazepines, consigned medications, vaccines, open/used medications, broken/damaged medications that are compounded, and medications from free-standing emergency departments. Pharmacy employees were instructed to quarantine disposed medications into a collection tin and data was collected by reviewing these quarantined medications. Data was also collected from evaluating reports from the reverse distributor. The primary outcome is the medications most impactful to overall cost from being wasted/expired. The secondary outcome is areas of the hospital that have the most waste and expired medications. An intervention that was made was having pharmacy technicians receive a report of IV medications compounded using binary connectors/ready-to-use delivery systems that are expiring within seven days and use this report to redistribute the expiring medications to other areas of the hospital. Another intervention included was converting thiamine IV bags to IV push: one vial is two minutes for all doses (maximum 100 mg). Both interventions were implemented in October 2024 due to drug shortages. The rest of interventions were implemented in December 2024, which included adjusting maximum and minimum quantities of medications with large quantities being wasted and/or were high cost that are located in the automated dispensing cabinets, adding a report that prints for pharmacy technicians of medications unused for 45 days that were chosen based on the quantity wasted and cost of waste to bring back to the pharmacy and allocate them to other areas of the hospital, removing certain medications from automated dispensing cabinets, adding a report for unit-based medications of high waste/cost that were expiring within 14 days to be printed for pharmacy technicians to redistribute them to other parts of the hospital, discontinue ordering/shortjan 30 drug orders, and not sending medications with manufacturers that do not get reimbursed to the reverse distributor. An analysis of the medications disposed was conducted with the pre-intervention data to determine the medications that contributed to the highest quantity wasted and the highest cost wasted for interventions to be made on. A two-tailed, paired T-test with a significance level P-value of 0.05 was conducted for the primary endpoint with medications that had interventions.	Overall, there were 1301 items that were disposed through the waste management network in the pre-intervention period and 1218 items wasted in the post-intervention period. In the pre-intervention period, there were 1466 items wasted with a cost of $8548.69, and 147 items wasted with a cost of $1721.57 in the post-intervention period through the reverse distributor in total. The decrease in quantity of the medications that are disposed of with the company that the hospital uses that interventions were made on was statistically significant with a T-value of -6.668579 and a P-value of 0.00006. The decrease in cost of waste of these medications was statistically significant with a t-value of -2.974646 and a P-value of 0.01159. The change in quantity and cost with wasted medications that had the highest quantity and cost of waste through the reverse distributor were both statistically significant, with a T-value of -5.282847 and P-value of 0.00019 for the difference in quantity, and for the difference in cost has a T-value of -2.484883 and a P-value of 0.0287. The secondary endpoint could not be reached based on the data collected.	The interventions that were made during this concurrent, observational, single-site review significantly decreased the amount of medications that were wasted, as well as decrease the cost that was being wasted.
Sunil, Diya	diya.sunil@hcahealthcare.com	HCA Florida Blake Hospital	Phenobarbital versus Benzodiazepines for patients with alcohol withdrawal syndrome in hospitalized patients	According to World Health Organization (WHO), approximately 400 million people worldwide lived with alcohol use disorder (AUD). In the past year, AUD has affected approximately 28.1 million adults aged 18 and older, as reported by the 2023 National Survey on Drug Use and Health. Most cases of alcohol withdrawal syndrome are mild and may not require medical interventions but patients experiencing severe symptoms of alcohol withdrawal should be treated pharmacologically. Although, the American Society of Addiction Medication (ASAM) guidelines on alcohol withdrawal management recommend benzodiazepines as the first line option for mild, moderate, or severe alcohol withdrawal, phenobarbital is a practical alternative when benzodiazepines are contraindicated. The purpose of this study is to assess whether benzodiazepines or phenobarbital is a safer and more effective choice in managing alcohol withdrawal syndrome.	This retrospective analysis will look at patients at HCA Florida Blake Hospital who were initiated on benzodiazepines and/or phenobarbital for the management of alcohol withdrawal syndrome from August 2023 to October 2024. Inclusion criteria will consist of patients > 18 years old, use of benzodiazepines (lorazepam or diazepam) and/or phenobarbital for treatment of alcohol withdrawal syndrome. Patients were excluded if they were pregnant Epileptic, incarcerated, or had listed allergy to any study medications. The following baseline characteristics were collected: age, sex, race, blood alcohol level at admission, and comorbid conditions, and treatment regimens (benzodiazepines and/or phenobarbital). Specific data will include primary outcomes of length of hospital stay and secondary outcomes of incidence of mechanical ventilation, seizure occurrence, and in-hospital mortality.	A total of 166 patients were included: 13 received phenobarbital only, 140 received benzodiazepines only, and 13 received both phenobarbital and benzodiazepines. The primary outcome, hospital length of stay, was longest in the phenobarbital-only group (mean: 10.5 days) compared to benzodiazepines only (6.0 days) and both medications (5.7 days). This difference approached but did not reach statistical significance (p = 0.075). For secondary outcomes, there were no statistically significant differences observed between groups in: adjunctive medication use (e.g., dexmedetomidine, propofol, antipsychotics), in-hospital mortality and seizure occurrence. Notably, the phenobarbital-only group had the highest rate of mechanical ventilation (30.8%), and no reduction in ventilation rates was observed in this group compared to others.	In this retrospective analysis of hospitalized patients with alcohol withdrawal syndrome, treatment with phenobarbital, benzodiazepines, or a combination of both resulted in no statistically significant difference in hospital length of stay. Secondary outcomes including adjunctive medication use, mortality, and seizure occurrence were also comparable across groups. Although prior literature suggests phenobarbital may improve outcomes in AWS, our study did not replicate these findings, potentially due to small sample sizes in the phenobarbital and combination groups.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Swanson, Emilee	emilee.swanson@yahoo.com	Orlando Health Bayfront Hospital	Tenecteplase versus alteplase in ischemic stroke	Strokes occur in 795,000 people per year in the United States. The death rate for stroke is 39.5 per 100,000 people. About 87 percent of these strokes are ischemic, meaning blood flow to the brain is being blocked. Tenecteplase (TNK) and alteplase (TPA) are thrombolytics used to break clots formed in an ischemic stroke. Tenecteplase is a modified form of alteplase, and it has a longer duration of action and is more fibrin specific. Alteplase must be administered over one hour while tenecteplase can be administered as a bolus. Thrombolytics come with a risk of bleeding and can lead to hemorrhagic transformation (HT), which occurs when peripheral blood crosses the blood brain barrier after an ischemic stroke. HT worsens outcomes and increases mortality. Research has shown that tenecteplase had better reperfusion and better functional outcomes than alteplase. A separate study found that door-to-needle time of tenecteplase was 47 minutes while alteplase was 56 minutes. Per the American Heart Association, for every 15-minute reduction in door-to-needle time, there is a 5 percent lower chance of hospital mortality. Orlando Health Bayfront Hospital made the switch from alteplase to tenecteplase for the treatment of ischemic stroke in August of 2024.	This is a retrospective chart review of all hospitalized patients age 18 years and older, who were diagnosed with ischemic stroke and received tenecteplase or alteplase at Orlando Health Bayfront Hospital. The primary endpoint is door-to-needle time of tenecteplase versus alteplase administration. The first secondary endpoint is change in scoring of the Modified Rankin Score upon admission and discharge for tenecteplase and alteplase. The next secondary endpoint is hemorrhagic transformations that occurred in the tenecteplase versus alteplase groups.	Average door-to-needle time for tenecteplase and alteplase were 45.55 minutes and 43.27 minutes respectively. 1 of 22 patients in the tenecteplase group and 1 of 11 patients in the alteplase group had a hemorrhagic transformation. Lastly, the average change in Modified Rankin Score for tenecteplase and alteplase were 2.45 and 2.36 respectively.	Based on the results, there is no statistical significance between tenecteplase and alteplase for all three endpoints. Including door-to-needle time, change in Modified Ranking Score, and hemorrhagic transformation events. The sample size was limited to 33 patients and therefore power was not met.
Tapia, Ernesto	ext645@miami.edu	University of Miami Hospital and Clinics	Optimizing electronic health records for safe medication administration in patients with enteral feeding tubes	Medication administration in patients with enteral feeding tubes (EFTs) presents unique challenges that require thoughtful consideration of drug formulation, administration route, and clinical documentation. Organizations and regulatory bodies such as the Institute for Safe Medication Practices (ISMP) and The Joint Commission emphasize the importance of standardized processes, accurate medication labeling, and integrated EHR safeguards to reduce the risk of medication errors in this vulnerable population. Despite these efforts, opportunities remain to further enhance EHR systems and prescribing workflows to align with best practices for enteral medication administration. This study aimed to identify areas within the EHR that could benefit from optimization—such as missing administration instructions, lack of appropriate route options, and absence of alerts—to promote safe prescribing practices. Additionally, the study assessed the prevalence of potentially inappropriate active medication orders in patients receiving enteral nutrition, with the goal of informing future system improvements, clinical decision support tools, and pharmacist-led interventions	A prospective chart review was conducted at the University of Miami Hospital and Clinics to evaluate opportunities for enhancing the electronic health record (EHR) and medication ordering processes in patients receiving enteral nutrition. The primary objective was to identify and quantify EHR-related system features that could be improved to support appropriate and safe medication administration via EFTs. A comprehensive review of the institution's formulary was conducted to ensure accurate and complete documentation of medication administration routes. Opportunities for system enhancement were defined as: medications with inappropriate routes for enteral administration (e.g., medications that should not be administered via feeding tube), absence of "Do Not Crush" warnings, missing EFT administration routes, incomplete administration instructions for EFT use, and incorrectly applied "Do Not Crush" alerts. The secondary objective was to determine the prevalence of potentially inappropriate active medication orders in patients receiving enteral nutrition. Over a one-month period, all active medication orders for patients with documented EFTs and designated as NPO were reviewed. The analysis focused on identifying medications prescribed with suboptimal formulations or routes of administration for enteral use. When such opportunities were identified, a pharmacist intervened in real time, providing evidence-based recommendations to prescribers regarding alternative formulations or administration strategies	A total of 193 opportunities for EHR system enhancement were identified during the review process. These included 23 (12%) instances of administration routes not aligned with enteral feeding best practices, 33 (17%) instances of missing EFT route options, 95 (49%) instances of missing special administration instructions for EFT administration, 77 (40%) instances where "Do Not Crush" warnings were absent, 4 (2%) instances of incorrectly applied "Do Not Crush" instructions, and 5 (2%) warfarin orders with unverifiable routes when an enteral route other than "by mouth" was selected. In addition, 1,539 inappropriate active medication orders were identified hospital-wide over a one-month period. Among these, 27 (2%) involved medications unsuitable for enteral administration due to formulation concerns, with the most frequent being aspirin enteric coated (EC) tablets (6 orders; 22%), pantoprazole EC tablets (6 orders; 22%), and metoprolol succinate tablets (4 orders; 15%). The remaining 1,512 (98%) orders involved medications appropriate for enteral use but were documented with an oral route in patients designated as NPO, presenting opportunities to enhance consistency in route selection and streamline documentation workflows	This study identified key opportunities to improve the safety and appropriateness of medication administration in enterally fed patients through EHR system optimization. At the University of Miami Hospital and Clinics, findings were shared with the IT department to guide targeted enhancements in EHR functionality. These included the addition of missing administration routes, standardization of EFT-specific instructions, and reinforcement of clinical decision support features. In parallel, in-service education was provided to pharmacists to strengthen medication order verification practices—particularly emphasizing the importance of reviewing "by mouth" orders in NPO-designated patients. An optimized EHR system with integrated alerts, evidence-based decision support, and standardized administration pathways has the potential to significantly enhance adherence to ISMP and Joint Commission recommendations. Future efforts should focus on expanding clinical decision support capabilities, integrating automated surveillance tools to detect potential discrepancies in real time, and embedding dedicated pharmacist review processes into the medication use workflow to further enhance the safety and effectiveness of enteral medication administration
Taylor, Kara	kara.taylor1@orlandohealth.com	Orlando Regional Medical Center-Orlando Health	Comparison of dexmedetomidine versus analgosedation monotherapy in medical critical care patients	Managing sedation in critically ill patients presents a clinical challenge, as it entails carefully balancing the need for adequate sedation to ensure patient comfort and agitation control, while also avoiding the risks associated with excessive sedation that may lead to poor outcomes. The mainstay of therapy is analgosedation and patients are often initiated on fentanyl infusions. This approach has been associated with various adverse effects, including iatrogenic opioid withdrawal syndrome, opioid dependency, and gastrointestinal complications such as constipation and ileus. The use of dexmedetomidine for sedation in the ICU continues to increase, yet no study has directly compared its use as sedation monotherapy to analgosedation (opioid infusion only). Given its distinct mechanism and favorable outcomes when compared to benzodiazepines, dexmedetomidine may offer an effective opioid-sparing alternative for ICU sedation compared to the strategy of analgosedation monotherapy with continuous infusion opioids. This study aims to assess the outcomes of dexmedetomidine versus analgosedation monotherapy for ICU sedation in medical critical care patients, addressing a notable gap in current literature and informing future clinical practice.	This IRB-approved retrospective cohort study was conducted at multiple sites in a large healthcare system. Adult medical ICU patients undergoing mechanical ventilation who received either continuous infusion dexmedetomidine or fentanyl as monotherapy for sedation were identified from electronic medical records from May 1st, 2021 to August 31st, 2024. Patients were included if they were mechanically ventilated for > 24 hours and were initiated on or transitioned to monotherapy within 12 hours of intubation. Patients also had to remain on monotherapy for at least 12 hours. Exclusion criteria included burns, pancreatitis, the need for major surgical intervention, treatment for alcohol withdrawal, and patients on home opioids for > 30 days. The primary outcome was mechanical ventilation free days up to 28 days, and secondary outcomes included percent time of agitation (Richmond Agitation and Sedation Scale (RASS) of > +1), percent time of oversedation (RASS of -3,-4, or -5 with a documented goal of light sedation), time to extubation, ICU and hospital length of stay (LOS), duration of sedation, and receipt of adjunctive sedative, analgesic, or antipsychotic agents. Adverse effects evaluated included delirium, hypotension, bradycardia, and constipation.	A total of 55 patients were included in this study. There were no clinically significant differences in baseline demographics, severity of illness, or duration of sedation between the dexmedetomidine (n=18) and fentanyl (n=37) groups. Both groups had similar rates of mechanical ventilation free days (25 vs 25.3 days, p = 0.89) and duration of mechanical ventilation (69 vs 64.4 hours, p = 0.18). As expected, patients in the dexmedetomidine group received significantly more adjunctive analgesic agents (55.6% vs 16.2%, p = 0.003) compared to those in the fentanyl group. Additionally, the percent of time agitated was consistent between the two groups (2.2% vs 2.3%, p = 0.65), while fentanyl was associated with a significantly higher median percent time spent over sedated (6.9% vs 33.3%, p = 0.01. Dexmedetomidine was associated with increased hypotension (33.3% vs 5.4%, p = 0.11) and delirium (61.1% vs 32.4%, p = 0.043). Patients in the dexmedetomidine group had a significantly longer median hospital LOS compared to the fentanyl group (15.6 vs. 7.9 days, p = 0.03), as well as a longer median ICU LOS (7.1 vs 4 days, p = 0.017).	This study contributes valuable insights into the comparative effectiveness of dexmedetomidine and fentanyl for ICU sedation in adult medical critical care patients. Our findings revealed no significant difference in mechanical ventilation outcomes between the two strategies. We observed a similar percent of time agitated between the two agents, yet a significantly higher percent of time over sedated in the fentanyl group, indicating potential differences in sedation quality between the two agents. Despite the similar percentage of time spent agitated, the dexmedetomidine group required significantly more rescue fentanyl. Given the retrospective nature of this study, there are several limitations, such as selection bias, reliance on documentation, and a small sample size. The selection bias is demonstrated by the increased percent of patients already experiencing delirium being selected to receive dexmedetomidine monotherapy. Despite these limitations, our study provides real-world evidence to guide clinical practice and emphasizes the importance of ongoing research in optimizing sedation strategies for medically critically ill patients. Further research is warranted to confirm these findings.
Telusca, Jaylan	Jaylantelusca@comcast.net	Tallahassee Memorial Healthcare	Comparing the Impact of Aprepitant Injectable Emulsion to Antiemetic Standard of Care on PONV Following Bariatric Surgery	Post operative nausea and vomiting (PONV) is a significant issue within the general surgery population with an increased prevalence in individuals undergoing bariatric surgery. Bariatric surgery is considered a high-risk factor for PONV and increases the likelihood of this condition occurring by 80%. According to the current guidelines established by the American Society of Enhanced Recovery and the Society for Ambulatory Anesthesia, prophylaxis for PONV is recommended and utilizes a multi-modal approach. There is ambiguity when selecting a multi-modal regimen due to a lack of well-defined superiority among antiemetic regimens. The use of a neurokinin-1 receptor antagonist and 5HT3 receptor antagonist is a preferred backbone prophylactic antiemetic regimen. This study aimed to analyze the effects of low dose aprepitant lipid emulsion compared to current practices for managing PONV in the bariatric surgery population of Tallahassee Memorial Healthcare.	This retrospective chart review of electronic medical records was conducted in the bariatric surgery population at Tallahassee Memorial Healthcare (TMH). Adults 18 years of age or older who received bariatric surgery between August 1st, 2022 to July 31st, 2024 and received either pre-operative low dose aprepitant lipid emulsion (ALE) or pre- or intra-operative amisulpride were included in the study. Patients were excluded if they were pregnant, currently receiving IV or oral aprepitant, or had a history or disorder of chronic nausea and vomiting. The primary endpoint was the total number of antiemetic doses received post-operatively. Secondary endpoints included the number of antiemetic doses given at 24 hours, the total length of hospital stay, the number of patient reported incidences of nausea and vomiting, and return visits to the emergency department for nausea and vomiting post-discharge.	A total of 40 patient charts were reviewed: in the aprepitant lipid emulsion group (n=20) and in the previous protocol group (n=20). There were more females in each treatment group (75% in the ALE group vs 80% in the previous protocol group) with the mean age being 44 and 41 years respectively. There was no statistically significant difference in the total number of antiemetics used post-operatively when comparing the ALE group to previous protocol (2.6 vs 5.8; p = 0.16). There was no statistical significance in the total number of antiemetic doses used in the ALE group when compared to the previous protocol group at 24 hours (2.2 vs 3.5; p=0.29) and at 48 hours (2.4 vs 4.5; p=0.022). The overall length of stay was lower in the ALE group (1.4 days vs 1.97 days; p = 0.03). There was no difference in recurrent visits to the ED between both groups (15% vs 35%; p=0.27).	In this retrospective chart review, there were no statistical difference in the total number of antiemetic doses given when patients received ALE or amisulpride as prophylaxis for PONV in the bariatric surgery population. The use of ALE resulted in a shorter length of stay when compared to previous protocol with amisulpride. Future studies should compare ALE-based regimens with other standardized antiemetic regimens at multiple study centers with a focus on nausea and vomiting as separate endpoints.
Tesfaye, Sarah	sstesfaye01@gmail.com	Department of Veterans Affairs, Bay Pines VA Healthcare System	Impact of pharmacist-driven recommendations on alcohol use disorder outcomes and readmission rates in hospitalized Veterans	The Veterans Health Administration National Academic Detailing Service has implemented a campaign to improve the management of AUD and established metrics to increase the percentage of AUD treatment through collaboration between Clinical Pharmacy Practitioners (CPP) and Providers. These goals include implementation of acute care CPP review of the AUD dashboard in patients with Alcohol Use Disorders Identification Test - Consumption (AUDIT-C) score of greater than or equal to 4, as well as addition of AUD to admission and care plan notes with recommendations made by acute care pharmacists. In 2024, CPPs at the Bay Pines VA Health Center implemented AUD assessment and documentation for hospitalized Veterans. This study will evaluate hospital readmission and recidivism rates before and after pharmacy driven AUD intervention. Comprehensive interventions, including pharmacologic, psychosocial, and behavioral approaches, are essential to address the multifaceted impacts of AUD and mitigate its health and societal consequences. Hospitalization for alcohol-related conditions provides clinicians an opportunity to initiate AUD treatment and evaluate AUD treatment adherence. Multidisciplinary team interventions, dashboards, and education tools, can improve patient-out-comes, compliance, treatment engagement and follow-up. Alcohol Use Disorder (AUD) is the inability to control how much alcohol one consumes. AUD is a pervasive global health issue, that affects over 2 billion individuals, and has an annual economic burden exceeding $250 billion in the U.S. alone. AUD accounts for approximately 4% of all deaths worldwide, and despite its prevalence, treatment rates remain low, with only 4.6% of affected individuals receiving treatment and less than 2% utilizing FDA-approved medications. The study, Identifying Factors Linked to Current Patterns of Alcohol Consumption in U.S. Veterans with a History of Alcohol Use Disorder, explored the sociological, health, and psychological determinants of alcohol consumption patterns in U.S. veterans with a lifetime history of AUD. Conducted as part of the National Health and Resilience in Veterans Study (NHRVS), this study provides insights into how Veterans' unique experiences, comorbidities and backgrounds influence their current alcohol use behaviors and a framework for developing targeted prevention and intervention strategies to address alcohol misuse among Veterans. This study highlights the complexities of alcohol consumption patterns among Veterans and offers a foundation for designing targeted interventions. There is a clear need for an integrated screening and care model. It is clear that holistic approaches are needed to address co-occurring conditions and enhance protective psychosocial traits, ultimately improving outcomes for Veterans coping AUD. One strategy to address AUD is a multipronged approach to treatment and prevention. This study will evaluate hospital readmission and recidivism rates before and after pharmacy-driven AUD interventions. Comprehensive interventions, including pharmacologic, psychosocial, and behavioral approaches, are essential to address the multifaceted impacts of AUD and mitigate its health and societal consequences. Hospitalization for alcohol-related conditions provides clinicians unique opportunity to initiate AUD treatment and evaluate AUD treatment adherence. Multidisciplinary team interventions, dashboards, and education tools can improve patient-out-comes, compliance, treatment engagement and follow-up.	This is a pre-post study design analyzing Veterans within the Bay Pines VA Healthcare System (BPVAHCS) with an Audit-C score of 6 or greater who were eligible to receive education and AUD pharmacotherapy between January 2024- March 2024. With pre-intervention data being collected from October 2023 through December 2023 and post-intervention data being collected from April 2024 through June 2024. Patients meeting criteria for the intervention will be identified using the AUD dashboard between January 2025 through March 2025. Patient specific information will be collected from the Veterans Affairs Computerized Patient Record System (CPRS). The primary outcome will compare readmission rates before and after AUD intervention. Secondary outcome will evaluate and compare pre and post AUDIT-C scores. Provider education/in-service will be performed with Hospitalists regarding AUD efforts and CPP recommendations.	Unable to report due to institutional constraints .	Unable to report due to institutional constraints .
Thomas, Brooke	brooke.thomas4@hcahealthcare.com	HCA Florida Ocala Hospital	Evaluating the impact of anti-pseudomonal antibiotics in the acute management of Chronic Obstructive Pulmonary Disease exacerbations: a retrospective cohort study	Chronic Obstructive Pulmonary Disease (COPD) exacerbations are defined as worsening dyspnea and/or cough and sputum production within a 14-day period. They can be caused by a multitude of etiologies, one being infection. Therefore, the 2024 Global Initiative for Chronic Obstructive Lung Disease (GOLD) Report includes criteria for when to initiate antibiotic therapy. However, they lack clear recommendations on the choice of empiric antibiotics and specific risk factors for Pseudomonas aeruginosa colonization, which creates challenges when determining the most appropriate empiric antibiotic regimen in these patients.1 This can potentially lead to overuse of broad-spectrum antibiotics, contributing to increasing rates of antimicrobial resistance. The objective of this study is to evaluate the clinical outcomes of hospitalized patients with COPD exacerbations who were treated with more than 24 hours of empiric anti-pseudomonal antibiotics compared to those who received non anti-pseudomonal antibiotics.	This single-site, retrospective cohort study evaluated patients who were admitted between February 23, 2024 and August 1, 2024. Patients 18 years old or older were included if they received greater than 24 hours of empiric antibiotic therapy with an ordered indication of COPD exacerbation and required more supplemental oxygen than at baseline. Patients were excluded if they had a confirmed diagnosis of community acquired pneumonia (CAP) or other source of infection as an admitting diagnosis, had Pseudomonas aeruginosa risk factors per the 2019 Infectious Disease Society of America (IDSA) CAP guidelines, had an allergy to any penicillin or cephalosporin, were pregnant, or incarcerated. Patients were categorized into two groups, those who received anti-pseudomonal antibiotics and those who received non anti-pseudomonal antibiotics. 2 The primary outcome was incidence of clinical success, defined by the 2024 GOLD Report as decreased oxygen support, reported improvement in sputum amount or purulence, or reported improvement in dyspnea, observed between treatment initiation and patient discharge or death. The secondary outcomes assessed were all-cause mortality, median hospital length of stay, admission to the ICU if initially admitted to the floor, percentage of patients meeting antibiotic criteria per the 2024 COPD GOLD Report, and incidence of Pseudomonas aeruginosa in an initial respiratory culture. Each patient was retrospectively reviewed to assess achievement of the primary and secondary outcomes. Using a statistical analysis software, a Fisher's exact or Fisher-Freeman-Halton exact test was used to analyze nonparametric categorical data and a Mann-Whitney U test was used to analyze nonparametric continuous data. A p-value of	A total of 465 patients were identified to have an antibiotic ordered for greater than 24 hours for an indication of COPD exacerbation during our study period. Of these patients, 322 were excluded and 143 were included, three in the anti-pseudomonal group and 140 were in the non anti-pseudomonal group. Baseline characteristics did not significantly differ between the study groups. The primary outcome, incidence of clinical success, also did not differ between the two groups (APA 100% vs. NAPA 90.7%; p= 1.0). Additionally, all-cause mortality (APA group 0% vs. NAPA group 0.7%; p= 1.0), hospital length of stay (APA group 5 vs. NAPA 3; p= 0.208), admission to ICU (APA 33.3% vs. NAPA 9.3%; p= 0.268), and incidence of Pseudomonas aeruginosa (APA 33.3% vs. NAPA 6.71%; p= 0.062) did not significantly differ between the groups. Only one patient in the APA group (33.3%) and 67 patients in the NAPA group (47.9%) met antibiotic criteria as defined by the 2024 GOLD Report.	The study demonstrated that there were no significant differences in clinical success, all-cause mortality, hospital length of stay, and admission to ICU between patients receiving anti-pseudomonal antibiotics and non anti-pseudomonal antibiotics. These results suggest that anti-pseudomonal antibiotics as empiric therapy in hospital patients with COPD exacerbations may not be associated with improved clinical outcomes. Furthermore, over half of the patients in each treatment group received antibiotics when not indicated, which may promote unnecessary antimicrobial resistance. Therefore, confirming that patients meet antibiotic criteria as defined in the 2024 GOLD Report is vital to ensure appropriate use of antibiotic therapy. Our study did have limitations. Some of the included patients did not have their home oxygen amount documented, which made it difficult to fully assess all inclusion criteria. Additionally, this was a single site study making it difficult to generalize our results, and a small sample size of three patients in the anti-pseudomonal group makes it difficult to assess the true clinical significance of these findings.
Thompson, Araven	araventhompson@gmail.com	HCA Florida Blake Hospital	Pharmacy Directed Dosing of Epoetin Alfa in Hospitalized Patients with Anemia of Chronic Kidney Disease or End-Stage Renal Disease on Dialysis	In patients with severe chronic kidney disease or end-stage renal disease, there is a higher incidence of anemia due to the lack of production of erythropoietin. Epoetin alfa therapy allows the body to replenish this building block and promote the production of red blood cells. However, initiation of epoetin alfa requires multiple considerations due to the various black box warnings, such as the increased risk of stroke or myocardial infarction. The purpose of this study is to evaluate appropriate use of epoetin alfa in patients with anemia of chronic kidney disease(CKD) or end stage renal disease(ESRD) on dialysis prior to initiating a pharmacy directed dosing protocol.	This prospective study will compare hospitalized patients who were initiated on epoetin alfa therapy without pharmacy consultation from November 1, 2023 to March 31, 2024 to patients initiated on epoetin alfa using a pharmacy directed dosing policy from November 1, 2024 to March 31st, 2025. Comparison will include dosages of epoetin alfa, whether hemoglobin and iron labs were obtained prior to administration of epoetin alfa, and whether patients experienced any adverse events after receiving epoetin alfa. Inclusion criteria will consist of patients 18 years or older who have been diagnosed with anemia due to chronic kidney disease with or without dialysis. Exclusion criteria will include patients initiated on epoetin alfa for anemia due to chemotherapy and anemia caused by zidovudine in HIV-infected patients. The epoetin alfa product that is used at this institution is Retacrit. According to the package insert, the recommended initial dosing for patients diagnosed with anemia of CKD with or without dialysis (including ESRD) is 50 to 100units/kg 3 times weekly intravenously or subcutaneously. The primary outcome for this study is if a hemoglobin of less than 10g/dL was collected within 48 hours prior to administration of epoetin alfa. Secondary outcomes include if iron panel was collected within 4 weeks prior to epoetin administration, if patients receiving thrice weekly dosing were dosed at the recommended initial dose of between 50-100units/kg, and if any vascular events occurred during inpatient stay after epoetin alfa administration.	115 patients met inclusion criteria in the retrospective cohort from November 2023 to March 2024. Of those patients, 8 either did not have a hemoglobin less than 10g/dL or did not have a hemoglobin drawn within the prior 48 hours (32%). 11 patients did not receive the recommended initial dose of between 50 to 100units/kg when given at a frequency of three times a week. The prospective portion of this study is ongoing due to delayed policy implementation.	This research study is ongoing

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Tiaokhiao, Sherry	sherrytiao@yahoo.com	Sarasota Memorial Hospital Venice	Amiodarone, Diltiazem, or Metoprolol in Patients with Atrial Fibrillation and Heart Failure with Reduced Ejection Fraction in the Emergency Department	Atrial fibrillation (AF) is a common cardiac arrhythmia frequently seen in the hospital emergency department (ED). It is characterized by an irregular and often rapid ventricular heart rate, which increases the risk of stroke, heart failure (HF), and other cardiovascular complications of reduced cardiac output, atrial remodeling, ischemic heart disease, and ventricular arrhythmias. Selecting an optimal rate control agent in the ED for patients admitted with AF and heart failure with reduced ejection fraction (HFrEF) has been an ambiguous topic among emergency medicine providers. According to the 2023 American Heart Association (AHA) guidelines on AF management, careful consideration must be given when selecting and administering medications, particularly in patients with concurrent HF. Based on the patient's clinical symptoms, hemodynamic stability, and left ventricular systolic dysfunction, providers may elect to use a variety of rate control agents. This study aimed to assess and compare which intravenous rate control agent among amiodarone, diltiazem, and metoprolol achieved a faster time to target heart rate (HR) below 110 beats per minute (bpm) and which agent provided sustained control without compromising hemodynamic stability.	This is a multi-center, retrospective cohort, descriptive chart review study that included a total of 69 patients at Sarasota Memorial Health Care System. Patients 18 years of age or older with a diagnosis of AF and HFrEF and receiving either amiodarone, diltiazem, or metoprolol as initial treatment between January 2021 to March 2025 were included. Pregnant patients or patients with allergies to any rate control agents being studied were excluded. The primary outcome was time required to achieve a target heart rate below 110 beats per minute (bpm) for each agent when used as a first line treatment. Secondary outcomes included duration of sustained HR control and duration of intravenous therapy. Other outcomes collected included occurrence of adverse effects defined as a systolic blood pressure below 90 mm Hg and/or bradycardia with a HR less than 60 bpm, administration of other cardiac medications (i.e., digoxin or vasopressors), completion of a cardioversion or ablation, or admission to the intensive care unit. Data was collected from the institution's electronic medical record system, Altera Sunrise Clinical Manager, and recorded into REDCap.	A total of 69 patient charts were reviewed from January 2021 to March 2025. The median time required to achieve target HR was 33 (IQR, 14-198) minutes for amiodarone, 47 (IQR, 9-78) minutes for diltiazem, and 14 (IQR, 11-24) minutes for metoprolol. Sustained rate control was maintained for 8.43 (IQR, 1.12-24) hours, 3.47 (IQR, 1-8.62) hours, and 2.25 (IQR, 1.3-3.5) hours for amiodarone, diltiazem, and metoprolol, respectively. The median duration of infusion therapy for amiodarone was 21 hours (IQR, 12-24) and 4.38 (IQR, 2-12.37) hours for diltiazem. Because metoprolol was given as IV bolus doses, duration of infusion did not apply. Diltiazem had the highest incidence of adverse effects for both hypotension (n = 12, 40%) and bradycardia (n = 3, 10%) followed by amiodarone (n = 11, 36%) and (n = 1, 3%) respectively. There was 1 incidence of hypotension only (n = 1, 11%) in the metoprolol group. Administration of additional cardiac medications (n = 26, 86%) and requirement of a cardioversion or ablation (n = 14, 46%) were most frequently required for refractory atrial fibrillation in the diltiazem group. Amiodarone required (n = 20, 66%) additional cardiac medications and had the highest number of admissions to the ICU (n = 8, 26%). The metoprolol group used a total of (n = 6, 66%) additional cardiac medications with (n = 1, 11%) requiring a cardioversion or ablation with no ICU admissions.	Metoprolol had the shortest time to target HR, but had the least duration of sustained control. In patients with AF and HFrEF, diltiazem was associated with the highest incidence of adverse effects regarding hemodynamic instability related to hypotension and bradycardia. More patients in the amiodarone group were admitted to the intensive care unit than in the metoprolol or diltiazem groups. Healthcare systems should consider creating atrial fibrillation order sets specific to HFrEF as a strategy to encourage providers to select appropriate rate control agents for these patients. Further studies may consider comparing digoxin as an additional adjunct therapy for rate control amongst amiodarone, diltiazem, and metoprolol.
Tokryman, Ryan	ryan33487@yahoo.com	Holy Cross Health	Evaluating the Impact of Pharmacist-Led Heparin Infusion Monitoring	IV Unfractionated heparin (IV UFH) is classified as a high-alert medication by the Institute of Safe Medication Practices (ISMP) due to its potential to cause significant harm if used in error. Its narrow therapeutic window requires vigilant monitoring to prevent serious bleeding events such as intracranial hemorrhage and retroperitoneal bleed. Anti-factor Xa (anti-Xa) monitoring provides a reliable assessment of heparin activity and is more independent of coagulation status compared to aPTT monitoring. A quality improvement project led by a PGY1 Pharmacy Resident evaluated the impact of pharmacist-led heparin infusion monitoring on adherence to the institutional heparin infusion protocol aimed at optimizing anticoagulation therapy and enhancing patient safety.	This was a 4-month, single center, pre-post implementation cohort study. Eligible patients were ≥ 18 years of age and received IV unfractionated heparin for ≥ 24 hours. Patients receiving non-titratable infusions were excluded. The intervention aimed to increase adherence to the institutional heparin infusion protocol by incorporating pharmacist-led monitoring and guidance. Pharmacists identified patients initiated on IV UFH and added them to a monitoring list in the electronic health record (EHR). Notifications were manually set for anti-Xa results. Upon result availability, nursing staff were contacted with protocol-based recommendations unless the anti-Xa level was within the therapeutic range. The primary outcome was adherence to the heparin protocol, defined by appropriate bolus dosing and administration, correct rate adjustment, or no adjustment when the anti-Xa result was at goal. The secondary outcomes included adjustment of the infusion within 120 minutes of anti-Xa result – a benchmark used in prior studies to account for workflow-related delays – as well as the average time to action of infusion adjustment. Sample characteristics collected and reported were age, weight, and sex. Categorical and continuous variables were analyzed using Chi-squared and t-test, respectively.	Baseline demographic characteristics were similar between groups. Mean age was 70.4 years (+13) in the pre-implementation group and 70 years (+13.1) post-implementation. Mean patient weight was 85 kg (+23.3) and 80 kg (+21.3) in the pre- and post-implementation groups, respectively. The anti-Xa levels associated with males comprised 418 (75.5%) of the pre-implementation group and 368 (66%) of the post-implementation group. Of the anti-Xa levels reviewed, 467 (87.7%) were adherent to the protocol in the pre-implementation group, compared to 514 (92.3%) post-implementation (p=0.01). For secondary outcomes, 145 (62.2%) of levels were acted upon within 120 minutes pre-implementation versus 166 (77.6%) post-implementation (p<0.001) There was a non-statistically significant decrease in the average time to action by 11.8 minutes in the post-implementation group (p=0.05), likely due to limited study power.	This study demonstrates that pharmacist-led IV UFH monitoring was associated with significantly improved adherence and timeliness of infusion adjustments. These findings demonstrate the value of pharmacists in anticoagulation management and supports multidisciplinary collaboration to enhance patient safety. Future research should investigate protocol adherence stratified by patient location and time of day and explore the impact on patient-centered outcomes such as bleeding events and hospital length of stay.
Toledo, Ariana	ariana.toledo@orlandohealth.com	Orlando Health Bayfront Hospital	Evaluation and Comparison of an Artificial Intelligence Software vs Manual Data Analysis and its Impact Risk Assessment Surrounding Controlled Substance Practices	Drug diversion from healthcare workers poses immense safety threats to patients, potentiating financial losses to the hospital, and can derail the life of the user. Current practices for detecting inappropriate behavior regarding controlled substances include manual reconciliation, which is time consuming. As of September 2024, my institution adopted a new artificial intelligence (AI) software that is designed to detect real-time incidents and notify pharmacy leadership immediately. The purpose of this study is to assess the time to detection of unreconciled incidents.	This study is a single center retrospective chart review of patients hospitalized at Orlando Health Bayfront Hospital who were prescribed a controlled substance followed by identification of an incident in our electronic health record or our AI software. This study will be submitted to the Institutional Review Board for approval. Time to detection of an unreconciled incident will be calculated. Incidents are defined as delayed administrations, delayed wastes, or unreconciled controlled substances. All data will be reviewed to categorize the resolutions as appropriate, policy deviation, or inappropriate. Inappropriate will be defined by an unreconciled incident; policy deviation will be defined by a reconciled incident that deviated from standard protocol, and appropriate will be defined as a reconciled incident with no deviation from protocol.	230 detected incidents were reviewed and categorized into unreconciled and reconciled events. The primary objective assessed was average time to detection for a true unreconciled incident. Using our manual data analysis, time to detection was 34.7 hours and 53.9 hours using the AI software.	Based on the results, the AI software detects more incidents than the manual data analysis, and takes slightly longer to detect. A sample size of 400 incidents were needed to meet power, therefore power was not met.
Torres, Brian	brian5912@hotmail.com	James A. Haley Veterans' Hospital	Pharmacists' role in the implementation and utilization of pharmacogenomics testing	Pharmacogenomics (PGx) is the study of genetic variations among an individual's drug metabolizing enzymes and drug targets that influence patients' response to select medications. Understanding these genetic differences is an important parameter for optimizing patient therapy and minimizing the risk of adverse effects. Genetic variants not only impact drug response, but can also influence drug interactions, potentially altering the effectiveness of medications. As pharmacogenomic testing becomes more accessible to veterans, incorporating genetic information into clinical decision making allows for a personalized approach to patient care. The Clinical Pharmacogenetics Implementation Consortium (CPIC) provides evidence-based guidance to support practitioners in the application and use of pharmacogenomic data for patient care. This guidance can help with selection of drug and dose to improve practice across a wide variety of clinical settings. This prospective quality improvement project aims to evaluate the clinical utility of the Pharmacogenomics Testing for Veterans (PHASER) program across several pharmacy settings at the James A. Haley Veterans' Hospital, including Patient Aligned Care Teams (PACT) and anticoagulation clinics (AC). The goal is to expand the pharmacists' role in optimizing medication therapy based on a patient's pharmacogenomic test results.	In PACT, Clinical Pharmacist Practitioners (CPPs) identified patients currently prescribed or wanting to initiate statin therapy who are at higher risk for statin-related adverse effects. Eligible patients are included in the study by meeting one or more of the following: new statin initiation, advanced age (>75 years old), recent statin dose increase, low BMI (<18.5 kg/m2), prior statin intolerance, concurrent interacting medications, alcohol use disorder, or high-intensity statin use. Patients with Atherosclerotic Cardiovascular Disease(ASCVD) or a ASCVD risk score greater than 20% on maximally tolerated statin were excluded from this project. Patients previously enrolled in the PHASER program were also excluded from this project For the anticoagulation clinic, patients utilizing aspirin in addition to either warfarin or direct oral anticoagulant who were being prescribed a proton pump inhibitor for gastrointestinal bleed prophylaxis were included in this project. CPPs alerted Clinical Pharmacy Technicians (CPTs) to eligible patients. The CPT obtained informed consent and scheduled lab testing if the patient was agreeable. Prior to pharmacogenomic testing, oral consent was obtained and documented using "pharmacogenomics notes" in the electronic medical record. CPPs ordering pharmacogenomics testing for statin patients reviewed the results and made adjustments for the patient's statin, if warranted based on clinical judgement. Pharmacy resident reviewed the results for each pharmacogenomic test and conducted a chart review for any active medications that may have pharmacogenomic interaction. If a medication needed change, the resident could alert the prescribing physician with a recommendation for change. A 10% rate of change benchmark was established to help determine clinical utility in PGx testing in the PACT and AC setting.	From December 2024 to April 2025, there were 84 pharmacogenomic tests that were ordered, and 54 test results that are available. There was 1 pharmacogenomic-related dose change out of 54 available test results. This change involved decreasing an atorvastatin dose. There were 5 potential pharmacogenomic-related dose/drug changes that involved 3 patients receiving PPIs and 2 patients receiving clopidogrel. PGx testing in the PACT and AC settings prompted therapy changes or actionable flags in six patients, representing 11.1% of the total patients with results. Of the 54 available test results, TCAs were the drug class with the highest incidence of genetic abnormalities (68.5%). The project results found that 39.6% of patients using a statin and 33.9% of patients using a PPI had a genetic abnormality to these medication classes. Genetic abnormalities involving clopidogrel and tacrolimus occurred in 33.3% and 37% of patients, respectively. The average time spent for the pharmacy resident to analyze pharmacogenomic test results was 1.5 minutes. The average time spent for the CPT to consent a patient to pharmacogenomic testing was 12.1 minutes.	Based on the 6 actionable flags (11.1%) showcased in the project, the addition of PGx testing in the PACT and AC setting is projecting to meet the 10% benchmark to show clinical utility. Some specific medications with potential benefit for PGx testing include clopidogrel and tacrolimus.
Traugott, Matthew	matthew.traugott@ascension.org	Ascension St. Vincent's Riverside Hospital	Comparison of vasopressin in obese versus non-obese patients in the management of septic shock	In patients with septic shock, the Surviving Sepsis Campaign guidelines recommend the addition of vasopressin if an adequate mean arterial pressure (MAP) has not been achieved utilizing norepinephrine. These guidelines recommend that vasopressin should be used at a fixed dose of 0.03 units/min, regardless of body weight. Given its hydrophilic nature, vasopressin does not distribute well within adipose tissue. Therefore, fixed dose strategies may not be ideal in obese patients. Literature on dosing in obese populations is limited, and thus is unclear if fixed dose vasopressin is appropriate in this population. The purpose of this study was to compare the impact of fixed dose vasopressin in obese versus non-obese patients with septic shock.	This was a retrospective, observational, IRB-approved, cohort study conducted across four hospitals. Subjects were included if they were 18 years of age or older, diagnosed with septic shock, and received vasopressin at a dose of 0.03 units/min for at least 6 hours. Subjects were excluded if they were diagnosed with shock from any other cause, transferred from an outside facility, or if they were COVID positive at the time of treatment. Subjects were divided into "Obese" and "Non-obese" groups based on body mass index (BMI) > 30 kg/m2 or < 30 kg/m2 , respectively. The primary outcome of this study was change in vasopressor requirements 6 hours post vasopressin initiation, measured in norepinephrine equivalents (NEE). Secondary outcomes included change in vasopressor requirements post vasopressin initiation at 1, 3, 12, and 24 hours, time to MAP > 65 mmHg, maximum number of vasopressors required, duration of vasopressor therapy, duration of vasopressin therapy, in-hospital mortality, and hospital/ICU length of stay. To detect a difference of 0.1 mcg/kg/min NEE between groups, it was estimated that 184 subjects would be required to achieve 80% power with an alpha of 0.05. Student's t-test and Mann-Whitney U were used for the analysis of continuous and ordinal data. Chi-square or Fisher's exact test were used for categorical and nominal data. Furthermore, a multivariable linear regression was performed to adjust for potential confounding variables.	A total of 739 subjects underwent screening, of which 184 met inclusion criteria, equally distributed between groups. The primary reason for exclusion was insufficient time on vasopressin (< 6 hours). Baseline characteristics can be found in Table 1. The primary outcome, change in NEE 6 hours post vasopressin initiation, revealed a significant difference between groups (-0.05 vs. 0 mcg/kg/min, p=0.029) with a reduction in NEE requirements in the non-obese group. A multivariable linear regression was conducted to adjust for potential confounders including SOFA score, baseline NEE, history of chronic kidney disease, epinephrine use, and midodrine use. After adjusting for potential confounders, there was no significant difference for the primary outcome between groups (p=0.221). Upon analysis of secondary outcomes, there was a statistically significant reduction in NEE at 24 hours in the non-obese group compared to the obese group (-0.28 vs -0.14 mcg/kg/min, p	In obese subjects with septic shock, no significant difference was found in the change in vasopressor requirements at 6 hours post vasopressin initiation when compared to non-obese subjects. Likewise, no significant differences were found at hours 1, 3, or 12 after vasopressin initiation. The results of this study reflect that fixed dose vasopressin is adequate in obese patients despite its hydrophilic pharmacokinetics.
Trinh, Quynh	qtrinh1121@gmail.com	St. Joseph's Hospital North	Evaluating the Efficacy and Safety of Enoxaparin Dosing for Venous Thromboembolism Prophylaxis in Low Body Weight Patients	Venous thromboembolism (VTE) is a disease characterized by either deep venous thrombosis (DVT) or pulmonary embolism (PE). VTE is the third leading cause of cardiovascular death after a heart attack and stroke. About 600,000 VTE events happen every year in the United States, and they pose significant risks of morbidity and mortality. Pharmacologic prophylaxis with parenteral anticoagulants, such as enoxaparin, in higher risk hospitalized patients has been shown to reduce the incidence of VTE and its complications. Standard dosing of prophylactic enoxaparin for normal weight patients with normal renal function is usually 30 mg subcutaneously (SC) every 12 hours or 40 mg SC once daily. Reduced dosing is 30 mg SC daily in patients with creatinine clearance (CrCl) less than 30 mL/min. In studies evaluating obese patients (BMI > 30 kg/m2), a higher dose of enoxaparin is proven to effectively protect against VTE compared to non-obese patients. However, there is limited data on appropriate dosing of enoxaparin for low body weight patients. Practice guidelines and drug manufacturers have not made any specific prophylaxis recommendations for dose adjustments in this population. The manufacturer does recommend individualized care and monitoring for bleeding risk in women weighing less than 45 kilograms and men weighing less than 57 kilograms. Consequently, clinicians use their clinical judgment to determine the appropriate enoxaparin dose for VTE prophylaxis in patients with low body weight. A retrospective study concluded that both enoxaparin reduced and standard dosing regimens appeared effective for VTE prophylaxis, but neither showed superiority in reducing bleeding events. This study was small and included a limited number of patients receiving reduced-dose venous standard-dose prophylaxis (36.3% vs 74.9%). Other studies examined both standard dose and reduced-dose prophylaxis with enoxaparin and heparin, and found that reduced-dose prophylaxis was linked to a lower risk of bleeding while maintaining a similar rate of thromboembolism prevention. There is still a lack of sufficient data to guide clinicians in determining the appropriate dosage of VTE prophylaxis for patients with low body weight. The purpose of this study is to assess the efficacy and safety of standard-dose (40 mg SC daily) versus reduced-dose (30 mg SC daily) of enoxaparin for VTE prophylaxis in low body weight hospitalized patients.	This is an IRB-approved, multi-center retrospective study of adult patients receiving reduced-dose or standard-dose of VTE prophylaxis at St. Joseph's Hospital and St. Joseph's Hospital North between August 1, 2022 to August 31, 2024. Patients were included if they were 18 years of age or older, weighed 45 kilograms or less, and received at least one documented dose of enoxaparin 30 mg SC daily or 40 mg SC daily. Patients were excluded if they were admitted with a suspected VTE or bleed, if their CrCl was less than 30 mL/min or receiving hemodialysis, if they received enoxaparin for VTE treatment, if they were pregnant or lactating, and if received more than one dosing regimen during admission. This primary endpoint is to assess the incidence of acute DVT/PE between the two dosing strategies in hospitalized patients. VTE was defined as either DVT confirmed by ultrasound or PE confirmed by a computerized tomography (CT) scan or a ventilation-perfusion (VQ) scan. The secondary endpoints are major bleeding events and non-major bleeding events during admission. Bleeding events were considered major if accompanied by a hemoglobin drop of at least 2 g/dL in 24 hours, bleeding into a critical area or organ (e.g., retroperitoneal, intracranial, intraspinal, intraocular, intra-articular, pericardial, or intramuscular with compartment syndrome), fatal bleeding, or a transfusion of one or more units of blood products. Bleeding events were considered non-major if they were overt bleeding not meeting the criteria for major bleeding (e.g., GI bleeding, hematuria, hematemesis, or hematochezia), but required medical intervention or led to an increased level of care. Using Minitab 21.4, a sample size of 1304 was calculated to detect statistical significance and reach a power of 80%. An alpha of 0.05 was used for all statistical tests, such as the 2-proportions test and 2-sample t test.	For baseline characteristics, the groups were not well matched by ethnicity as there were a greater number of Caucasian patients in each study arm- 78% in reduced-dose regimen group and 74% in standard-dose regimen group (95% CI -0.099, 0.161; p= 0.642). Overall, 76% of patients in this study were Caucasian. Other baseline characteristics such as age, total body weight, creatine clearance, length of stay, and number of doses given during admission were well matched. There were a disproportionate number of females in the study overall - 81% in reduced-dose regimen group and 87% in standard-dose regimen group (95% CI -0.170, 0.051; p= 0.292). The most common antiplatelet and NSAID used in the outpatient setting were clopidogrel and aspirin respectively. For the primary outcome, there were no VTE events confirmed in either group. However, only 11 out of the 186 patients had repeat imaging during admission. Patients who had imaging ordered on admission before starting VTE prophylaxis with enoxaparin were not included in the primary outcome. For the secondary outcome, a major bleeding event occurred in 12 of the 80 reduced-dose regimen patients compared to 13 of the 86 standard-dose regimen patients (95% CI -0.110, 0.108; p= 0.983). This outcome was not statistically significant. For the other secondary outcome, a non-major bleeding event occurred in 2 of the 80 reduced-dose regimen patients compared to 1 of the 86 standard-dose regimen patients (95% CI -0.027, 0.054; p= 0.609). This outcome was also not statistically significant.	There were no confirmed VTE events in either group. However, imaging was not ordered for all patients unless VTE is suspected but VTE was not diagnosed in the patients who completed imaging while on enoxaparin prophylaxis. The difference in major and non-major bleeding events between the two dosing strategies was not statistically significant. Strengths of this study include that it is multicenter, it did a head-to-head comparison of regimens which only a few studies assessed, and it also tested a clinically relevant question pertaining to low body weight patients, an understudied group. Limitations of this study include that it is a retrospective analysis with a small sample size. The primary outcome was not analyzed to its full potential since imaging was not ordered for all patients unless a VTE was suspected. Lastly, having a higher proportion of Caucasian and female patients in the study population could limit the generalizability of this study. In conclusion, we should continue to individualize enoxaparin prophylactic dosing which includes assessing patient's risk factors and history. Lastly, further research is needed to assess the efficacy and safety of enoxaparin dosing for VTE prophylaxis in low body weight patients.
Tyler, Jennifer	jennifer.tyler2@hcahealthcare.com	HCA Florida Northside Hospital	Evaluation of Discharge Prescriptions for Uncomplicated Cystitis in the Emergency Department	Uncomplicated cystitis is a common disease state that can typically be managed outpatient with oral antibiotics. Infectious Disease Society of America guidelines, published in 2010, recommend as first line options: nitrofurantoin 100mg twice daily for 5 days, sulfamethoxazole with trimethoprim 800-160mg tablet twice daily for 3 days, or fosfomycin 3g once. Guideline recommended alternative therapies include beta lactams, cephalosporins, and fluoroquinolones. Despite these recommendations, the use of alternative antibiotics is increasing despite historical concerns for efficacy and safety. The purpose of this study is to identify prescribing patterns in the emergency department (ED) at a community teaching hospital for their consistency with guideline recommendations in the empiric treatment of acute uncomplicated cystitis.	This was a single-center, retrospective chart review evaluating adult patients discharged from the ED with oral antibiotics for the treatment of uncomplicated cystitis over 2 years. Patients were randomized then screened for inclusion criteria until a sample size of 200 patients was achieved. Electronic medical records were reviewed for discharge antibiotic, dose, frequency, and duration of therapy as well as culture results, type of provider seen, and need for alteration of therapy based on culture results. Baseline patient characteristics were collected. Patients were excluded if they were pregnant, incarcerated, or required admission for treatment. The primary objective was to determine if antimicrobial agent selection, dosing, and duration of treatment for uncomplicated cystitis was consistent with guideline-directed recommendations. Medication therapy regimens were defined by concordance with guidelines; preferred regimens included the 3 first line options and alternative regimens defined as agents listed as alternatives per IDSA guidelines. Secondary objectives included evaluating prescribing habits based on provider type, rate of treatment failure, need for post-discharge intervention due to coverage mismatch with culture results, commonly cultured organisms, and local resistance rates of commonly used agents.	In this study, 372 ED patients with a diagnosis of urinary tract infection were screened to identify 200 patients meeting inclusion criteria. All patients included were female, with an average age of 52 years. Allergies were assessed, with 25 patients reporting sulfa allergies and 40 patients reporting penicillin allergies. For the primary outcome, 4% of patients received a prescription that was consistent with the guideline-recommendations for medication, frequency, and duration. Thirty-seven patients (18.5%) were prescribed a preferred medication. Of these patients, only 22% of prescriptions had the recommended duration of therapy, while 97% had the recommend dosing interval. The most commonly prescribed antimicrobial agent was cefdinir, administered twice daily for 10 days (30%). A majority of patients had no growth in urine cultures (57.5%). Of patients with cultures that did show growth, susceptibility data was available for 66 patients. Among those isolates identified with susceptibility data, 84% were susceptible to nitrofurantoin, 80% to cefdinir (extrapolated from ceftriaxone), and 76% to cephalexin (extrapolated from cefazolin). Sulfamethoxazole/trimethoprim and fluoroquinolones had the lowest susceptibility rates at 68% and 68%, respectively. The most commonly isolated organism was Escherichia coli, identified in 44.7% of culture results.	Overall adherence to guideline recommended preferred agents was low at our institution at 4%. However, susceptibility to commonly utilized alternatives were still comparable to preferred agents. There is still unaddressed efficacy associated with the increased use of cephalosporins for the treatment of uncomplicated cystitis. All reported instances of treatment failure were patients initially treated with a cephalosporin, and most patients requiring regimen adjustments were initially prescribed a cephalosporin. Beyond drug selection, only 22% of patients received therapy consistent with recommended duration. Prolonged antibiotic use increases the risk of adverse effects and collateral damage. In addition, a majority of patients (57.5%) also had no growth on urine cultures, further raising concern for unnecessary and potentially harmful antibiotic treatment without indication. Findings from this study will be used to educate ED providers on guideline-recommended treatments for uncomplicated cystitis and may lead to changes in prescribing behavior. The results also identify the need for future research aimed at collecting more comprehensive susceptibility data, both to create an emergency department-specific antibiogram and to assess the impact of using broader-spectrum agents, such as cefdinir, on resistance patterns and the antibiotic related collateral damage.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Ulangkaya, Gabrielle Louise	gabulang@gmail.com	Bay Pines Veterans Affairs Healthcare System	Effect of Alternate Work Schedule on Job Satisfaction, Workload Levels, and Employee Burnout at a Veterans Affairs Medical Center (VAMC)	Employee burnout and high workload levels have become significant concerns in healthcare, particularly among Veterans Affairs Medical Center (VAMC) staff, including Patient Aligned Care Team (PACT) Clinical Pharmacist Practitioners (CPPs). These professionals play a critical role in patient care, but they often face high job stress due to the expanding scope of responsibilities. Alternate work schedules (e.g., compressed work weeks) have been implemented in some healthcare settings to address these challenges, potentially influencing job satisfaction, workload perceptions, and burnout. This study seeks to assess the impact of alternate work schedules (standard vs. compressed) on job satisfaction, workload stress, and burnout among PACT CPPs at the Bay Pines VAMC.	This is a cross-sectional, observational study conducted at the Bay Pines VAMC. An anonymous, self-administered survey will be distributed to PACT CPPs who work either a standard 5x8-hour workweek or a compressed schedule (e.g., 4x10-hour shifts). The survey will assess key factors such as job satisfaction, burnout, and perceived workload. Established, validated instruments will be used to measure each of these variables: the Job Satisfaction Survey (JSS), the NASA Task Load Index (NASA-TLX), and the Maslach Burnout Inventory (MBI). Data will be analyzed to compare the effects of different work schedules on these outcomes, examining correlations between work schedule type and levels of burnout, job satisfaction, and workload perceptions.	Unable to report due to institutional constraints .	Unable to report due to institutional constraints .
valcarcel, Alex	alex.valcarcel@uthealth.org	UF Health Central Florida, Spanish Plaines	Evaluation of time to appropriate therapy with the initiation of blood culture identification panels in a community hospital	Timely identification of pathogens in bloodstream infections (BSIs) remains critical for optimizing patient outcomes, yet traditional diagnostic methods often require extended processing times, delaying the initiation of targeted therapy. The Blood Culture Identification (BCID) Panel, a rapid multiplex PCR system, identifies pathogens within approximately two hours of a positive Gram stain, significantly expediting the diagnostic process compared to conventional culture methods. Rapid identification facilitates earlier initiation of targeted antimicrobial therapy, improves clinical outcomes, reduces the emergence of antimicrobial resistance, and minimizes adverse effects associated with prolonged use of broad-spectrum antibiotics. The use of rapid diagnostic panels also supports hospital antimicrobial stewardship efforts by enabling timely de-escalation or escalation of therapy based on organism and resistance gene identification. This study evaluates the impact of BCID implementation on the timeliness of targeted antimicrobial therapy initiation in patients with BSIs. The analysis focuses on comparing time to appropriate therapy before and after BCID adoption, emphasizing the role of rapid pathogen and resistance gene identification in reducing unnecessary broad-spectrum antimicrobial use and optimizing patient management strategies.	This retrospective, quasi-experimental study included adult patients (≥18 years) admitted to UF Health Lakesburg Hospital or UF Health Spanish Plaines Hospital with a positive blood culture. Patients were enrolled from July 1 to December 31, 2023 (traditional group), and from March 1 to September 30, 2024 (BCID group). Before BCID implementation, pathogen identification relied solely on conventional microbiologic methods. After implementation, the BCID panel was performed in addition to standard testing and was initiated immediately upon blood culture positivity. Although traditional organism identification and susceptibility testing continued, the BCID provided early organism and resistance gene detection within approximately two hours of test initiation. Eligible patients received antimicrobial therapy based on culture results from either the BCID panel or traditional methods. Patients were excluded if no organism was identified, if bacteremia was polymicrobial, if pregnant, if the patient died or transitioned to hospice within 48 hours of susceptibility reporting, or if discharged within 48 hours of culture collection. Additional exclusions included blood cultures growing common contaminants such as Staphylococcus epidermidis, Staphylococcus capitis, Staphylococcus hominis, Staphylococcus caprae, Staphylococcus haemolyticus, Micrococcus species, Bacillus cereus, Bacillus subtilis, Corynebacterium species, Cutibacterium acnes, and Lactobacillus species. The primary outcome was time from blood culture positivity to administration of appropriate targeted antimicrobial therapy. Appropriate therapy was defined as an antimicrobial agent with in vitro activity against the isolated organism, determined by the 2024 UF Health Central Florida antibiogram and relevant clinical guidelines. Secondary outcomes included hospital length of stay (LOS) and 30-day mortality. Time to therapy and LOS were summarized as medians with interquartile ranges (IQRs), and categorical variables as frequencies and percentages. Group comparisons used Welch's t-test for continuous variables and chi-square tests for categorical variables. A two-tailed p-value <0.05 was considered statistically significant. Analyses were performed using JMP 18 software.	A total of 646 patients met the inclusion criteria, with a median age of 75 years (IQR, 68–83) and 61% male representation. At the time of blood culture collection, 591 patients (91.5%) were already receiving antimicrobial therapy. The BCID group demonstrated a significantly shorter median time to appropriate antimicrobial therapy initiation compared to the traditional blood culture group –10.7 hours [IQR, –15.56 to 5.94) vs –5.6 hours [IQR, –14.03 to 10.07]. A statistically significant reduction was observed in time to targeted therapy, with a mean difference of –4.89 hours (95% CI, –8.51 to –1.27; p = 0.01). No statistically significant difference was observed in 30-day mortality rates between the BCID and traditional culture groups (p = 0.74). Median LOS was similar between groups, 6.88 days [IQR, 4.65–11.24] in the BCID group and 7.16 days [IQR, 4.42–11.10] in the traditional group, with no significant difference in mean LOS [mean difference -0.25 days; 95% CI, –2.83 to 2.32; p = 0.4231].	BCID panel implementation significantly reduced the time to appropriate antimicrobial therapy initiation compared to traditional methods in patients with BSIs. While no significant differences in mortality or hospital length of stay were observed, earlier targeted therapy highlights the clinical value of rapid diagnostics in supporting antimicrobial stewardship and improving patient care. Further research is warranted to validate these findings and to explore broader clinical impacts across diverse populations and care settings.
Valdes Ledesma, Jose	josevaledesma@gmail.com	Baptist Hospital of Miami	Economic Impact of Acute-care Formulary Addition of Nirmatrelvir-ritonavir in a Multi-site Health System	Nirmatrelvir-ritonavir and remdesivir are conditionally recommended by the Infectious Diseases Society of America for treatment of mild-moderate COVID-19. Use of nirmatrelvir-ritonavir in the acute-care setting has historically been limited due to logistical and regulatory barriers. Following its commercial availability in March 2024, this study aimed to evaluate the impact of its addition to acute-care formulary, focusing on both quantitative and qualitative outcomes in an elderly population.	This was a retrospective, multi-site, study of patients ≥70 years with PCR-confirmed COVID-19, who received at least one inpatient dose of either remdesivir or nirmatrelvir-ritonavir for mild-moderate COVID-19 from March 8 through December 31, 2024. Patients were excluded if they were immunocompromised, had incomplete or missing medical records, or had treatment initiated or continued from the outpatient setting. The quantitative primary outcome was medication cost-avoidance following formulary addition of nirmatrelvir-ritonavir. Qualitative secondary outcomes included progression to severe disease, treatment duration, incidence of adverse events leading to treatment discontinuation, hospital length of stay, Intensive Care Unit (ICU) admission within 28 days, 30-day COVID-19-related readmission, and COVID-19-related 28-day all-cause-in-hospital mortality. Data were collected from electronic health records and analyzed using Student's t-test for continuous variables and chi-square test for categorical variables. A total sample size of 100 patients (n=50 per group) was powered to detect cost differences at 80% power (α = 0.05, Cohen's d = 0.65). This study was exempted by the Institutional Review Board.	Of 215 patients screened, 50 patients received remdesivir for 159 total days of therapy, and 50 patients received nirmatrelvir-ritonavir for 116 total days of therapy (p < 0.01). For all patients, the total cost of remdesivir was $123,937 and for nirmatrelvir-ritonavir was $25,125. Had the patients who received nirmatrelvir-ritonavir gotten remdesivir, the cost would have been $91,322. The cost-avoidance achieved by making nirmatrelvir-ritonavir available was $66,197, representing a 30.7% reduction in treatment costs. In the qualitative assessment, nirmatrelvir-ritonavir was associated with lower rates of progression to severe disease (11 (22%) vs. 23 (46%), p = 0.02), shorter treatment duration (2 vs. 3 days, p < 0.01), and reduced hospital length of stay (2 vs. 4 days, p < 0.01). ICU admission within 28 days occurred in no patients in the nirmatrelvir-ritonavir group, compared to 4 patients (8%) in the remdesivir group (p = 0.12). There was no difference in COVID-19-related hospital readmission rates within 30 days (2 [4%] vs. 1 [2%], p =0.99). All-cause-in-hospital mortality at 28 days occurred in zero patients in the nirmatrelvir-ritonavir group compared to 1 patient (2%) in the remdesivir group (p = 0.99). No treatment-emergent adverse events led to discontinuation in either group.	Acute-care formulary addition of nirmatrelvir-ritonavir for mild to moderate COVID-19 resulted in substantial medication cost avoidance, and was associated with reduced hospital length of stay, shorter treatment duration, and lower rates of progression to severe disease as compared to remdesivir.
Van, Nhi	nhi.van@baycare.org	Winter Haven Hospital â€“ BayCare Health	Benzodiazepine versus non-benzodiazepine for sedation in mechanically ventilated patients in the emergency department	The 2018 Clinical Practice Guidelines for the Prevention and Management of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption in Adult Patients in the Intensive Care Unit (ICU), known as the PADIS Guidelines, provided a weak recommendation for the use of intravenous (IV) non-benzodiazepine sedatives (either dexmedetomidine or propofol) over benzodiazepine sedatives (midazolam, lorazepam, diazepam) in critically ill patients. Compared to benzodiazepines, propofol was associated with shorter time to light sedation and shorter time to extubation. Dexmedetomidine was associated with a shorter duration of mechanical ventilation (MV) and ICU stay. Every year in the United States, the emergency department (ED) initiates MV and sedation for about 250,000 patients. The effects of sedation on clinical outcomes seem particularly significant during the initial phase of mechanical ventilation. Based on observational data, nearly 70% of patients are deeply sedated during the first 48 hours after starting MV, and this has been linked to a higher risk of death. Although ED-based sedation may affect clinical outcomes, this early period has not been investigated in most previous sedation studies. Therefore, there is a lack of information about how early sedation affects clinical outcomes. Currently, the choice of sedation for patients in the ED on mechanical ventilation is based on the physician's professional judgment. The purpose of this study was to evaluate the effect of benzodiazepine versus non-benzodiazepine continuous infusion sedation in the ED on outcomes in patients requiring MV.	This is an IRB-approved, retrospective cohort study that included patients from 12 out of 16 hospitals within a large not-for-profit healthcare system. Patients were screened in reverse chronological order until the desired sample size was met. Data was collected from June 1, 2022, through June 30, 2024. The study groups compared patients who received either a benzodiazepine or a non-benzodiazepine-based continuous infusion sedation regimen. Patients included in the study were over 18 years old, admitted to the ED requiring MV and sedation, and received a benzodiazepine or non-benzodiazepine continuous infusion with a goal of light sedation. Patients excluded from the study were those who received both a benzodiazepine and non-benzodiazepine for continuous infusion sedation concurrently while in the ED, underwent targeted temperature management, thrombectomy, or trauma, were pregnant or incarcerated, had second- or third-degree heart block, burn injuries, neurological disorders, or failed to record Richmond Agitation-Sedation Scale (RASS) and/or Critical Care Pain Observation Tool (CPOT) scores post-intubation or within the first hour of transfer to the ICU. The primary outcome was the percentage of patients with RASS and/or CPOT scores within the goal range in the ED. Secondary outcomes included the duration of MV, length of stay in the hospital and ICU, incidence of ICU delirium, and rate of self-extubation.	A total of 503 patients were screened, and 102 met the eligibility criteria and were subsequently enrolled. The participants were divided into two groups, 29 in the benzodiazepine group and 73 in the non-benzodiazepine group. Baseline characteristics were similar between the two groups, except for a greater need for additional continuous infusion sedation agents (28 vs. 51, p = 0.0005) and the need for vasopressor support after intubation or sedation (27 vs. 36, p < 0.0005) in the benzodiazepine versus the non-benzodiazepine group, respectively. In terms of the primary outcome, there was no statistically significant data. Fifty-two percent of patients in the benzodiazepine group and 61% of patients in the non-benzodiazepine group achieved RASS and/or CPOT scores within the target range in the ED (p = 0.425). There were no statistically significant differences in secondary outcomes between the groups. The benzodiazepine group's mean MV duration was 158.8 hours, while the non-benzodiazepine group was 79.5 hours (p = 0.259). Duration of ICU stay was 7.5 days versus 6.7 days (p = 0.952), and the mean length of hospital stay was 10.8 days for the benzodiazepine group and 11 days for the non-benzodiazepine group (p = 0.747). The rate of self-extubation was 1 versus 4 cases (p = 0.637), and the frequency of ICU delirium was 24 cases in the benzodiazepine group and 57 in the non-benzodiazepine group (p = 0.596).	This research identified no statistically significant difference in clinical outcomes between benzodiazepine and non-benzodiazepine sedation in ED patients requiring MV. However, the study was underpowered, and the sample size was small. Thus, even though the results didn't provide evidence of a clinically significant impact of sedation agent choice on patient outcomes, larger, adequately powered trials are necessary to more closely evaluate the potential effect of sedative agent on outcomes for these patients.
Veliz, Lianette	Lia.veliz001@gmail.com	Nova Southeastern University Barry and Judy Silverman College of Pharmacy	Evaluating Dose Titration in Semaglutide and Tirzepatide for Weight Loss: A Retrospective Academic Call Center Study	he importance of this study lies in the concern that patients prescribed semaglutide and tirzepatide in real-world clinical settings may not be appropriately titrated according to established dosing guidelines. Both medications require a gradual, stepwise dose-escalation schedule to minimize side effects, particularly gastrointestinal intolerance, and to reach their full therapeutic potential. In clinical trials, adherence to titration protocols allowed patients to achieve substantial weight loss and improvements in cardiometabolic health. However, real-world adherence to these protocols may be inconsistent due to limited follow-up, side effects, or provider unfamiliarity. When patients are not adequately titrated to the target dose (2.4 mg for semaglutide and up to 15 mg for tirzepatide), they may remain on suitherapeutic levels. This can result in reduced treatment effectiveness and early discontinuation. Inadequate titration can compromise both clinical and economic outcomes. Patients may fail to achieve the five percent or greater weight loss threshold, which is often associated with meaningful health benefits, including improved glycemic control and reduced cardiovascular risk. As glucagon-like peptide-1 therapies become more widely used outside of specialized obesity clinics, it is critical to understand real-world patterns of titration. This study assesses how closely current clinical practice aligns with recommended titration schedules for semaglutide and tirzepatide. The findings may help inform strategies to improve medication optimization and support better long-term outcomes for patients receiving pharmacologic treatment for obesity.	This retrospective study utilized pharmacy claims data from January 2021 to April 2025. The dataset included patients prescribed semaglutide or tirzepatide and was obtained through pharmacy claims database. All data were de-identified in compliance with HIPAA regulations before analysis. Variables extracted for review included sex, initial fill date, quantity dispensed, days' supply, dose strength, member cost, plan cost, and prescribing physician specialty. The inclusion criteria were patients aged 18 years or older who were prescribed semaglutide or tirzepatide specifically for weight-loss management. Patients under the age of 18 and those with any evidence of type 2 diabetes mellitus, as identified through claims history, were excluded in the study. Following data extraction, the final dataset was compiled into a structured Excel spreadsheet. Descriptive statistical analyses were performed by a statistician affiliated with our institution. The primary outcome of interest was whether patients reached the FDA-recommended maintenance dose of 1.7mg or 2.4 mg for semaglutide or 5mg, 10mg or 15 mg for tirzepatide. Additional analyses evaluated time to first dose escalation, cost variables, and trends by prescriber specialty. These analyses offer insight into real-world titration adherence and the proportion of patients achieving therapeutic dosing needed for clinical effectiveness.	Among patients prescribed these medications, 52.9% (n=204/386) of those on semaglutide reached the recommended maintenance dose, compared to 77.6% (n=274/353) of those on tirzepatide. The median time to first dose escalation was longer for semaglutide at 35 days, compared to 31 days for tirzepatide, indicating delays in dose adjustments among semaglutide users. Due to the skewed distribution of time-to-titration, the median was used to better represent typical titration patterns. Further analysis is underway to assess statistical significance between the groups and evaluate the cost implications for patients who did not reach maintenance dosing. By specialty, family medicine providers were the most common prescribers, with 55.7% of their semaglutide patients and 72.6% of tirzepatide patients reaching maintenance dose. Endocrinology had the highest rate of tirzepatide maintenance dosing (88.2%), while primary care and cardiovascular subspecialties had fewer patients achieving maintenance.	The results of this study indicate that a higher proportion of patients prescribed tirzapatide (77.6%) achieved the recommended maintenance dose compared to those prescribed semaglutide (52.9%). The longer median time to dose escalation observed for semaglutide may reflect delays, potentially influenced by periods when supply chain availability. This supply chain issue could explain why tirzepatide patients were able to reach the maintenance dose more quickly. Further analysis is being conducted to identify specific periods during which semaglutide and tirzepatide may have been on back-order, as well as to evaluate the cost implications for patients who did not reach the maintenance dose. Additionally, statistical analysis is underway to determine if significant differences exist between the two medications in terms of reaching the maintenance dose and the time it took to achieve this milestone. These findings highlight the importance of medication availability and careful management in optimizing treatment outcomes for patients using these weight-loss therapies.
Wagner, Lauren	laurenwagnerx@gmail.com	Holmes Regional Medical Center	High-dose furosemide diluted in hypertonic saline versus loop diuretics administered in conjunction with albumin: a comparison of diuretic response in critically ill patients	Hypervolemia is a significant challenge in critically ill patients, contributing to complications such as pulmonary edema and renal impairment. While loop diuretics are commonly used, their efficacy may be hindered by diuretic resistance. The purpose of this study is to compare diuretic efficacy in critically ill subjects receiving furosemide diluted in 3% hypertonic saline versus a loop diuretic administered in conjunction with 25% albumin. Although the combination of loop diuretics with hypertonic saline or albumin has been explored in heart failure patients, it has yet to be researched in critically ill subjects.	This study was a multi-center, retrospective, observational cohort study conducted across four hospitals. Subjects were included if the following criteria were met: 18 years of age or older, admission to the intensive care unit or treated within the emergency department and received either furosemide diluted in 3% hypertonic saline solution, or a loop diuretic administered in conjunction with 25% albumin. Subjects were excluded for the following reasons: receipt of hypertonic saline for an indication other than hyponatremia management, albumin without a loop diuretic, renal replacement therapy, more than one dose of furosemide and hypertonic saline within 24 hours of initial dose, more than two doses of a loop diuretic and albumin within 24 hours of initial dose, and protected populations. Included subjects were categorized into two groups based on their diuretic regimen: furosemide diluted in 3% hypertonic saline, or a loop diuretic administered in conjunction with 25% albumin. The primary outcome was the total volume of diuresis, measured in milliliters, within 24 hours of treatment initiation. Secondary outcomes included changes in body weight, vasopressor requirements, serum electrolytes, and 28-day ventilator-free days. Based on an alpha of 0.05, it was estimated that 134 subjects total would be required for 80% power to detect a 15% difference between groups. For continuous data, including the primary outcome, Student's t-test was used. Mann-Whitney U was used to analyze ordinal data. Chi-square or Fisher's Exact tests were used to analyze nominal data.	A total of 198 subjects underwent screening, of which 140 met inclusion criteria, equally distributed between groups. The primary reason for exclusion was not receiving the studied treatment in a critical care setting. Baseline characteristics are listed in Table 1. The primary outcome of the study was the total volume of diuresis, measured in milliliters, within the first 24 hours following treatment initiation. The results demonstrated a significant difference between the two treatment groups, with the 3% hypertonic saline-furosemide group exhibiting a markedly higher urine output compared to the 25% albumin-loop diuretic group (4190.86 vs. 2603.77 mL, p = <0.001). Upon analysis of secondary outcomes, subjects in the 3% hypertonic saline-furosemide group were found to have a reduction in FiO2 requirements 24 hours after treatment initiation (-8.99 vs. 7.91%, p = 0.007). However, there was no significant difference observed between the groups in 28-day ventilator-free days (16.78 vs. 17.03 days, p = 0.940). In contrast, subjects in the 25% albumin-loop diuretic group experienced less serum potassium loss compared to those in the 3% hypertonic saline-furosemide group (-0.55 vs. -0.05 mEq/L, p = <0.001). However, the 25% albumin-loop diuretic group had a higher incidence of hypotension (8 vs. 22%, p = 0.007) and in-hospital mortality (7 vs.18%, p = 0.015). Additional secondary outcomes are summarized in Table 2.	Furosemide diluted in 3% hypertonic saline led to greater diuresis and a reduction in FiO2 requirements, while 25% albumin administered in conjunction with a loop diuretic was associated with increased rates of hypotension and in-hospital mortality. Given the clinical significance, further studies are warranted to validate these findings, elucidate underlying mechanisms, and optimize fluid management strategies in the critically ill population.
Walcott, Kiara	kiara.walcott@gmail.com	Miami Veteran Affairs Healthcare System	Evaluation of a Pharmacist-led Health Equity Initiative to Reduce Gender Disparities in Statin Prescribing for Female Patients at the Miami VA Healthcare System	Statins are vital for reducing atherosclerotic cardiovascular disease (ASCVD) risk, especially in post-menopausal women, who are significantly affected. Cardiovascular disease is the leading cause of death among women, with 36% of women veterans diagnosed. The Miami VA is focusing on educating women veterans on cardiovascular health and initiating statin therapy for those with cardiovascular disease or diabetes, with pharmacist-led interventions showing effectiveness in monitoring and adjusting therapy.	Patients were identified using the Primary Care Equity Dashboard, focusing on women aged 40-75 with T2DM and ASCVD who were not compliant with statin prescriptions. If appropriate, a Women's Health Clinical Pharmacy Practitioner (CPP) discusses statin therapy, and if the patient agrees, initiates treatment with follow-ups at 3 months. Adherence checks occur at 4 and 8 weeks. Exclusions include pregnancy, pre-diabetes, and liver disease.	Initially, 138 patients needed statin therapy; 73 were identified as beneficiaries, leading to successful initiation for 24 individuals (33%). This improved compliance metrics significantly: Statin1 rose from below 80% to above 90%, and Statin7 increased from under 70% to around 80%, reaching national standards.	Pharmacist interventions promote cardiovascular equity for women veterans and enhance adherence to statin therapy. Patients responded favorably statin initiation when there was a discussion about ASCVD risk .

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Walker, Jillian	jillianwalker@tgh.org	Tampa General Hospital	Evaluation of Chemotherapy Drug Shortage on Head & Neck Cancer Outcomes	Oncology medications are critical for curing or delaying progression of disease. During drug shortages, equally efficacious and safe regimens are often not available. Cisplatin, carboplatin, and 5-fluorouracil (5-FU) are preferred agents for the treatment of head and neck cancers [1]. In January 2023, cisplatin and 5-FU were added as active shortages to the ASHP Drug Shortage list and carboplatin was added in March 2023 [2]. During the drug shortages, there was no literature available for drug shortages of cisplatin, carboplatin, or 5-fluorouracil in the treatment of head and neck cancers to demonstrate the impact on patient outcomes. Our institution was impacted by these drug shortages. Patients with head and neck cancer may have received alternative dosing or regimens.	This single-center, retrospective chart review was conducted at a 1,041-bed acute care teaching hospital and associated cancer institute from January 1st, 2023 to December 31st, 2023. The time frame selected reflects when the shortage was most severe at our institution. This study was approved by the local Institutional Review Board. The primary endpoint was to identify the percentage of patients who had a dose decrease due to drug shortage compared to those that did not. Secondary endpoints were percentage of patients with progression of disease, stable disease, or residual disease on 3 to 6-month post-treatment FDG-PET/CT scan who received dose reduction due to drug shortage compared to patients that received standard dose based upon assigned protocol. The percentage of patients who were switched to an alternative treatment regimen due to cisplatin, carboplatin, and fluorouracil drug shortage compared to those that did not. Percentage of patients with p16 positivity, and prevalence of adverse effects reported by the patient. Please refer to Table 1 and Figure 1 for inclusion criteria, exclusion criteria, and methodology of exclusion. All data was analyzed by the study authors.	Baseline Characteristics Fifteen patient encounters, which accounted for 11 individual patients, were included in the study. The majority were male with an average age of 65 years old and BSA of 1.9 m2. Of the patients, the most common types of cancer seen were squamous cell carcinoma of floor of mouth, malignant neoplasm of supraglottis, and laryngeal carcinoma. Eleven of the fifteen planned regimens included cisplatin, followed by 3 regimens containing carboplatin. Two regimens contained a combination with 5-fluorouracil. Three regimens were also planned with a combination of either paclitaxel or docetaxel. All but two regimens were planned to utilize radiation therapy as part of their curative intent regimen. Clinical Impact Regarding the primary endpoint, none of 15 patient encounters required a dose reduction due to shortages of carboplatin, cisplatin, and 5-fluorouracil. There were several findings within the secondary endpoints. One of the 11 patients (9.1%) 4-month FDG/PET results showed disease progression. Of the 15 patient encounters, one (6.67%) regimen was changed due to drug shortage. One cisplatin regimen was changed to gemcitabine and subsequently changed back to cisplatin once it became available. One patient of the eleven (9.1%) patients was found to have p16 positivity. Several adverse effects are described in Figure 1. Three patients experienced both nausea and fatigue while receiving cisplatin or carboplatin. One patient reported vomiting while receiving carboplatin therapy. Thrombocytopenia was discovered in two patients who received cisplatin or carboplatin. Neutropenia developed in one patient, which required a 20% reduction in cisplatin dosing. Grade 1 tinnitus was experienced by one patient which triggered a regimen change to carboplatin. Lastly, acute kidney injury developed in one patient receiving cisplatin, their dose was subsequently reduced by 60%.	To our knowledge, this is the first study to characterize the clinical impact of the carboplatin, cisplatin, and 5-FU drug shortages. None of the fifteen patient encounters required a dose reduction due to chemotherapy shortages, clinical dose rounding within 10% was employed. One regimen was briefly changed from cisplatin to gemcitabine due to shortage. Strategy to conserve drug and maintain strong interdisciplinary communication may have contributed to mitigating impact of drug shortage on patient outcomes. Further research is needed to more broadly describe the clinical impact.
Walters, Fenisha	fwalters1@gmail.com	Memorial Hospital West	Leveraging an Algorithmic Approach to Enhance Inventory Management and Minimize Costs within an Acute-Care Pharmacy Setting	Hospitals and health-systems implement management solutions and strategies to monitor and optimize centralized and decentralized inventory. Pharmaceutical management software provides inventory management functionalities; however, these reports are generated individually. This limitation impacts process streamlining and efficiency as multiple reports can lead to errors and workflow disruptions. There is a demand for a single tool that integrates a collection of reports for improved operational efficiency while minimizing drug acquisition costs.	This is an IRB-exempt, pre-post, single center study that will assess the efficacy of an innovative algorithmic tool to enhance various elements of pharmacy operations. The primary outcomes measure the drug administration-to-purchase ratio, number of units purchased at wholesale acquisition cost, and procurement savings for 23 targeted medications within a 3-month period. The secondary outcomes measure the amount of automated dispensing cabinet refill transactions within a month and technician productivity savings.	The primary outcome results demonstrate an improvement of the drug administration-to-purchase ratio from pre-tool 0.87 to post-tool 1.01. This indicates the tool's assistance in over-purchasing prevention by ensuring proper inventory utilization and maintenance. Tool implementation reduced medications purchases on wholesale acquisition cost OR:0.16 (95% CI 0.14 - 0.18, p <0.0001). Unloading and destocking targeted medications resulted in $34,161.37 procurement savings over 3 months. Secondary outcomes showcase a favorable decrease in automated dispensing cabinet refill transaction and improved technician productivity savings per week.	The algorithmic tool improves pharmacy operational outcomes through enhanced inventory management impacting drug procurement, reducing refill transactions, and improving productivity savings.
Wassef, Kirollos	kwas0010@shands.ufl.edu	UF Health - Shands Hospital	Impact of early loop diuretic administration in the emergency department on intensive care unit admissions: a retrospective cohort study	Acute decompensated heart failure (ADHF) is a critical condition that requires urgent medical intervention, often leading to emergency department (ED) visits and hospital admissions. Current guidelines recommend the prompt use of loop diuretics to alleviate fluid overload. However, the optimal timing and dosing of these diuretics to enhance clinical outcomes, particularly in relation to intensive care unit (ICU) admissions and hospital length of stay (LOS), remain unclear. Recent studies highlight the importance of early intervention in ADHF. The European Society of Cardiology emphasizes the role of pre-hospital and early in-hospital management, noting that early diuretic administration and hemodynamic stabilization may reduce ICU admissions and improve patient outcomes. Moreover, the REALITY-AHF study found that patients receiving loop diuretics within 60 minutes of ED arrival had significantly lower in-hospital mortality compared to those with delayed administration. These findings suggest the "time-to-therapy" concept, similar to acute coronary syndromes, may be critical in ADHF management. Despite these insights, treatment decisions for ADHF remain largely based on expert consensus rather than high-level evidence, contributing to variability in ICU admission rates and overall patient outcomes. This study aims to assess the impact of early loop diuretic administration on ICU admission rates in ADHF patients presenting to the ED.	This was an IRB-approved, retrospective cohort study analyzing patient data at a large academic medical center, between January 1, 2023 and December 31, 2023. Patients aged 18 years or older with a diagnosis of ADHF (per ICD-10 codes) who presented to the ED were included. Exclusion criteria included chronic kidney disease (CKD) stage 4 or 5, significant hypokalemia (K	Baseline characteristics are outlined in Table 1. Among the 193 patients analyzed, 93 (48%) received early diuretic administration, while 100 (52%) received delayed administration. ICU admission rates were lower in the early diuretic group compared to the delayed group (16% vs. 24%), though this difference did not reach statistical significance (p = 0.17). Additionally, outcomes were assessed based on whether diuretics were dosed appropriately, defined as 1.5–2 times the home dose or at least 40 mg IV furosemide equivalent. No significant difference in outcomes was observed between patients who received properly vs. improperly dosed diuretics. Hospital length of stay (LOS) was similar between groups (5.9 ± 4.2 vs. 6.7 ± 6.4 days, p = 0.99). However, early diuretic administration was associated with a significantly lower 30-day readmission rate (22.6% vs. 36%, p = 0.0421).	Early administration of loop diuretics in ADHF patients was associated with a trend toward reduced ICU admissions, though this was not statistically significant. However, early diuretic administration significantly reduced 30-day readmission rates. These findings highlight the potential impact of early diuretic timing on post-discharge outcomes. Further investigation through larger prospective studies is warranted to optimize diuretic administration strategies in ADHF management.
Watler, Mallory	watlermallory@gmail.com	Memorial Hospital West	Descriptive cohort study on the incidence of post-procedural euglycemic diabetic ketoacidosis with dapagliflozin in hospitalized adults with heart failure	Sodium glucose co-transporter 2 (SGLT-2) inhibitors, initially used for glucose control in type 2 diabetes mellitus (T2DM), are increasingly being recognized for reducing heart failure hospitalizations and providing cardiovascular benefits. However, their use in the pre-procedural setting raises concerns due to an increased risk of euglycemic diabetic ketoacidosis (eDKA), which presents atypically with plasma glucose levels < 200 mg/dL. Although the risk of eDKA in the post-operative setting is well recognized, it is scarcely described in the literature for diabetics with concomitant heart failure (HF). Therefore, the incidence of eDKA might be underreported in this group which SGLT-2 inhibitor use is rapidly increasing. Manufacturers recommend holding SGLT-2 inhibitors for at least three days prior to major surgery. The objective of this study is to describe the incidence of post-procedural eDKA in patients diagnosed with T2DM and HF who received dapagliflozin within 72 hours prior to an inpatient invasive procedure.	This was a retrospective descriptive cohort study assessing patients between July 1 and December 31, 2023. Patients ≥ 18 years old who had a history of T2DM and HF, underwent an invasive procedure requiring at least 8 hours of pre-procedural fasting, and received dapagliflozin inpatient within 72 hours prior to this procedure were included. Exclusion criteria were expiration during surgery or within less than 72 hours post procedure with no evidence of eDKA, transfer to an outside acute care hospital within less than 72 hours post-procedure with no evidence of eDKA, or pregnancy. The primary outcome was the incidence of eDKA within 72 hours post-procedure, which was defined as: 1) presence of pH < 7.3 and/or bicarbonate < 18 mmol/L, 2) blood glucose < 200 mg/dL, and 3) minimum of +2 ketones on urinalysis and/or serum beta-hydroxybutyrate ≥ 3 mmol/L. Secondary outcomes include adjusted length of stay post-procedure, the time-to-eDKA or DKA onset, DKA, level of care esc-alation due to eDKA or DKA, HF exacerbation, and new infection incidences within 72- hours of an inpatient invasive procedure.	A total of 29 patients met the inclusion criteria out of 606 screened admissions. Three patients (10%) had more than one invasive procedure performed. The mean age in this cohort was 66 + 13 years, hemoglobin A1c was 7 + 2%, and left ventricular ejection fraction was 38 + 19%. Hypertension, chronic kidney disease, and coronary artery disease were present in 90, 21, and 59% of the group, respectively. Fifteen patients (51%) were on outpatient insulin prior to admission. Dapagliflozin was administered within 24 hours of the procedure during 27 (81%) instances (33 total invasive procedures). No cases of eDKA, DKA, or new infections were found within 72 hours post-procedure. However, eleven patients (38%) experienced HF exacerbation within that timeframe. The median adjusted length of stay was 4 (2 – 7) days.	There was no incidence of eDKA or DKA in this small cohort of patients with concurrent HF and DM who received dapagliflozin within 72 hours of an invasive procedure requiring at least 8 hours of fasting. Due to the low incidence of eDKA, larger studies will be needed to capture the true incidence of eDKA in this subpopulation.
Wazwaz, Eiman	wazwaze@ccf.org	Cleveland Clinic Weston	Effectiveness and safety of reduced thymoglobulin dosing in low-risk kidney transplant recipients	Kidney transplantation is the preferred treatment for suitable candidates with end-stage renal disease, as recognized by the Kidney Disease: Improving Global Outcomes (KDIGO) and the National Kidney Foundation (NKF). In 2024, the Organ Procurement and Transplantation Network reported 27,759 kidney transplants in the United States, reflecting a 1.6% increase from the previous year. Thymoglobulin, a rabbit-derived polyclonal antibody, is commonly used for induction immunosuppression in kidney transplantation. While KDIGO and NKF guidelines recommend lymphocyte-depleting agents, such as thymoglobulin, they do not specify a standardized dosing regimen based on rejection risk, leading to variability in practice, with cumulative doses ranging from 3-10 mg/kg. Thymoglobulin immunosuppression is dose-dependent and is associated with an increased risk of leukopenia, thrombocytopenia, infections, and malignancies, with immune reconstitution occurring within 6-12 months. At our institution, a fixed cumulative dose of thymoglobulin (4.5 mg/kg) was previously administered to all kidney transplant recipients, regardless of rejection risk. In April 2022, a risk-stratified protocol was implemented, reducing the cumulative dose to 3 mg/kg for low-risk patients. The objective of this study is to evaluate the effectiveness and safety of the lower cumulative dose (3 mg/kg) compared to the higher cumulative dose (4.5 mg/kg) in low-risk kidney transplant recipients. By optimizing the dosing strategy based on risk stratification, this study aims to improve patient outcomes and reduce excessive immunosuppression.	This IRB-approved, retrospective, single-center, observational, non-inferiority cohort study was conducted at a single healthcare institution. The study included low-risk kidney transplant recipients who received thymoglobulin for induction therapy between April 2020 and April 2024. Low-risk criteria were defined as patients aged 50 years or older, with no prior history of organ transplantation, and a calculated panel reactive antibody (cPRA) of less than 20%. Patients were excluded if they did not meet low-risk criteria, received basiliximab as induction therapy, developed graft thrombosis, or were scheduled for multi-organ transplantation. The primary outcome was a composite of biopsy-proven acute rejection (BPAR), suspected acute rejection, graft loss, and patient death. Secondary outcomes included the incidence of leukopenia, thrombocytopenia, bacterial, fungal, and viral infections, delayed graft function (DGF), estimated glomerular filtration rate (eGFR), as well as the incidence of new-onset or recurrent malignancies. Both primary and secondary outcomes were evaluated within six months post-transplant. Statistical analysis was conducted using Stata, with logistic regression examining recipient data by dosing. The sample size was calculated based on a non-inferiority margin of 5%, with a significance level of 5% and 80% power. Assuming a 10% event rate in both groups, a total of 892 patients were required to achieve sufficient statistical power to detect differences within this margin.	A total of 584 charts were reviewed, 196 met inclusion criteria (116 in the 4.5 mg/kg group, 80 in the 3 mg/kg group). The median age was 63 years, and 73% were male. Baseline characteristics were similar between the two groups, as outlined in Table 1; therefore, multivariate adjustment for confounding factors was not performed. At six months, the composite primary outcome occurred in 13 patients (11%) in the 4.5 mg/kg group and 2 patients (3%) in the 3 mg/kg group (risk difference: -8.7%, 95% CI: -15.4 to -2.0, p=0.024), supporting non-inferiority. Individual primary outcomes were similar: BPAR occurred in 1 patient (0.9%) in the 4.5 mg/kg group and none in the 3 mg/kg group (p=1.000). Suspected acute rejection was observed in 3 patients (3%) in the 4.5 mg/kg group and none in the 3 mg/kg group (p=0.272). Graft loss was numerically higher in the 4.5 mg/kg group (7% vs. 1%, p=0.085). Mortality rates were comparable (4% vs. 3%, p=0.763). Secondary analyses revealed increased incidences of leukopenia (81% vs. 69%, p=0.048), thrombocytopenia (87% vs. 69%, p=0.002), and viral infections (71% vs. 53%, p=0.009) in the 4.5 mg/kg group.	Reducing thymoglobulin dosing to 3 mg/kg in low-risk kidney transplant recipients demonstrated non-inferiority to 4.5 mg/kg for the composite primary outcome at six months. While individual outcomes were similar, graft loss was numerically higher in the 4.5 mg/kg group. Secondary analyses showed that the 4.5 mg/kg group had significantly higher rates of leukopenia, thrombocytopenia, and viral infections, suggesting that higher thymoglobulin exposure may increase hematologic and infectious complications. These findings suggest that lower-dose thymoglobulin may minimize immunosuppression risks while maintaining efficacy, supporting further research into risk-stratified dosing strategies. Limitations include the retrospective design and a smaller-than-planned sample size, which reduced statistical power. Larger, adequately powered studies are needed to confirm safety and efficacy and may detect differences in individual outcomes not observed in this study.
Webb, Rachel	vanzantrachel@gmail.com	Orlando Health Bayfront Hospital	Utilization of Electrolyte Replacement Protocol	Electrolyte disturbances in inpatient and critically ill patients are a common occurrence and are routinely monitored and replaced to prevent adverse outcomes. Electrolyte replacement protocol order sets allow for ease of ordering for providers and institutional consistency for nursing staff however may allow delays in care or medication errors if not followed appropriately. The purpose of this project was to analyze the current state of usage of the inpatient electrolyte replacement protocol at a large community hospital including percentage of cases where electrolytes were not replaced appropriately (either not given or incorrect dose) and quantifying average time until replacement from the labs resulting. An additional aim was to compare floor and ICU levels of care in above metrics to prepare for future studies on quality improvement regarding utilization of electrolyte replacement protocol.	This was a retrospective chart review conducted at Orlando Health Bayfront Hospital on adult patients admitted 9/1/2023 through 9/1/2024. Patient encounters with orders for electrolyte replacement protocol of potassium, magnesium or phosphate and with levels requiring replacement were included for randomization. Patient encounters were excluded if creatinine clearance was less than 45mL/min, actual body weight was less than 40kg, receiving renal replacement therapy, or therapeutic hypothermia. 136 patient encounter lab results were randomly selected for analysis. Data was collected on patient location (floor/ICU/stepdown), time of electrolyte result, time of replacement given, protocol-predicted dose, actual dose given, and identification if multiple doses were warrants, if follow-up level was recommended by protocol, and if follow-up level was correctly obtained.	21604 patient encounter lab results were included for randomization and 136 randomly selected for analysis. The average time to electrolyte replacement was 4.21 hours. Time was shorter for ICU/stepdown patients at 2.85 hours compared to 5.4 hours for floor patients (p=0.00315). The actual dose given matched the protocol-predicted dose in 55% of cases with no significant difference between locations with floor patients at 57% and ICU/stepdown patients at 53% (p=0.63). Follow up levels were warranted in 96% of cases with no significant difference between locations with floor patients at 97% and ICU/stepdown patients at 94% (p=0.36). Follow up levels were correctly obtained in 60% of cases with a non-statistically significant trend towards improved follow up in ICU/stepdown patients with floor patients at 56% and ICU/stepdown patients at 64% (p=0.28).	Electrolyte replacement protocol order sets allow for a "set and forget" strategy for monitoring and treating electrolyte disturbances however this study shows there can be significant delays and errors in following through with the protocol. Future quality improvement projects are warranted to improve timing, accuracy, and follow up of electrolyte replacement via protocol order sets. Presentation Objective: Present the current state of usage of electrolyte replacement protocol including percentage of cases where electrolytes were not replaced appropriately (either not given or incorrect dose) and quantifying average time until replacement from the labs resulting.
Webber, Jessica	jessica.webber@ufhealth.org	UF Health - Shands Hospital	Evaluating the impact of universal decolonization in a medical intensive care unit	Staphylococcus aureus causes 23% of intensive care unit infections in North America, .44% of which are methicillin-resistant (MRSA). Infections with MRSA are associated with significant morbidity and mortality and can cause up to 29% of in-hospital mortality for hospital-onset bloodstream infections. Centers for Disease Control and Prevention (CDC) considers MRSA a "serious threat" and provides core strategy recommendations such as universal decolonization to reduce hospital-onset MRSA infections. Universal decolonization has been shown to significantly reduce MRSA infections in large studies such as the REDUCE-MRSA trial. The purpose of this study was to describe the effects of universal decolonization in the MICU on the rates of Staphylococcus aureus infections and to describe opportunities for improvement on the implementation of universal decolonization in a large, academic medical center.	An IRB-approved, retrospective, quasi-experimental study was conducted for patients aged 18 through 90 years admitted to the medical critical care service. The standard of care for the pre-intervention cohort included active surveillance with MRSA nares PCR on MICU admission and daily chlorhexidine baths. To implement universal decolonization, intranasal mupirocin was added to this strategy and included in the MICU admission order-set on March 27, 2024. A 4-week maturation period was allowed. Patients admitted from October 26, 2023 to March 27, 2024 were included in the pre-intervention cohort and patients admitted from April 25, 2024 to September 25, 2024 were included in the post-intervention cohort. Patients were excluded if they had a positive Staphylococcus aureus culture within the first 48 hours of MICU admission, were actively receiving definitive treatment for a Staphylococcus aureus infection, had a reported allergy to mupirocin or chlorhexidine, or if they were admitted to the MICU for less than 72 consecutive hours. The primary objective of this study was to observe the incidence of positive, MICU-acquired, Staphylococcus aureus clinical cultures (any cultures other than nares collected at least 48 hours post-MICU admission). Secondary objectives included source of the Staphylococcus aureus cultures, index MICU length of stay, and days of vancomycin therapy used to treat MRSA infections. Descriptive statistics were reported as number of incidences and percentages for categorical variables, mean and standard deviation for normally distributed continuous variables, and median and interquartile range for non-normally distributed continuous variables. Bivariate statistics were compared using χ-square or Fischer's exact tests for categorical variables and student's t-test or Wilcoxon 2-sample tests for continuous variables.	Of the 370 randomized patients screened, 80 patients were included per cohort. Patients in each group were similar in age, race, APACHE II scores, and MRSA risk factors (Table 1). The mean APACHE II Scores were 23 vs. 24. The admission reason for a respiratory complaint was significantly higher in the pre-intervention group (46% vs. 29%, p = 0.0222). Screening with MRSA nares PCR increased from 70% to 76% (p = 0.3728), with a higher percentage of patients positive for MRSA in the post-intervention group (15% vs. 11%, p = 0.5432). Mupirocin use in the post-intervention group increased from 5% to 68% (p < 0.0001). No difference was found in the incidence of positive, MICU-attributable Staphylococcus aureus cultures (5% vs. 3%, p = 0.6815), between sources of Staphylococcus aureus cultures, or index MICU admission length of stay (Table 2). The pre-intervention cohort was found to have a higher incidence of positive MRSA cultures, consistent with an increased number of patients being treated with vancomycin (3 vs. 0, p = 0.2453).	Although no difference in the incidence of positive, MICU-attributable Staphylococcus aureus cultures was found, this study identified opportunities for improving the implementation of the universal decolonization in the MICU. This study was limited by its retrospective nature, lack of power due to small sample size, selection bias, maturation, Hawthorne effect, and regression to the mean. The results of this study provide insight into real-world outcomes and implementation of universal MRSA decolonization in a MICU practice setting. As a result of this study, providers in the MICU will be re-educated on the importance of using the MICU admission order set, obtaining MRSA nares screening, and performing decolonization with intranasal mupirocin, as the results suggest there is inconsistent use of the MICU admission order set.

FRC 2025 Resident Abstracts

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Weger, Brittany	brittany.weger@ascension.org	Ascension St. Vincent's Riverside Hospital	Effects of substance use disorder on sedation requirements in critically ill patients	One of the many challenges associated with the management of critically ill patients, specifically those who are mechanically ventilated, is achieving adequate levels of sedation. Sedation levels can be complicated by substance use disorder (SUD) due to higher physiological tolerance and opioid cross-tolerance. The current body of literature outlining considerations for sedation requirements and sedative dosing in SUD is limited. The purpose of this study was to evaluate the effect of SUD on sedation requirements in critically ill patients to optimize dosing in this population.	This retrospective, observational, IRB-approved, cohort study was conducted across four hospitals from January 1, 2021 to September 18, 2024. Individuals were included if they were >18 years of age, required mechanical ventilation for >24 hours, and had a diagnosis of SUD in the intervention group, defined as documentation of one or more illicit substances within the past year. Subjects were excluded if they had status epilepticus, COVID-19, alcohol use disorder without SUD, underwent targeted temperature management, received continuous intravenous paralytics, were declared brain dead, or transferred from an outside facility. The primary outcome was the maximum number of concurrent continuous sedative infusions required. Secondary outcomes included duration of sedation and mechanical ventilation, maximum rate of continuous infusion fentanyl, propofol, dexmedetomidine, ketamine, and benzodiazepines measured in lorazepam equivalents, incidence of agitation and oversedation, 28-day ventilator free days, and in-hospital mortality. To detect a difference of 0.5 continuous sedative infusions with a standard deviation of 1.5 continuous sedative infusions, it was estimated that 286 subjects would be required to achieve 80% power with an alpha of 0.05. Student's t-test and Mann-Whitney U was used for the analysis of continuous and ordinal data. Chi-square or Fisher's exact test were used for categorical and nominal outcomes. To account for potential selection bias, a multivariable logistic regression was utilized.	A total of 1055 subjects were screened with 286 subjects meeting inclusion criteria. The most common reason for exclusion was no history of SUD. Baseline characteristics can be found in Table 1. The primary outcome, maximum number of concurrent continuous sedative infusions, was statistically significantly higher when comparing subjects with SUD to those without SUD (3 infusions vs. 2, p	In mechanically ventilated subjects, a statistically significantly higher number of concurrent continuous sedative infusions were utilized in the SUD group with larger doses required to sedate subjects. Results of this study could be used to further guide sedative dosing in this population and the development of a prospective study evaluating specific dosing in individuals with SUD.
Welt, Destiny	dmwelt@outlook.com	Mease Countryside Hospital	Daptomycin dosing strategy for obese patients with staphylococcus or enterococcus bacteremia: total body weight versus adjusted body weight	Daptomycin is a lipopeptide indicated for the use of complicated skin infections, Staphylococcus aureus bacteremia, and right-sided endocarditis. Standard dosing is 4-6 mg/kg based on total body weight (TBW), with recent studies investigating higher doses, such as 8-10 mg/kg. While the package insert recommends adjustments for reduced creatinine clearance, it does not provide guidance for patients with a body mass index (BMI) greater than or equal to 30 kg/m2. Notably, the clinical trials used to make these recommendations had an underrepresentation of those with a BMI greater than or equal to 30 kg/m2 and were analyzed following a single 4 mg/kg IV dose. This represents a significant gap in knowledge, as altered pathophysiology in this population may affect drug distribution and elimination, potentially increasing the risk of toxicity. Currently, limited data exists on the impact of dosing daptomycin based on TBW versus adjusted body weight (AdjBW) and the effects on the obese population. However, based on available studies, the health system updated their daptomycin dosing protocol to utilize an AdjBW strategy for patients with a BMI greater than or equal to 30 kg/m2. The purpose of this study was to evaluate the safety and efficacy of dosing daptomycin based on AdjBW versus TBW in obese patients with Staphylococcus or Enterococcus bacteremia.	This was an IRB-approved, multi-site, retrospective, non-interventional, observational cohort study across twelve hospitals. Patients were included if they were 18 years of age or older with a BMI greater than or equal to 30 kg/m2, admitted to a hospital in the health system from January 1, 2023 through January 31, 2025, and received daptomycin for Staphylococcus or Enterococcus bacteremia for a minimum of 72 hours. Patients were excluded if they were less than 18 years old, BMI less than 30 kg/m2, absence of positive blood cultures, daptomycin use prior to admission, pregnancy, creatine phosphokinase (CPK) greater than 5 times upper limit of normal at initiation of therapy, or received an anti-Staphylococcal or Enterococcal agent for over 24 hours prior to initiation of daptomycin. The primary outcome was to determine whether AdjBW dosing is non-inferior to TBW dosing with respect to the proportion of treatment failures (defined as microbiological persistence, change of therapy, or in-hospital mortality) in obese patients utilizing daptomycin for the treatment of Staphylococcus or Enterococcus bacteremia. Secondary outcomes included: microbiological persistence, change of therapy, readmission within 90 days, length of stay, and in-hospital mortality. Safety endpoints included incidence of CPK elevation, myopathy, and rhabdomyolysis. To detect clinical significance with a 12% inferiority margin with an alpha of 0.025 and power of 90%, a total sample size of 238 patients was required. To account for attrition due to exclusions, a total of 800 patients were analyzed.	A total of 89 patients met criteria and were included within the final analysis. The AdjBW group had a treatment failure rate of 29.9%, compared to 36.2% in the TBW group, yielding an absolute risk difference of –7.2 percentage points (p1-p2) with a relative risk of 0.80 (95% CI: 0.41,1.48), which was not statistically significant (p=0.377). No statistically significant differences were noted among secondary outcomes. Microbiologic persistence occurred in 9.7% of patients in the AdjBW group compared to 10.3% in the TBW group (95% CI, -13.6% to 16.1%; p=1). Mortality was reported in 9.7% of the AdjBW group and 12.1% of the TBW group (95% CI, -15.8% to 14.5%; p=1). A change of therapy occurred in 9.7% of the AdjBW group versus 24.1% of the TBW group (95% CI, -29.6% to 6.3%; p=0.156). Readmission within 90 days occurred in 22.6% of the AdjBW group versus 15.5% in the TBW group (95% CI, -9.4% to 26.5%; p=0.404). Finally, the median hospital length of stay was 11 days (IQR=9) for the AdjBW group and 10 days (IQR=8.5) for the TBW group (z=1.57, p=0.116). Regarding safety endpoints, there were no reported CPK elevations, myalgias, or rhabdomyolysis for either group.	This study evaluated the non-inferiority of AdjBw dosing compared to TBW dosing of daptomycin in obese patients, using treatment failure as the primary composite outcome. While the point estimate favored the AdjBW dosing, the study could not demonstrate non-inferiority. However, the trend toward lower failure in the AdjBW group suggests that it is not associated with worse clinical outcomes. While this study was underpowered, it provides initial evidence that AdjBW dosing may compare to TBW dosing and justifies further evaluation.
Wolff, Megan	mwolff@tgh.org	Tampa General Hospital	Impact of Accelerate Pheno® and BioFire® BCID2 on management of Vancomycin-Resistant Enterococcus faecium (VRE) bloodstream infections	Vancomycin-resistant Enterococcus faecium (VRE) bloodstream infections (BSIs) pose significant morbidity and mortality risks, necessitating rapid and effective antimicrobial intervention. The emergence of rapid diagnostic tests (RDTs), including Accelerate Pheno® and BioFire® BCID2, has improved pathogen identification and resistance detection. However, no studies have directly compared these 2 RDTs in clinical outcomes, particularly in VRE BSIs. This study aimed to evaluate the impact of these RDTs on time to effective therapy and other patient-centered outcomes.	This single-center, retrospective cohort study was conducted at Tampa General Hospital, comparing VRE BSI cases involving either Accelerate Pheno® (November 2018-April 2023) or BioFire® BCID2 (April 2023-March 2024). Patients were included if they were ≥18 years old with monomicrobial VRE BSIs. Exclusion criteria included polymicrobial infections, prior VRE-positive cultures from outside hospitals, recurrent infections within 14 days, preemptive effective therapy, or death/palliative care within 48 hours. The primary outcome was time to effective therapy. Secondary outcomes included vancomycin duration, hospital length of stay, and 30- day all-cause mortality. Data were analyzed using the Mann-Whitney U test for continuous variables and chi-square test for categorical variables, with p < 0.05 considered statistically significant.	A total of 56 patients were included, with 28 in each cohort. Baseline characteristics were well matched between groups, including a median age of 69 years in both cohorts. Gender distribution was similar, with 57% of patients in the BCID2 group and 64% in the Accelerate group being male. Comorbidities were also comparable, specifically rates of malignancy, chronic kidney disease, and solid organ transplant (Table 1). The primary outcome, time to effective therapy, was significantly shorter in the BCID2 group (1.4 hours [IQR:0.5–4] vs. 5.3 hours [IQR:2-7.9], p = 0.01). The median duration of vancomycin therapy was numerically shorter in the BioFire® group and numerically fewer vancomycin levels were drawn in these patients as well (Table 2). Median hospital length of stay was similar between cohorts; however, 30-day all-cause mortality was higher in the BCID2 group (42.9% vs. 25%, p = 0.16). Additionally, the median time to clearance of bacteremia was 49.7 hours in the BCID2 group compared to 54.4 hours in the Accelerate group (p = 0.33). Thirteen (13) patients in the Accelerate group did not receive phenotypic susceptibility results due to technical failures, requiring reliance on conventional culture methods.	These findings support BioFire® BCID2's ability to significantly reduce time to effective therapy in VRE BSIs, which has significant and important implications for antimicrobial stewardship. This decrease in time to effective therapy with BioFire® BCID2 resulted from rapid identification of vanA/B resistance genes, allowing for quicker antimicrobial optimization. However, the observed increase in mortality in the BioFire® group suggests that other patient-specific factors, such as co-morbidities or immunosuppression, may have influenced clinical outcomes. Additionally, technical failures in the Accelerate group may have contributed to prolonged time to effective therapy. Future research should further explore the impact of rapid diagnostic testing on mortality and other clinical outcomes across diverse patient populations. Given these findings, future research at TGH should focus on evaluating the clinical impact of BioFire® BCID2 across a larger and more diverse patient population, particularly assessing its role in high-risk groups such as immunocompromised patients and those with prolonged hospital stays prior to infection onset. Additionally, further studies could explore how integrating BioFire® BCID2 with clinical decision support tools can enhance antimicrobial optimization and improve patient outcomes. Expanding this research beyond TGH to a multicenter study could provide more generalizable insights into the relationship between rapid diagnostic testing, antimicrobial stewardship, and patient survival in VRE bloodstream infections.
Wood, Cheryl	cheryl.wood@leehealth.org	Lee Health- Gulf Coast Medical Center	Early versus late anticoagulation initiation after transient ischemic attack or acute ischemic stroke in patients with atrial fibrillation	Atrial fibrillation (AF) is the most commonly sustained arrhythmia in adults. AF can contribute to the development of ischemic strokes when a thrombus forms due to turbulent blood and travels to the brain. In patients with AF for more than 48 hours, anticoagulation is recommended. After a transient ischemic attack (TIA) or acute ischemic stroke (AIS), the initiation of anticoagulation is necessary to prevent recurrent ischemic strokes. Anticoagulation can increase the risk of hemorrhagic conversion or major intracranial or extracranial bleeding. Thus, there is significant variation within clinical practice and literature regarding the timing of anticoagulation initiation after TIA or AIS in AF patients. Current American Heart Association/American Stroke Association (AHA/ASA) guidelines recommend anticoagulation initiation within 4 to 14 days of stroke onset for patients with AF. A commonly utilized timing strategy is the "1-3-6-12-Day" rule, which recommends anticoagulation initiation by day 1 after TIA, day 3 after mild stroke, day 6 after moderate stroke, and day 12 after severe stroke. An alternative strategy is the "1-2-3-4-Day" rule in which all patients would start anticoagulation, at latest, by day 4 of stroke onset. The primary purpose for this study was to evaluate the incidence of recurrent stroke and ischemic events in AF patients with early versus late anticoagulation. A secondary objective was to determine whether early or late anticoagulation initiation was associated with an increased rate of adverse bleeding events in this patient population.	This was an IRC-approved, retrospective, observational cohort study conducted at a community health system consisting of four adult hospitals. Adult patients at least 18 years old were included if they had concurrent diagnoses of TIA or AIS and AF. Patients were excluded if they had a history of severe bleeding or recurrent fall(s) within 6 months or mortality within 24 hours of TIA or AIS onset. Patients at high risk of bleeding (Hgb < 7 gr/dL, Plt < 50,000/uL) or hemorrhagic conversion prior to anticoagulation initiation were also excluded. Definitions of early or late initiation of anticoagulation are described in Table 1 and are based on stroke severity as indicated by NIHSS score documented by the neurologist conducting the initial stroke assessment. The primary outcome evaluated the 30-day composite rate of recurrent ischemic stroke, systemic embolism, major extracranial bleeding, intracranial bleeding, or mortality. Secondary outcomes included each of the components of the composite outcome individually. A planned matched analysis paired patients based on age, sex, stroke severity based on NIHSS, new onset or established AF, and type of anticoagulation initiated (oral vs. parenteral). A pre-planned subgroup analysis comparing results in patients based on stroke severity was also performed.	Baseline characteristics were similar between groups, though a larger number of the patients in the early group were on anticoagulation before admission as compared to the late group (76.2% vs. 46.7%, respectively; P < 0.01). In the unmatched cohort, the primary outcome occurred more frequently in the late anticoagulation group than the early anticoagulation group (15.6% vs. 4.8%, respectively; P = 0.03). This was driven largely by the increased incidence of recurrent stroke in the late anticoagulation group compared to the early anticoagulation group (11.1% vs. 1.0%, respectively; P = 0.01). There was not a significant difference in bleeding or embolic events between the two groups. In the matched analysis, the primary outcome was similar in both the early and late anticoagulation groups (6.9% vs. 15.6%, respectively; P = 0.33) and there were no significant differences in any secondary outcomes (Table 2). When compared by stroke severity, patients in the TIA and mild AIS groups trended towards being more likely to experience a composite event with early anticoagulation. However, patients in the moderate, moderate-severe, and severe AIS groups trended being more likely to experience an event with late anticoagulation.	According to the AHA/ASA stroke guidelines, anticoagulation initiation is recommended in patients with AF after AIS. However, the timing of this initiation is debated throughout literature. Based on this study, it is reasonable to initiate anticoagulation as early as feasible based on the outlined protocol stratifying timing of anticoagulation initiation based on stroke severity. While the matched analysis did not show significant differences between the primary or secondary outcomes in the early and late anticoagulation groups. This suggests that early and late initiation of anticoagulation after TIA or AIS result in similar bleed risks. Because the risk for recurrent ischemic stroke is highest in the first two weeks after TIA or AIS, early anticoagulation should be recommended in appropriate patients without additional bleeding risk factors
Yaramati, Satya	satya.yaramati@gmail.com	UF Health Jacksonville	Prevalence and risk factors of QTc prolongation in patients receiving methadone	One of the adverse effects commonly associated with methadone is prolongation of the rate-corrected QT interval (QTc). This can subsequently increase the risk of significant adverse effects, including the development of potentially fatal cardiac arrhythmias such as Torsades de Pointes (TdP). Although there is no specific threshold of QTc prolongation above which TdP will always occur, a QTc interval greater than 500 milliseconds (ms) has been associated with up to a three-fold increased risk of developing TdP. The purpose of this study is to determine the prevalence of QTc prolongation in patients receiving methadone and identify potential risk factors. We also aim to determine whether EKGs are being monitored during treatment with methadone	This was a single center, retrospective chart review study evaluating patients admitted to the institution between May 31, 2019 and July 1, 2024. Patients were included if they were 18 years of age or older and received at least one dose of oral methadone for any indication. Individuals were excluded if they were incarcerated, on hospice or comfort care measures only, had a ventricular paced rhythm, or if there was concern for intra-hospital illicit drug use. The primary outcome of the study was the percentage of patients receiving methadone with a QTc interval > 500 ms. Secondary outcomes included the percentage of patients receiving methadone without an EKG ordered during their stay and risk factors associated with QTc prolongation.	A preliminary analysis of 65 patients was completed. The sample included 35 females and 30 males with an average age of 60. Of these patients, 8 (12%) of patients did not have an EKG ordered during their inpatient stay. From the remaining 57 patients, 12 (21%) had at least one recorded QTc interval > 500 ms while receiving methadone while 45 (69%) did not experience QTc prolongation.	The preliminary analysis shows that patients who receive methadone are at risk for QTc prolongation and EKGs are not always monitored during treatment with methadone. Further data collection and analysis is warranted to determine what factors increase risk for QTc prolongation
Yero, Rebecca	rebeyero@gmail.com	Mount Sinai Medical Center	Safety Outcomes of Aromatase Inhibitor Therapy in Breast Cancer Patients Across Different Racial Backgrounds	Aromatase inhibitors (AIs) anastrozole and letrozole are the mainstay of adjuvant therapy in hormone receptor-positive early-stage breast cancer. Guideline recommendations established this drug class as the preferred therapy in post-menopausal women, as this allows the AI to sufficiently suppress estrogen production. Since clinical guidelines do not favor one AI over the other, several trials have been performed comparing their safety with no concrete distinction between the two. Furthermore, studies have not yet evaluated adverse effects of AIs across differing racial groups. This study aims to compare the safety profiles of AIs in patients with racial differences.	This retrospective, single center, observational cohort study will include postmenopausal women with confirmed hormone receptor-positive early-stage breast cancer on AI adjuvant therapy for a duration of at least 3 months. Hormone receptor-positive status is defined as either estrogen positive, progesterone positive, or both receptors positive. Human epidermal growth factor receptor 2 (HER2) positive and negative patients will also be included in this study to assess for any variances in treatment adverse effects related to anti-HER2 treatment. Exclusion criteria consists of premenopausal women, male patients, metastatic breast cancer, interruption of AI therapy before 3 months of continuous treatment, patients on gonadotropin releasing hormone (GnRH) agonists, and concurrent chemotherapy that can impact symptoms and lead to complications in therapy. Primary endpoints will assess the safety profiles between both AI regimens through side effect occurrence and interruption of therapy. Statistical analysis will consist of descriptive statistics to summarize side effects and treatment modifications. Comparative analysis will allow for the observation of the frequency and extent of toxicities between anastrozole and letrozole, while sub-group analysis will focus on these differences across multiple racial groups.	Overall, therapy with anastrozole resulted in a higher incidence of side effects on average across all categories evaluated. Hispanic patients on anastrozole experienced a higher percentage of side effects as compared to Hispanic patients on letrozole. AI side effects in Hispanic and non-Hispanic patients were similar. A higher rate of Hispanic patients experienced arthralgia, osteopenia, and hypertension on letrozole therapy. The difference in the severity of AI side effects may have been the determinant factor for a larger number of Hispanic patients on letrozole to transition to an alternative agent. A greater proportion of patients on anastrozole required bisphosphonate therapy for new-onset osteoporosis.	While side effects are more common on anastrozole, they may be more manageable for Hispanic patients as they lead to fewer treatment modification, whereas letrozole's disruptive adverse effects make it less suitable for long-term use in this population.
Young, Savannah	savannahy0323@gmail.com	Sarasota Memorial Hospital	Evaluating impact of a second medication history performed by a pharmacy extender at an acute inpatient behavioral health hospital	Medication histories are a fundamental institutional practice aimed at preventing medication errors and enhancing patient safety. Given the often-critical condition of psychiatric patients at the time of admission to an inpatient behavioral health pavilion, their capacity to accurately recall and communicate home medications may significantly be impaired. Consequently, it may be advantageous to delay medication reconciliation until the patient has achieved a more stable state. The purpose of this quality improvement study is to evaluate the impact of pharmacy extender involvement on behavioral health care transitions and to identify potential initiatives aimed at enhancing transitional care coordination.	This single-center, IRB-approved, retrospective study utilized chart reviews performed for adult patients admitted to an inpatient behavioral health pavilion from May 2024 to December 2024. Patients were included if a medication reconciliation was completed by pavilion staff at the time of admission, followed by a subsequent medication history conducted by a pharmacy extender. Patients were excluded if their outpatient medication review was documented as incomplete at the time of admission. The primary outcome of this study is the quantity of medication discrepancies identified during the second review of medication histories performed by pharmacy extenders. Secondary outcomes include the difference in the quantity of medication discrepancies based on the patient's location prior to admission, the variation in the quantity of medication discrepancies categorized by type, the assessment of discrepancy severity as defined by the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) classification, and the average duration of time from admission to the performance of the second medication history. Descriptive and inferential statistics will be used to analyze primary and secondary outcomes. Institutional Review Board approval occurred prior to data collection.	A total of 46 patients were included, predominantly white (80.4%) males (52.2%) with a median age of 55 years (IQR 46-66). Most patients were admitted involuntarily (82.6%) from the emergency department (63%) to either the general adult or acute care unit (each 34.8%). The median length of stay was 6 days (IQR 3-8), with Major Depressive Disorder as the most common discharge diagnosis (23.9%). All initial medication histories contained at least one discrepancy upon secondary review, and 60.9% had five or more discrepancies. The median time between the initial and secondary histories was 20 hours (IQR 14-38.5). The most common discrepancies identified included the omission of active medications (84.8%), inclusion of discontinued medications (65.2%), and incorrect dosing information (50%).	This study reveals a high prevalence of medication discrepancies at the time of admission to inpatient psychiatric care, emphasizing the value of a delayed secondary medication history performed by a pharmacy extender. The frequent omission of essential medications and documentation errors presents a risk for adverse drug events. Delaying reconciliation until patients are more clinically stable and better able to communicate, allows for a more accurate capture of outpatient medication regimens This temporal delay may be particularly beneficial in psychiatry, where fluctuating mental status and cognitive impairment at the time of admission are common barriers to effective reconciliations. These findings align with existing literature emphasizing the critical role of pharmacy personnel in improving transitional care accuracy, particularly in high-risk populations. Limitations include the retrospective design, small sample size, and single-center scope, which may affect generalizability. Nonetheless, the consistency and magnitude of discrepancies identified suggest that reliance solely on an admission-time medication history is insufficient, particularly in behavioral health populations. Future research should focus on evaluating the clinical outcomes associated with pharmacy extender interventions, as well as the development of standardized protocols for delayed or phased reconciliation strategies.

Resident	Email Address	Practice Site	Research Title	Background	Methodology	Results	Conclusion
Zamora, Dayana	dayanazamora94@gmail.com	HCA Florida Mercy Hospital	Assessing clinical outcomes with thiamine as a therapeutic adjunct for septic shock in a community hospital Intensive Care Unit: a pre and post observational study	Several studies have explored thiamine (Vitamin B1) as part of the Metabolic Resuscitation Protocol (hydrocortisone, ascorbic acid, and thiamine, or HAT) in critically ill patients. Given that thiamine deficiency is common in septic shock, its specific impact outside of HAT therapy remains under-investigated. This study aims to evaluate thiamine as adjunctive therapy in patients receiving standard care for septic shock, focusing on its effects on clinical outcomes, particularly mortality and vasopressor requirements.	We conducted a single-center, pre and post observational study in a 31-bed community hospital Intensive Care Unit (ICU) to evaluate the effect of thiamine administration in patients diagnosed with septic shock. The study consisted of two 6-month recruitment periods: a retrospective cohort was studied from March 2024 to August 2024, where patients did not receive thiamine. A prospective cohort was observed from September 2024 to February 2025, where patients received 200 mg of intravenous thiamine twice daily for 3 days within 48 hours of their septic shock diagnosis. Retrospective data was obtained from the Quality Department, who identified septic patients within the specified timeframe. Prospectively, data was extracted using the hospital's Electronic Health Record (EHR), MediTech, and pharmacy surveillance system, Vigilanz, to identify administrations of the studied thiamine dose. Patients included were 18 years or older, presented with lactic acid levels > 2 mmol/L, and required at least one vasopressor for hemodynamic support. We excluded patients with allergies to thiamine, pregnant individuals, patients with alcohol use disorder (AUD), and those who did not receive thiamine within the defined timeframe during their ICU stay. The primary outcomes were in-hospital mortality, and the number of vasopressor-free days (VFD). Secondary outcomes included ICU length of stay, avoidance of renal replacement therapy (RRT), and reduction in lactic acid levels.	Out of 314 patients screened, 96 patients met inclusion criteria and were evaluated (Retrospective n = 56; Prospective n = 40). We found that thiamine supplementation within 48 hours of septic shock diagnosis was associated with a 28% absolute reduction in in-hospital mortality (46% vs 18%). Patients who received thiamine experienced more VFD (7.1 vs 4.6 days) and had greater reductions in lactate levels at 24-48 hours (3.2 vs 1.4 mmol/L). ICU length of stay was longer in the thiamine group (11 vs 9 days). No significant differences were noted in the need for RRT between groups. We further observed that patients requiring multiple vasopressors and those with positive cultures gained an additional 2.5 VFD on average.	In this pre and post observational study, adjunctive thiamine therapy was associated with reduced in-hospital mortality, more VFD, and improved lactate clearance in patients with septic shock. Although ICU length of stay was longer in the thiamine group, overall trends favor early administration of IV thiamine as a potentially beneficial adjunct in septic shock management.