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Abstract# 1 Single center retrospective evaluation of exogenous albumin administration for the prevention of ifosfamide-induced encephalopathy

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Background: Ifosfamide is an alkylating chemotherapy agent commonly used in the treatment of soft tissue sarcoma. Ifosfamide-induced encephalopathy (IIE) occurs in approximately 10–30% of patients, with manifestations ranging from mild confusion to seizures or coma. IIE contributes to morbidity, treatment delays, and prolonged hospitalization. Although the exact mechanism is unclear, the neurotoxic metabolite chloroacetaldehyde is believed to disrupt mitochondrial respiration and contribute to symptoms. Reported risk factors include advanced age, hypoalbuminemia, renal or hepatic impairment, poor performance status, higher ifosfamide doses, and shorter infusion durations. Prophylactic albumin has been used to increase serum albumin and potentially bind circulating neurotoxic metabolites; however, supporting evidence remains limited. The University of Colorado Health System utilizes a standardized MAI regimen (Mesna, Adriamycin [Doxorubicin], Ifosfamide), a modified version of the NCCN AIM protocol. Differences include an additional ifosfamide infusion day, continuous mesna administration, and provider-dependent albumin use. Despite frequent incorporation of prophylactic albumin into MAI and other sarcoma regimens, robust evidence demonstrating reduced IIE incidence—particularly within standardized regimens—is lacking. Objective: To compare the per-cycle incidence of IIE among patients with soft tissue sarcoma receiving MAI chemotherapy with versus without prophylactic albumin. Methods: This retrospective cohort study included adult patients (18–89 years) with soft tissue sarcoma who received MAI at UCHealth hospitals between January 1, 2023, and August 1, 2025. Patients with prior IIE, those receiving prophylactic thiamine or methylene blue, and those who crossed over between albumin groups were excluded. The primary outcome was per-cycle IIE incidence. Secondary outcomes included escalation of care, hospital length of stay, IIE incidence by risk stratification, and characterization of IIE presentation and management. Results: Seventy-nine patients were included, accounting for 244 MAI cycles. Prophylactic albumin was administered in 196 cycles (63 patients), while 48 cycles (16 patients) did not include albumin. Overall, IIE occurred in 12 cycles (4.9%). Incidence was 6.3% without albumin versus 4.6% with albumin (p=0.64). All high-risk patients were in the albumin group; 40% experienced IIE. Seizures, methylene blue use, and escalation of care occurred only in the no-albumin group. Mean hospital length of stay did not differ. Conclusion: Prophylactic albumin was associated with a numerically lower IIE incidence despite inclusion of higher-risk patients, though not statistically significant. Findings suggest a potential mitigating effect and support further prospective evaluation. IRB Status: COMIRB approved.

Abstract #2 Validation of electronic algorithms to identify patients who were candidates for potential glucagon-like peptide-1 agonist deprescribing

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Glucagon-like peptide-1 receptor agonists (GLP-1) were FDA approved originally to treat type 2 diabetes mellitus (T2DM) and later gained approval as an anti-obesity medication (AOM) for an indication of weight loss without T2DM, as well as atherosclerotic cardiovascular disease (ASCVD). Increasing utilization of GLP 1 therapies has impacted substantially healthcare spending, patient out of pocket costs, and medication supply, underscoring the need for appropriate medication management. The objective of the quality improvement project was to validate an electronic algorithm designed to identify patients' indication(s) for GLP-1 use and those patients who may be candidates for potential GLP-1 deprescribing. Adult patients from Kaiser Permanente Colorado who had initiated semaglutide (a GLP-1) therapy between January 1, 2023 and December 31, 2024 and who continued therapy for at least six months were included. The primary outcomes were the sensitivities and 95% confidence intervals of the algorithm's ability to identify patient indication(s) and candidacy for semaglutide deprescribing. Potential indications included: ASCVD; T2DM; weight loss; and any combination of these indications. Potential deprescribing criteria included: age ≥75 years; absence of baseline or follow up A1C documentation; baseline A1C <8% without another qualifying indication; absence of baseline or follow up weight measurements; <5% weight loss during follow up; and inability to achieve the FDA approved highest dose during follow up. A random sample, stratified by age, gender, and potential indication, of 315 patients who met inclusion/exclusion criteria were selected for manual chart review. Overall, the sample had a mean age of 60.1 years, was predominantly white, and had equal gender representation. Of the random sample, 3 (1%) had ASCVD, 82 (26%) had T2DM, 53 (16.8%) had weight-loss, 23 (7.3%) had T2DM+ ASCVD, 26 (8.3%) had T2DM + ASCVD + weight-loss, 123 (39.1%) had T2DM + weight-loss, and 3 (1%) had weight-loss + ASCVD indications. Final analyses evaluating the sensitivities and 95% confidence intervals of the algorithm are ongoing. This study validation analysis will inform the potential role of electronic algorithms in identifying appropriate candidates for GLP-1 deprescribing and highlight the importance of close monitoring and proactive management to ensure appropriate use of high cost GLP 1 medications. Results will be presented. IRB reviewed.

Abstract #3 Assessment of the value of a multidisciplinary initiative to decrease red flag medication combinations

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The opioid crisis continues to pose a significant public health challenge, with overprescribing and prolonged use contributing to increased risks of dependence, overdose, and death. These risks are further amplified when opioid medications are used concurrently with other central nervous system (CNS) depressants, such as benzodiazepines (BZD), gabapentinoids, skeletal muscle relaxants (SMR), and non-benzodiazepine hypnotics (Z-drug). Kaiser Permanente Colorado recently implemented a model where a team of clinical pharmacists reviews a list of patients who have "red flag" opioid + CNS depressant combinations and have an upcoming appointment with their primary care prescriber (PCP). Prior to the appointment, pharmacists identify opportunities for red flag combination discontinuing, tapering or substituting to safer alternative(s). If a patient is deemed a candidate, the pharmacist has a discussion with or sends a secure message to the patient's PCP a few days before the scheduled visit. This multidisciplinary program incorporates shared decision-making, individualized tapering/discontinuing/substituting plans, and integration with broader opioid stewardship initiatives. The objective of this quality improvement (QI) project was to assess the effectiveness of the program, contrasted to usual care, in tapering/discontinuing/substituting one or more agents in the red flag combination. The QI project included adult KPCO members identified with a red flag combination between July 15, 2024 and August 30, 2025 for the observation group, or during the initiative's pre-implementation period between July 1, 2023 and June 30, 2024 for the usual care group. Four opioid cohorts were evaluated: those who were receiving an opioid + 1) a BZD; 2) a gabapentinoid; 3) a SMR; and 4) a Z-drug. Patients could be included in more than one cohort but only one group; if patients appeared in different groups across cohorts they were assigned to the observation group when applicable. Patient demographics, clinical comorbidities, utilization, and pharmacy dispensing data were collected. Subsequent tapering/discontinuing/substituting was assessed within 60 days. Groups were matched using propensity score methods. Results are pending. IRB reviewed.

Abstract #4 A retrospective review on the use of antipsychotics as adjuncts in the treatment of alcohol withdrawal: Impact on emergency department disposition

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Background: Despite a consensus on the use of benzodiazepines as the mainstay of alcohol withdrawal syndrome (AWS) treatment, there is limited data surrounding the use of antipsychotics (APs) as adjunctive medications. APs are hypothesized to have a role in mitigating agitation, delirium, and hallucinations. The objective of this study is to compare clinical outcomes of emergency department (ED) patients with AWS treated with adjunctive APs versus those not treated with APs. Methods: We conducted a retrospective cohort study across 11 hospital-based EDs within a single integrated healthcare system. We included adult ED patients presenting with AWS between 07/01/2022-06/30/2025. Our system follows a shared clinical care pathway utilizing MINDS (Minnesota Detoxification Scale) scores for symptom-triggered AWS therapy, but clinicians retain autonomy over all treatment decisions. Cohorts were stratified into two treatment categories: those who did and did not receive adjunctive APs. The primary outcome was ED disposition. Secondary outcomes include ED length of stay and ED intubation. Cohorts were compared using Pearson's Chi-squared test. Results: A total of 11563 encounters were included in the final analysis, of which 827 received APs. Baseline characteristics were similar between cohorts. Among the 827 that received APs, droperidol was administered in 81% of encounters. AP associated encounters were more likely to be admitted to the hospital compared to non-AP associated encounters (48.7% vs. 37.1%, $p<0.001$). When stratified by initial MINDS score (mild <15, moderate 15-20, severe ≥21), AP associated encounters were more likely to be admitted if they presented with a mild initial MINDS score (38.4% AP vs. 28.7% non-AP, $p<0.001$). There were no differences in initial level of care (floor vs. ICU) between cohorts. ED length of stay was longer in the AP group (median 4 vs. 6 hours, $p<0.001$). There was no difference in intubation rates between cohorts (0.6% AP vs. 0.7% non-AP). Conclusion: Among ED patients treated for AWS, adjunctive antipsychotic use was associated with higher hospital admission rates and longer ED length of stay, particularly among patients initially presenting with mild withdrawal. These findings underscore uncertainty regarding the benefit of routine adjunctive antipsychotic use in AWS. Project was previously IRB approved.

Abstract #5 Safety and efficacy of concomitant use of high-intensity statin and tacrolimus among solid organ transplant recipients

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Complications from cardiovascular disease (CVD) are a leading cause of morbidity and mortality post-solid organ transplant (SOT). High-intensity statin (HS) therapy is generally recommended for prevention of CVD in high-risk patients but is often avoided in SOT recipients receiving calcineurin inhibitors due to concerns for statin-associated muscle toxicity. Tacrolimus (TAC), unlike cyclosporine, does not significantly inhibit CYP3A4, OATP1B1, or P-glycoprotein pathways involved in statin metabolism, which may allow for safer use of HS therapy in this population. This study aims to compare the safety and efficacy of HS versus low-intensity statin (LS) therapy in SOT recipients receiving concomitant TAC. This retrospective cohort study utilized the internal organ transplant registry at the University of Colorado Health Transplant Center to identify adult recipients of heart, kidney, liver, lung, or pancreas transplants between January 1, 2016-May 5, 2025 who had documented prescriptions for both TAC and a statin. The index date was defined as the earliest documented date of prescription for both medications following transplantation. Patients with retransplantation, pregnancy, or prescriptions for cyclosporine and/or simvastatin during the study period were excluded. Safety outcomes included rhabdomyolysis, myalgia, or myopathy (RMM), statin intolerance, and creatine phosphokinase elevations ≥900 U/L or four times the upper limit of normal. Efficacy outcomes included 3-point major cardiac adverse events (MACE) and changes in low-density lipoprotein (LDL) labs within the first three months of TAC/statin therapy. A subgroup analysis evaluated patients receiving statins for secondary prevention for 3-point MACE and incidence of LDL <55 mg/dL. Results and conclusions will be presented at the conference. This study was approved by the institutional review board.

Abstract #6 Efficacy of adjusted body weight (AdjBW) dosing for continuous infusion propofol (CIP) in obese patients

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Propofol is a widely used sedative-hypnotic agent in the intensive care unit (ICU) due to its rapid onset (9-51 seconds), ease of titration, and short half-life (40 minutes). However, dosing strategies for propofol in obese patients remains controversial due to concerns regarding drug accumulation, adverse effects, and the challenge of accurately predicting pharmacokinetic behavior in this population. Because propofol is a lipophilic drug, obesity can significantly alter the pharmacokinetics and pharmacodynamics of this medication via large distribution extensively into adipose tissue, raising concerns that using total body weight (TBW) for dosing may lead to drug accumulation and an increased risk of adverse events, including hypotension, bradycardia, and propofol-related infusion syndrome (PRIS). PRIS is a life-threatening condition that is characterized by multi-system organ failure due to the prolonged use of propofol. This research project will utilize a retrospective quasi-experimental design to investigate the system-wide implementation of the AdjBW protocol for dosing CIP to determine if the transition to AdjBW is non-inferior to TBW in achieving a therapeutic Richmond Agitation-Sedation Score (RASS). The data collected for this longitudinal research project will be collected retrospectively, drawing data between September 8, 2023 to January 9, 2026. Data will be extrapolated from Epic reports, chart reviews, and SlicerDicer data. The hospital site of interest is CommonSpirit Health Penrose Hospital, which is located in Colorado Springs, CO. All quantitative data collected will be analyzed using appropriate statistical methods. Descriptive statistics will be used to characterize the baseline demographics and clinical characteristics of both the TBW and AdjBW dosing groups. Comparative analysis will be employed to assess differences in continuous variables between the two groups. Fisher's exact test will be used for categorical variables, including the incidence of adverse events. Non-inferiority testing will be conducted for the primary efficacy endpoint measured by RASS scores to determine if AdjBW dosing is non-inferior to TBW dosing. The sample size (N=40) was calculated using a confidence level of 80% with a 10% margin of error. As this project does not constitute true human research, it was determined to be exempt from IRB oversight. The findings and conclusions of this research will be presented upon completion.

Abstract #7 Evaluation of dose titration and transfusion burden in patients on luspatercept
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Blood transfusions carry a risk for adverse events, especially with the need for multiple or chronic transfusions related to certain diseases. There are many different reactions that can occur from even receiving one transfusion. Two disease states that require frequent transfusions include myelodysplastic syndromes and beta thalassemia. The frequency of transfusions that are needed in patients with these diseases increases their risk of serious adverse reactions. Luspatercept is designed to improve hematology parameters associated with ineffective erythropoiesis and decrease the transfusion burden needed. The aim of this project is to determine what percentage of UCHealth patients treated with luspatercept are adherent to manufacturer recommendations, and if there is a link between reduction in transfusion burden and manufacturer titration recommendations. This retrospective cohort study evaluated how transfusion burden is affected in patients who are titrated per the package insert at any UCHealth facility from November 2019 until August 2025. This is a retrospective chart review conducted from November 2019 to August 2025, at any University of Colorado Health facility. Patients were included if they were 18 years old or greater, had a diagnosis of myelodysplastic syndrome or beta thalassemia, and received regular transfusions. Exclusion criteria included recent deep vein thrombosis, stroke or prior malignancy, receiving iron chelation therapy initiated ≤24 weeks prior to treatment or previous exposure to luspatercept. Data points being collected include patient demographics, diagnosis of myelodysplastic syndrome or beta thalassemia, pretreatment hemoglobin before drug initiation, baseline transfusion burden, units of blood required during treatment, units of blood required after treatment, reduction in baseline transfusion burden, transfusion independence achieved, length of transfusion independence and was luspatercept titrated per package insert. The primary study endpoint was adherence of luspatercept per manufacturer recommendations. Secondary endpoints included change in hemoglobin from pretreatment levels, transfusion burden during treatment and duration of transfusion independence. Of the 11 patients who were titrated correctly per manufacturer recommendations, 9 experienced an effect on the transfusion burden with 3 having a decreased burden. The average pretreatment hemoglobin was 8.9 g/dL with the baseline transfusion burden being roughly 0.6 units of blood in the 4 weeks leading up to luspatercept initiation. Luspatercept titration in the UCHealth system is seldom in accordance with the manufacturer recommendations. The lack of compliance provides a space where education can be utilized for providers and team members on the correct usage of luspatercept. This project did not require IRB approval.

Abstract #8 Evaluation of the use of extended VTE prophylaxis in colorectal, gynecologic, intra-abdominal, and bariatric surgery patients
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Venous thromboembolism (VTE) remains a leading cause of preventable postoperative morbidity and mortality, particularly among patients undergoing colorectal, gynecologic, intra-abdominal, and bariatric surgeries. Although extended-duration VTE prophylaxis (typically 28 days) is recommended by multiple professional guidelines for high-risk patients, real-world adoption remains inconsistent. Variability in risk assessment model (RAM) use, agent selection, and concerns regarding bleeding risk especially with increasing use of direct oral anticoagulants (DOACs) have contributed to uncertainty in clinical practice. Limited real-world data exist comparing extended prophylaxis strategies, particularly in the context of evolving Enhanced Recovery After Surgery (ERAS) protocols. This study aims to characterize real-world evaluation and prescribing practices for extended VTE prophylaxis following select high-risk surgical procedures and to describe associated 90-day postoperative thrombotic and bleeding outcomes. This IRB-approved, retrospective descriptive study will be conducted at Saint Joseph Hospital in Denver, Colorado. Adult patients (≥18 years) who underwent colorectal, gynecologic, bariatric, or intra-abdominal surgery between January 1, 2024, and December 31, 2025, will be included. Patients requiring therapeutic anticoagulation, those with major bleeding or VTE during index hospitalization, or insufficient follow-up data will be excluded. Electronic health records will be reviewed to assess inpatient VTE prophylaxis, use and type of RAMs (e.g., Caprini or Cleveland Clinic score), discharge prescribing of extended prophylaxis (enoxaparin, DOAC, or none), and 90-day post-discharge outcomes including VTE, bleeding, readmissions, and mortality. Data will be reported descriptively and in aggregate. At the time of abstract submission, data collection and analysis are ongoing; therefore, results are not yet available. Approximately 1,500 patients are anticipated to be included based on preliminary estimates. This study will provide valuable insight into contemporary practices surrounding extended VTE prophylaxis across multiple surgical populations. By describing real-world utilization patterns, RAM application, and associated outcomes, the findings aim to identify gaps between guideline recommendations and practice and inform safer, more consistent prophylaxis strategies. Results will be presented upon completion of study.

Abstract #9 Antipsychotic prescribing patterns and outcomes in older hospitalized adults
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Antipsychotics are commonly prescribed for acute agitation and delirium in hospitalized older adults to manage distressing behaviors, despite growing evidence showing limited clinical benefit and potential harms, including cardiac adverse effects and oversedation. Although current guidelines recommend restricting their use to situations where patients pose an immediate risk after non-pharmacologic strategies fail, antipsychotics frequently remain on medication lists beyond the acute episode, potentially exposing older adults to unnecessary risk at discharge. This retrospective observational study aims to evaluate the continuation of newly initiated antipsychotics following resolution of delirium or agitation in hospitalized patients aged 65 years and older and to assess associated clinical outcomes. Patients admitted to Saint Joseph Hospital between July 15 and September 30, 2025 who received at least one dose of a first- or second-generation antipsychotic specifically for acute delirium or agitation were identified using Epic SlicerDicer. Exclusions included prior chronic antipsychotic use, primary psychiatric admissions, hospice or comfort-care status, and incomplete documentation. The primary outcome is the proportion of patients discharged with continued antipsychotic therapy, categorized by documented ongoing psychiatric or behavioral justification versus unclear or absent rationale, while secondary outcomes include hospital length of stay, documented falls, adverse drug events such as oversedation or QTc prolongation, and 30-day readmission rates. Data analysis is ongoing, and results were not available at the time of abstract submission but will be presented at the conference. By examining discharge prescribing patterns and related outcomes, this study seeks to identify opportunities for deprescribing and improve medication safety during transitions of care for hospitalized older adults. This project did not require institutional review board (IRB) approval per institutional policy for retrospective quality-improvement research.

Abstract #10 Observing outcomes of dosing and monitoring of valproic acid and phenytoin

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Epileptic seizures and seizure activity are prevalent neurologic conditions that may need long-term therapy. Valproic acid is a broad spectrum antiepileptic that can treat a variety of seizure types, including both focal and generalized onset seizures. Antiseizure therapy with valproic acid requires therapeutic drug monitoring as it displays inter-individual variability in pharmacokinetics, demonstrates a narrow therapeutic range, and has potentially problematic drug-drug interactions. Phenytoin is another antiseizure medication that requires monitoring for safety and effectiveness. It is an antiseizure medication with a narrow therapeutic range, normally used to treat focal, partial, and generalized seizures. Similar to valproic acid, monitoring is important due to inter-individual pharmacokinetics and potential toxicities due to altered metabolism. Past studies have indicated that pharmacist intervention in dosing and monitoring of these medications can improve proper serum levels, lead to greater seizure control, and potential cost savings. This retrospective and prospective observational quality improvement study reviewed 34 total patient charts between September of 2025 and April of 2026. 20 patients were deemed retrospective and 14 patients prospective. Each patient chart was reviewed for a diagnosis of a seizure disorder and each patient was taking either valproic acid or (fos)phenytoin for seizure treatment. Charts were reviewed for appropriate valproic acid or (fos)phenytoin levels, adverse drug reactions (ADRs), and any pharmacist lead interventions in dosing or monitoring. Data was analyzed utilizing statistical functionality within Microsoft Excel by the primary investigator. Calculations performed include simple statistics such as proportions and percentages. Retrospective patients were analyzed against prospective patients to determine what changes, if any, were observed with pharmacist-led monitoring and dose adjusting. Collected serum levels were compared against current recommended serum reference ranges for VPA and phenytoin/fosphenytoin. Results and conclusions will be presented. IRB exempt.

Abstract #11 Current SSRI/SNRI therapy and early hematoma expansion in spontaneous intracerebral hemorrhage

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Spontaneous intracerebral hemorrhage (ICH) is associated with substantial morbidity and mortality, and early hematoma expansion is a major driver of neurologic deterioration, poor functional outcomes, and death. Serotonergic antidepressants, including selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs), may increase bleeding risk through impaired platelet aggregation; however, prior literature has largely focused on ICH occurrence or recurrence rather than whether prior-to-admission SSRI/SNRI exposure at presentation is associated with acute hematoma expansion. This retrospective two-center cohort study evaluated adult intensive care unit patients admitted with spontaneous ICH at two level-one trauma centers in the community from October 2021 through October 2025. Eligible patients were identified through the electronic health record using ICD-10 diagnosis codes and radiographic confirmation of spontaneous ICH on index non-contrast head CT. Patients were grouped by documented outpatient SSRI/SNRI exposure at presentation versus no SSRI/SNRI exposure. The primary outcome is early hematoma expansion on follow-up neuroimaging, defined as either a relative increase greater than 33% or an absolute increase greater than 6 mL from baseline hematoma volume. Secondary outcomes include absolute hematoma growth, early neurologic deterioration within 24 hours, need for neurosurgical intervention, functional outcome at discharge, intensive care unit length of stay, and in-hospital mortality. Analyses included unadjusted comparisons using chi-squared or Fisher's exact tests for categorical outcomes and t-tests or Wilcoxon rank-sum test for continuous outcomes, as appropriate. Multivariable logistic regression was used for the primary outcome, adjusting for prespecified clinical and imaging covariates. Exposure groups were matched on key baseline characteristics, including ICH score and antithrombotic or anticoagulation exposure. Data collection and analysis were completed, and results will be presented. This study was deemed as non-human research by the local IRB.

Abstract #12 Midodrine dosing strategies for vasopressor weaning in patients on spinal perfusion protocol

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Spinal perfusion protocols (SPP) are used in the treatment of acute spinal cord injury (SCI) to prevent secondary ischemic injury and improve neurologic outcomes. The American Association of Neurological Surgeons and Congress of Neurological Surgeons recommends maintaining a mean arterial pressure (MAP) between 85–90 mmHg for 7 days post-injury. Observational studies suggest oral midodrine achieves MAP targets comparable to intravenous (IV) vasopressors, potentially reducing IV vasopressor duration, central line use, and intensive care unit (ICU) length of stay. The objective of this study was to investigate the optimal midodrine regimen that is safe and effective at maintaining MAP and improves patient-centered outcomes in SPP. This retrospective multi-center cohort study evaluated 101 patients admitted to two level 1 trauma centers from January 2019 to December 2025 with a diagnosis of acute spinal cord injury that were treated with a SPP and received at least 2 doses of midodrine. Patients were grouped into two cohorts based on timing of midodrine initiation: those started on midodrine early (within 24 hours of start of SPP) versus late (greater than 24 hours from start of SPP). The primary outcome was incidence of vasopressor cessation at 72 hours. Secondary outcomes included rate of re-initiation of vasopressors during SPP, percentage of patients requiring a central line, ICU length of stay, and incidence of new onset bradycardia. Exploratory outcomes evaluated the association between oral vasopressor dosing and likelihood of vasopressor cessation at 72h, including midodrine dose (low dose ≤30 mg per day vs high dose >30 mg per day), frequency (3 or less vs 4 or more doses per day), and concomitant pseudoephedrine use. After matching patients 1:1 based on baseline hypertension and level of injury, an a priori subgroup analysis was conducted among patients weaned off vasopressors at 72h to compare midodrine dosing strategies. Primary and secondary outcomes were analyzed using appropriate statistical tests for comparison between groups. Exploratory outcomes were reported with odds ratios and corresponding confidence intervals to assess associations between dosing strategies and vasopressor cessation. The subgroup analysis used the appropriate statistical test for comparison between two matched groups. Results and conclusions will be presented. This study was deemed as non-human research by the local IRB.

Abstract #13 Evaluating the clinical impact of a pharmacist-led medication refill program on diabetes care
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Providers are facing increased burnout and dissatisfaction due to the growing volume of administrative tasks. To reduce this burden, many healthcare systems have adopted team-based medication refill programs in which nurses, pharmacists, and/or pharmacy technicians can authorize additional refills using standardized protocols and leveraging pharmacists' expertise in medication therapy management. These programs have been shown to improve efficiency, lower costs, enhance patient and provider satisfaction, reduce physician workload, and support care coordination when compared with usual care. Building on this model, Denver Health's Central Clinical Support pharmacists began ordering annual diabetes labs at the time of refill authorization in March 2024. The current study aims to address a gap in the literature by evaluating whether such pharmacist-led refill initiatives improve quality outcomes. This retrospective pre-post study evaluated patients with type 2 diabetes who had medication refill requests completed by the Denver Health Central Clinical Support (DH CCS) team from July 1st,2024 through December 31st ,2024. Patients were compared before and after the DH CCS intervention to assess if there was an increase in lab ordering, lab completion, and clinical follow-up. Demographics, baseline statin use, baseline ACE/ARB use, A1C, uACR, BMP, lipid panel, DH CCS interventions based on EPIC smartphrases and insurance status were collected for each patient. Primary and Secondary outcomes will be analyzed using McNemar's test and logistic regression. Baseline and demographic characteristics will be summarized using descriptive statistics (means, standard deviation for continuous variables and percentages for categorical variables). Results and conclusions will be presented. IRB approved.

Abstract #14 Pharmacists and perimenopause: Bridging knowledge gaps in OTC care for women's midlife health
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Perimenopause is a transitional phase between menstruation and menopause that is associated with symptoms that vary widely and often go underrecognized and undertreated. Pharmacists are among the most accessible healthcare professionals and are positioned to provide education, over-the-counter (OTC) recommendations, and referrals for women experiencing perimenopausal symptoms. However, pharmacists' comfort and preparedness in addressing perimenopause-related concerns, particularly through OTC guidance, remain inadequately studied. This study employs a cross-sectional, quantitative, and descriptive design using an anonymous survey to assess pharmacists' comfortability discussing perimenopausal symptoms, familiarity with OTC treatment options, perceived barriers to providing care, and interest in furth education. This survey was distributed to licensed community pharmacists practicing in the United States. Aspects of the survey respondents include geographic practice location, years of experience, and attitudes and behaviors related to perimenopausal care. Preliminary results indicate that pharmacists should have a strong supportive role in perimenopausal care, including patient education, OTC guidance, and referral to other healthcare providers. Despite this willingness, proactive screening and counseling for perimenopausal symptoms remain infrequent in everyday practice. Lack of formal training was identified as the primary barrier to engagement and the most frequently cited solution, with survey respondents expressing interest in continuing education, clear diagnostic guidelines, and point-of-care tools. Low comfort initiating conversations with patients emerged as a key behavioral gap. These preliminary findings suggest that while community pharmacists recognize their potential role in supporting perimenopausal care, gaps in training and systemic barriers limit consistent implementation. Targeted education, workflow-integrated prompts, brief counseling scripts, and accessible clinical resources could enhance pharmacist confidence and expand patient access to evidence-based perimenopausal support. This study has received IRB approval.

Abstract #15 Enhancing vaccinations through pharmacist-led counseling and test and treat
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Adult vaccination coverage in the United States remains well below the Healthy People 2030 vaccination target of 90%, with only 22.8% of adults receiving recommended immunizations in 2022 and even lower uptake among those aged 50–64 years. This gap weakens herd immunity and increases vulnerability to disease outbreaks. Test-and-Treat programs traditionally emphasize rapid diagnosis and treatment, but expanding these encounters to include vaccine counseling offers a practical strategy to address immunization gaps. Community pharmacies are highly accessible and frequently utilized. In Colorado, King Soopers/City Market pharmacies have implemented pharmacist-led Test-and-Treat programs for respiratory illnesses, creating opportunities to combine testing with vaccination efforts and improve preventive care outcomes. The study evaluates if pharmacist-led vaccine counseling after a test-and-treat appointment would help increase vaccination rates in the adult population. A pre–post prospective cohort study was conducted across 155 community pharmacies in Colorado and approved by the Colorado Multiple Institutional Review Board. Adults aged ≥18 years who utilized Test-and-Treat services and were due for vaccinations per Centers for Disease Control and Prevention recommendations were included. Pharmacists conducted follow-up counseling calls to assess vaccination status, provide recommendations, and offer scheduling for indicated vaccines. Immunization status was reassessed one month after the intervention, and vaccination uptake from October 2025 to March 2026 was compared with the same period in the prior year. In the preliminary results, a total of 16 participants has been enrolled, all of whom were successfully contacted and received education on the importance of vaccination. At one-month follow-up, only one participant had received a recommended vaccine. Overall, 93.75% of participants remained unvaccinated, indicating minimal impact of the intervention thus far. Preliminary findings suggest that while pharmacist-led education following test-and-treat encounters improves awareness of vaccination needs, it does not translate into measurable increases in vaccination within one month

Abstract #16 National survey of pharmacist practice in obstetrics
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Pharmacist involvement in direct patient care has been associated with improved morbidity and mortality outcomes, like reduced medication errors, enhanced interdisciplinary care, decreased length of stay, and decreased cost burden. However, the direct integration of pharmacists into maternal care remains limited and is poorly characterized. Maternal mortality in the United States continues to exceed that of other resource rich nations. Recent Centers for Disease Control (CDC) data indicate maternal mortality rates of approximately 22–33 deaths per 100,000 live births, with more than 80% of deaths classified as preventable, alongside persistent geographic and racial disparities. These findings highlight a need for expanded pharmacist integration into

maternal care. The primary objective is to characterize the current landscape of pharmacist education, resource use, and confidence in clinical decision-making within maternal health. Secondary objectives include evaluating geographic and institutional differences in educational resource utilization and comparing these findings with current CDC data to identify opportunities to address educational gaps. A cross-sectional, anonymous national survey of pharmacists and pharmacy trainees (PGY1 and PGY2 residents) across clinical, nonclinical, and operational roles assessed in three domains: (1) maternal health education and training (formal and informal), (2) access to and use of maternal health clinical resources, and (3) self-reported confidence in managing maternal health scenarios. Descriptive statistics summarize demographics and domain outcomes. Bivariate analyses examined (1) relationships among training, resource access, and confidence, and (2) differences across practice settings (e.g., critical access, community, academic medical centers) and geographic regions. Responses will be compared with CDC maternal mortality data to identify regional gaps and inform targeted pharmacist education across the United States. A total of 166 survey responses were collected across the United States, representing critical access hospitals (1%), community hospitals (22%), and academic medical centers (73%). Survey responses were geographically diverse, with representation from 29 states, including regions with both higher and lower maternal mortality rates as reported by the CDC. Primary results will be reported across three domains: education, resource utilization, and pharmacist confidence. Primary and secondary analysis is ongoing. Variability in maternal health education and confidence among pharmacists is anticipated, highlighting potential disparities in preparedness and clinical experience. Expanding pharmacist training and integration into maternal health may represent a meaningful opportunity to improve maternal outcomes in the United States. This study was deemed exempt as no identifiable data was collected.

Abstract #17 Use of long-acting injectable (LAI) mental health medications and boosting prescriber confidence through targeted education
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Long-acting injectable antipsychotics (LAIs) and extended-release naltrexone are injections less commonly used in clinical practice at the Cheyenne VA Health Care System (CVAHCS). Despite evidence-based effectiveness for schizophrenia, other serious mental illnesses, and substance use disorders, these treatments face challenges from prescriber knowledge gaps, limited experience, and system-level barriers. By addressing these issues, the project sought to ensure guideline-recommended care for Veterans. The primary endpoint was to increase the number of LAI medication orders. The secondary endpoint was to enhance prescriber comfort with LAI antipsychotics and extended-release naltrexone. A cross-sectional electronic survey was distributed to prescribers across primary care, mental health, addiction medicine, and Veterans' Express service areas to evaluate self-reported comfort with prescribing LAIs and extended-release naltrexone, perceived barriers (e.g. knowledge, logistics/ordering, patient factors), and specific educational needs related to ordering these medications. The pre-survey data was collected from September 2025 through October 2025 which provided baseline data on comfort, barriers and requested educational materials. Based on the pre-survey findings, targeted educational materials were developed focusing on LAI ordering, dosing schedules, and LAI administration. These materials incorporated updated guideline recommendations and practical strategies to address identified barriers. Preliminary results have not yet been evaluated. Results will be presented. IRB approval not required for CVAHCS quality improvement project.

Abstract #18 Anticoagulant failure and bleeding with warfarin, DOACs, and enoxaparin
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Anticoagulation plays a vital role in the prevention of blood clots in patients at high risk of developing or having a history of thrombosis. Despite the benefits of therapy, it is important to consider if a patient is at risk for bleeding or failure with the anticoagulant. Warfarin has been a cornerstone of anticoagulation therapy despite challenges with management pertaining to narrow therapeutic index, routine monitoring, and numerous drug and food interactions. Newer anticoagulants such as enoxaparin or direct oral anticoagulants (DOACs) are associated with less clinically significant bleeding, though therapeutic failure like breakthrough thrombosis can occur. At Good Samaritan Hospital, a mix of anticoagulants are used with warfarin still commonly prescribed. A study conducted by Datar et al. evaluating patients with atrial fibrillation found DOACs were associated with lower rates of ischemic stroke, systemic embolism, and hemorrhagic stroke, and had similar bleeding risks to warfarin. This highlights that treatment failure still occurs across both classes. For patients who fail DOAC therapy, they are typically transitioned to agents such as warfarin or enoxaparin. A study by Shyu et al. found that patients who had recurrent VTE despite DOAC therapy and were switched to warfarin or enoxaparin resulted in similar rates of second thrombotic events and major bleeding. These findings suggest there is no superior rescue therapy. The lack of available data highlights an urgent need to better understand real-world anticoagulation failure and examine what clinical practices may contribute. The primary outcome will be the incidence of bleeding or clotting in patients taking warfarin compared to patients taking DOACs and enoxaparin. The secondary outcome will examine average length of stay for patients on warfarin therapy compared to DOAC and enoxaparin. This single center retrospective chart review will utilize EPICs Slicer Dicer tool to identify patients that had an encounter with DVT/PE/Stroke or a bleeding event while on anticoagulation. Included patients are ≥ 18 years old, and taking warfarin, DOACs, or enoxaparin prior to admission. Patients were excluded if they are pregnant, incarcerated, or <18 years old. This study will review 400 patients admitted to Good Samaritan Hospital from April 1st through October 1st, 2025. The primary outcome will be evaluated using a Chi-squared test. The secondary outcome will be evaluated utilizing student t-test. Results and conclusions will be presented. IRB approval is not needed due to being a quality improvement project.

Abstract #19 Evaluation of a pharmacist-driven emergency department culture call back program: a retrospective review
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Antibiotics are commonly prescribed to patients in the emergency department (ED), not all of which are appropriate. Antimicrobial resistance has become a public health threat, contributing to millions of deaths globally. Since antibiotics prescribed in the ED are typically empiric, antimicrobial steward strategies such as culture callback programs are particularly important to reach patients who have been discharged. Literature has shown that having pharmacist-led antimicrobial call back programs increase interventions. The objective of this research was to evaluate the current pharmacist-led culture callback protocol in the ED. Data from positive urine cultures, throat cultures, sexually transmitted infection (STI) polymerase chain reaction (PCR) tests, vaginal wet preps and positive wound cultures classified as skin and soft tissue infections were collected via pharmacist documentation after completion of review over the period of a year (March 2023-2024). Results were excluded if the culture was from another ED, a positive culture from a stool sample, blood culture, respiratory panel or if the culture was acted on by another clinician. During the 1-year period, pharmacists reviewed 1091 microbiology results, 968 of which fell under the pharmacist's responsibility via the culture call back protocol. The majority of cultures were urine analysis (457, 47.21%), strep

antigen (212, 21.90%), vaginal wet prep (185, 19.11%), STI PCRs (88, 9.09%) and lastly wound cultures (26, 2.69%) rounded out the remainder of the samples. 607 (62.71%) of the cultures reviewed by pharmacists were deemed appropriate and required no action, 144 (14.88%) of cultures required patient education, 71 (7.33%) were started on a new or additional therapy, 46 (4.75%) were changed to a different therapy, 22 (2.27%) were instructed to return to the ED and 78 (8.06%) were lost to follow up. The initial antibiotic prescribed was appropriate in 785 (81.10%) of the cases while the initial day supply was appropriate in 755 (77.99%) of the cases. The protocol was adhered to by pharmacists 95.14% of the time. A pharmacist-led culture call back protocol is an important program for ED culture follow ups. This study is supported (in whole or part) by HCA Healthcare and/or HCA Healthcare affiliated entities. The views expressed in this publication represent those of the author(s) and not necessarily represent the official views of HCA Healthcare or any of its affiliated entities. This study received exemption status by our institutional review board.

Abstract #20 Mind the double coverage: Pharmacist-led surveillance to reduce inappropriate dual antithrombotic therapy in stable ASCVD (MIND-DAT study)

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Stable atherosclerotic cardiovascular disease (ASCVD) is defined as being at least 12 months from any acute coronary syndrome or revascularization. Patients with stable ASCVD who have an indication for oral anticoagulation (OAC) frequently remain on antiplatelet therapy, despite guideline recommendations that favor OAC monotherapy. Recent randomized controlled trials (ADAPT AF-DES, AQUATIC, EPIC-CAD) have consistently demonstrated that OAC monotherapy provides equivalent ischemic protection and significantly lower bleeding risk compared to prolonged dual antithrombotic therapy (DAT). Nevertheless, up to one in three anticoagulated patients with stable ASCVD continue to receive concomitant antiplatelet therapy without a clear indication, which increases the risk of major bleeding by up to three-fold without reducing ischemic events. This single-center, retrospective, pre-post cohort study evaluates whether a pharmacist-led surveillance and provider education program reduces the proportion of hospitalized patients with stable ASCVD discharged on inappropriate DAT. The intervention consists of pharmacist-led daily surveillance to identify inpatients with stable ASCVD receiving therapeutic-dose OAC plus an antiplatelet agent. This is followed by real-time, evidence-based provider education and recommendations to discontinue the antiplatelet agent when no guideline-supported indication exists. Eligible patients were adults 18 years or older admitted to Saint Joseph Hospital on concurrent OAC and antiplatelet therapy with documented stable ASCVD. Patients with recent ischemic events or interventions within 12 months, mechanical heart valves, or guideline-indicated combination therapy were excluded. The primary outcome is the proportion of eligible patients discharged on inappropriate DAT, compared between a pre-intervention cohort (September–November 2025) and a post-intervention cohort (February–April 2026), using the chi-square or Fisher's exact test. Secondary outcomes include the acceptance rate of pharmacist recommendations, 30-day major bleeding events, and unplanned 30-day readmissions. Results are pending completion of the post-intervention data collection period and will be presented at the conference. A significant reduction in inappropriate DAT is anticipated, along with high provider acceptance of pharmacist recommendations and improved patient safety through reduced bleeding risk. This study may serve as a model for system-wide quality improvement initiatives to optimize antithrombotic therapy in cardiovascular care. This study was approved by the Intermountain Health Institutional Review Board with a waiver of informed consent.

Abstract #21 Implementation of a pharmacist-driven parenteral nutrition protocol in the neonatal intensive care unit

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Appropriate weight gain and developmental outcomes in preterm infants rely upon timely adequate caloric intake. Early parenteral nutrition is essential, as each additional day required to reach maximal caloric intake reduces the likelihood of appropriate weight gain. Growth failure is common and is associated with worsened comorbidities and poor developmental outcomes. While parenteral nutrition is critical for nutrition in this population, it is associated with risks such as electrolyte derangements, parenteral nutrition-associated liver disease, metabolic complications, line-associated bloodstream infections, osteopenia of prematurity, and necrotizing enterocolitis. Standardized parenteral nutrition protocols in the neonatal intensive care unit are associated with improved growth outcomes, shorter duration of parenteral nutrition, and lower infection rates. This study evaluated the impact of a pharmacist-led protocol on the duration of parenteral nutrition and length of time required to reach maximum parenteral caloric intake before and after protocol implementation. This retrospective, single-center, observational pre-post study evaluated 103 patients in the neonatal intensive care unit over 3 years. Patients were included if they had a gestational age of less than 36 weeks, birth weight of less than 1500 g, and received parenteral nutrition within the first 14 days of life. Primary outcomes include duration of parenteral nutrition and time to maximum parenteral caloric density. Secondary outcomes include anthropometric growth measurements and parenteral nutrition-associated complications, such as electrolyte derangements, necrotizing enterocolitis, and osteopenia of prematurity in the first 30 days of life. Groups were compared using Kruskal–Wallis for continuous variables and chi-square test for categorical variables. Results and conclusions will be presented. Colorado Multiple Institution Review Board (COMIRB) approved and designated as exempt.

Abstract #22 Bye-Cillin: Comparing treatment success rates for standard-of-care versus alternative therapies for syphilis during Bicillin-LA® shortages

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Penicillin has been regarded as the treatment of choice for syphilis infections since the 1940s. In the United States, penicillin G benzathine intramuscular injection (Bicillin-LA®) has been on intermittent shortage since April 2023, requiring increased utilization of alternative therapies for syphilis. This study aimed to determine if there were differences in rates of treatment success for patients who received penicillin G benzathine versus alternative therapies (i.e. doxycycline) in the emergency department during the Bicillin-LA® shortage. From April 26, 2023, to December 31, 2025, 550 patients were identified as candidates for syphilis treatment. Patients were included if they were deemed to have a new laboratory-confirmed syphilis infection, were 18 years or older, received treatment for their infection at a UCH facility, and had follow up visits and/or laboratory results to confirm outcome of treatment. Patients who were incarcerated or lost to follow up were excluded. The primary outcome was rate of syphilis treatment success in patients who received Bicillin-LA® versus those who received doxycycline for alternative therapy, defined as a four-fold decline in RPR titer over twelve months or less. Demographics, treponemal and non-treponemal laboratory test results, pregnancy status, HIV status, DoxyPEP use, beta-lactam and tetracycline allergies (and associated reactions, if applicable) were collected for each patient. The primary outcome was analyzed using a chi-squared test and Mann Whitney U test. Relevant secondary outcomes will be reported as hazard ratios and descriptive statistics. Of the 102 patients whose outcomes of treatment were available, 83.3%

(n=85) met the definition for treatment success; 50.1% (n=43) were treated with Bicillin-LA® and 30.6% (n=26) were treated with doxycycline, with 18.8% (n=16) receiving an alternate treatment regimen. Nearly two-thirds of patients achieving treatment success were in the early stages of syphilis (65.2%; n=45). 16.7% (n=17) of patients did not meet the definition for treatment success, with 52.9% (n=9) in the Bicillin-LA® group and 35.5% (n=6) in the doxycycline group. 81.4% (n=35) of the patients who received Bicillin-LA® for the treatment of syphilis were not in accordance with UCHealth's criteria for use. These preliminary findings suggest that many patients who could be treated with alternative therapies for syphilis are still receiving Bicillin-LA®, despite a persistent shortage of Bicillin-LA and high rates of treatment success with alternative regimens. Complete results and conclusions will be presented. IRB approved.

Abstract #23 Evaluation of perioperative methylnaltrexone as postoperative ileus prophylaxis in cardiothoracic surgery
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Postoperative ileus (POI) is a clinically relevant complication following cardiothoracic surgery that is associated with increased morbidity, prolonged hospitalization, and increased healthcare costs. Opioid use contributes significantly to POI through activation of peripheral μ-opioid receptors in the gastrointestinal tract. Peripherally acting μ-opioid receptor antagonists (PAMORAs), such as methylnaltrexone, may reduce these effects without impacting central acting analgesia. However, data supporting their use in the cardiothoracic surgery population is currently limited. The objective of this retrospective observational cohort study is to evaluate adult patients undergoing cardiothoracic surgery between February 3rd, 2022, and January 30th, 2024, to assess the impact of perioperative methylnaltrexone administration on postoperative gastrointestinal recovery. Patients were stratified into two cohorts based on receipt of methylnaltrexone. The primary outcome was time to first bowel movement as a marker of postoperative gastrointestinal function. Secondary outcomes include incidence of POI, hospital and ICU length of stay, time to enteral nutrition, need for nasogastric decompression or parenteral nutrition, postoperative opioid utilization, and associated cost outcomes. POI was defined as ≥48 hours without flatus or bowel movement, and intolerance of oral intake in conjunction with radiographic reports consistent with a non-obstructive pattern or intestinal dilation or provider-documented clinical suspicion of POI. Baseline demographics, surgical characteristics, and perioperative variables were collected via electronic health record review. Continuous variables were analyzed using Student's t-test or Wilcoxon rank sum test, and categorical values were compared using chi-square or Fisher's exact test, as appropriate. Multivariate analysis was performed to identify predictors of gastrointestinal recovery and incidence of POI. Results and conclusions will be presented. This project did not require IRB approval.

Abstract #24 Biopsy-proven acute rejection-free allograft survival after kidney transplantation: A retrospective comparison of steroid strategies
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Kidney transplantation is the preferred treatment for patients with end-stage renal disease; however, long-term immunosuppressive therapy, particularly corticosteroids, is associated with significant metabolic and cardiovascular adverse effects. Early steroid withdrawal (ESW) strategies have been adopted in select kidney transplant recipients (KTRs) to reduce steroid-related complications, though concerns remain regarding increased risk of acute rejection. The HCA HealthONE Presbyterian St. Luke's transplant program currently practices ESW in patients with pre-transplant panel reactive antibody (PRA) levels <20%. This study aims to evaluate biopsy-proven acute rejection (BPAR) and clinical outcomes associated with ESW compared with chronic corticosteroid maintenance in KTRs. This single-center, retrospective cohort study will include adult kidney transplant recipients (≥18 years) who underwent transplantation at HCA HealthONE Presbyterian St. Luke's Hospital between January 1, 2019, and December 31, 2024. Patients will be categorized into two groups based on corticosteroid exposure following transplant: early corticosteroid withdrawal (≤7 days of systemic corticosteroids) or corticosteroid maintenance (>7 days). The primary outcome is the incidence of biopsy-proven acute rejection at 1-year post-transplant. Secondary outcomes include BPAR at 3 and 5 years, rejection-free graft survival (RFGS) at 1, 3, and 5 years, estimated glomerular filtration rate (eGFR) at 1, 3, and 5 years, and incidence of post-transplant diabetes mellitus (PTDM) and hypertension occurring >45 days post-transplant. Statistical analyses will include chi-square or Fisher's exact tests for categorical variables and non-parametric methods for continuous variables. Approximately 250 patient records are expected to meet the inclusion criteria. Results are pending and will be evaluated to assess differences in rejection rates, graft survival, renal function, and metabolic complications between the ESW and corticosteroid maintenance cohorts. This study will assess the impact of early steroid withdrawal on rejection risk and long-term clinical outcomes in kidney transplant recipients at a single transplant center. Findings may help inform immunosuppressive strategies and identify patients who may safely benefit from steroid-sparing approaches while minimizing the risk of graft rejection. IRB status: approved

Abstract #25 Colorado health professional students' awareness and perceptions of community pharmacist-provided clinical services
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Community pharmacists in Colorado have an expanding scope of practice that includes prescribing under statewide protocols, point-of-care testing, immunizations, and preventive care services. Despite these advancements, pharmacist-provided clinical services remain underutilized. Limited awareness among other healthcare professionals may contribute to this gap. While previous studies have explored patient perceptions, there is limited research evaluating awareness and perceptions among health professional students, who are future collaborators and referral partners. This study is a statewide, cross-sectional survey evaluating health professional students' awareness and perceptions of community pharmacist-provided clinical services, as well as their willingness to refer patients for these services. A confidential electronic survey was distributed to students enrolled in accredited health professional programs across Colorado. The survey included Likert-scale and closed-ended questions assessing awareness of pharmacist-provided services, perceptions of pharmacist roles and qualifications, and likelihood of referral. Descriptive statistics were used to summarize responses. Data collection has been completed, and data analysis is currently in progress. A total of 105 responses were collected. The majority of respondents were pharmacy students (n=70, 66.7%), followed by nursing (n=16, 15.2%) and physician assistant students (n=10, 9.5%), with limited representation from other disciplines. Preliminary findings indicate higher awareness of traditional pharmacist services, such as immunizations and test-and-treat, and lower awareness of expanded services, including pharmacist prescribing and disease management services. Willingness to refer appears to align with awareness, with higher referral likelihood for more familiar services. Overall, students report positive perceptions of pharmacists as clinical providers, particularly in improving access to care and supporting primary care services, though variability exists in confidence toward pharmacist prescribing roles. Early trends suggest pharmacy students demonstrate higher awareness compared to non-pharmacy students. Preliminary findings suggest that while health professional students generally view pharmacists positively, gaps in awareness of expanded clinical services persist. These gaps may influence

future interprofessional collaboration and referral patterns. Final results will help inform interprofessional education efforts and strategies to enhance integration of pharmacists into team-based care. IRB approved.

Abstract #26 Impact of MRSA polymerase chain reaction (PCR) nasal swab protocol on empiric vancomycin use
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Several studies have demonstrated that MRSA nares screening has a negative predictive value upwards of 95% for pneumonia. Consequently, this test can be used to discontinue anti-MRSA antibiotic therapy. This antimicrobial stewardship (AMS) initiative has the capacity to decrease costs for facilities and patients and lower the risk of adverse events from antibiotic use. Previous studies have demonstrated that utilizing a pharmacist-driven MRSA nares protocol can decrease the duration of vancomycin significantly. At Good Samaritan Hospital, the MRSA nares pharmacist-driven protocol was expanded from restricted ordering by ICU and AMS pharmacists to all pharmacists in March 2023. This is a single center, quality improvement, retrospective pre/post evaluation of patients with a MRSA nares test receiving vancomycin for the indication of pneumonia before and after protocol change. The patient population includes patients 18 years or older who received vancomycin empirically for the indication of pneumonia. Patients who were pregnant, incarcerated, or who had a positive MRSA nares swab were excluded. The study time frame for the two groups was January 1, 2022, to June 30, 2022, for the pre-protocol arm, and January 1, 2024, to June 30, 2024, for the post-protocol arm. The primary outcome is the duration of vancomycin therapy for patients. Secondary outcomes include time from initial vancomycin order to MRSA nares swab order, the time from MRSA nares order to result, number of MRSA nares swabs ordered, percent of patients with same-day discontinuation of vancomycin as MRSA nares result, organisms grown on sputum culture, negative predictive value of the MRSA nares swab, and appropriateness of ordering MRSA screen. Outcomes will be evaluated using a Student's t-test. A safety analysis of how many patients had AKI associated with vancomycin will be assessed with a Chi-squared test. Before exclusion, this total population of participants was 191, with 92 in the pre-protocol group and 99 in the post-protocol group. After exclusion, there were a total of 71 patients in the pre-protocol group and 79 in the post-protocol group. Results and conclusions will be presented. IRB exempt: quality improvement study.

Abstract #27 Evaluation of concomitant aspirin with DOAC therapy at a level 1 trauma center
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Direct Oral Anticoagulants (DOAC) are commonly used for the treatment and prevention of venous thromboembolism and prevention of stroke for patients with atrial fibrillation. Treatment durations range from several months to life-long. Aspirin is an antiplatelet medication which, similarly, is used for the prevention of serious medical events, such as strokes and heart attacks. As part of a dual antiplatelet therapy (DAPT) regimen, it is used in patients with coronary artery disease immediately after revascularization, for the prevention of adverse cardiovascular events. DOACs and aspirin independently increase bleed risk. The 2023 atrial fibrillation guidelines from the American College of Cardiology recommend using anticoagulant monotherapy after revascularization rather than continuing aspirin to reduce bleeding risk. In 2019, a study was published comparing the safety of rivaroxaban monotherapy to aspirin plus rivaroxaban in atrial fibrillation patients who underwent revascularization over a year prior. Researchers found that rivaroxaban monotherapy was superior to combination therapy in its reduced composite risk of strokes, systemic embolisms, myocardial infarctions, and other specified cardiovascular events with increased bleeding and mortality for patients taking aspirin. More recent research published in 2025 found that in patients with high atherothrombotic risk requiring long term anticoagulation and who also had a revascularization procedure over six months prior, the addition of aspirin led to higher risk of a composite of cardiovascular death, myocardial infarction, stroke, major bleeding, and other specified events.
This study will evaluate patients receiving DOACs in our facility who are taking concomitant aspirin and will identify the appropriateness of this dual use. Data will be collected from patients hospitalized during January 2026 who received dual aspirin and DOAC therapy. All patients over the age of 18 who had active orders for a DOAC during this time frame will be included. Appropriateness of dual use will be determined for patients also receiving aspirin. Inappropriate use will be defined as patients with an aspirin indication of chronic coronary disease with revascularization more than 12 months prior.
Our primary objective will be evaluating the proportion of patients using dual therapy of a DOAC and aspirin appropriately. Our secondary objectives are to determine the percentage of patients on DOAC therapy also taking aspirin, and to identify any commonalities of the patients, such as their indication for use or the hospital unit to which the patient was admitted, who are using this dual therapy inappropriately. Results and conclusions will be presented. IRB exemption pending.

Abstract #28 Balancing the bleed: Comparative safety of oral anticoagulants for atrial fibrillation in CKD stage 4 and ESRD
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Direct oral anticoagulants (DOACs) are recommended over warfarin as first-line stroke prevention in patients with atrial fibrillation (AF). Guidelines from Kidney Disease Improving Global Outcomes and the American College of Cardiology and American Heart Association Joint Committee recommend DOACs over warfarin in patients with chronic kidney disease (CKD) stages 1-3. However, recommendations in CKD stage 4, ESRD, and those receiving dialysis are limited and based on low-certainty evidence. Landmark trials evaluating DOACs in AF excluded patients with a creatinine clearance (CrCl) less than 30 mL/min. As a result, anticoagulation in this population remains controversial due to the competing risks of stroke and bleeding. Warfarin and apixaban are considered reasonable options, while data for rivaroxaban and dabigatran remain limited. Available evidence suggests apixaban may have similar stroke risk and lower rates of major bleeding compared to warfarin, although robust data are lacking. This study aims to evaluate current anticoagulant prescribing practices by examining real-world bleeding and stroke events at an urban safety-net institution to inform clinical decision-making and assess patient safety and outcomes. This retrospective cohort study evaluated 92 patients with AF and CKD stage 4, ESRD, or receiving dialysis who were prescribed DOACs (apixaban, rivaroxaban, or dabigatran) or warfarin between January 1, 2020, and January 1, 2025. The primary endpoint was the rate of major bleeding with DOACs compared to warfarin. Secondary endpoints included rates of stroke and clinically relevant non-major bleeding. Bleeding events were defined using the International Society on Thrombosis and Hemostasis (ISTH) guidelines. Patient demographics, CKD stage and progression, pertinent comorbidities (cardiovascular disease, prior bleeding, diabetes, and liver disease), and baseline anticoagulant therapy were collected for all patients. For those with an event, event date, type, description, anticoagulant prescribed at the time of the event, smoking and alcohol status, and reversal agent used were collected. Utilizing a convenience sample, baseline characteristics were analyzed using descriptive statistics. Outcome measures were reported as odds ratios (ORs) with 95% confidence intervals (CIs) and analyzed using a Chi-square test. Results and conclusions will be presented. IRB approved.

Abstract #29 Evaluating the impact of medication for opioid use disorder reinitiation on outcomes in mechanically ventilated critically ill adults

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Opioid use disorder (OUD) is common in critically ill adults. It contributes to medical intensive care unit (MICU) admissions, often due to overdose and respiratory failure requiring mechanical ventilation. From 2009-2015, hospital admissions for opioid overdose increased by 34% and mortality among overdose-related ICU admissions increased from 7% to 10%. Opiates are the primary agent used to achieve analgesia during mechanical ventilation. Opioid tolerance is common in patients on medication for opioid use disorder (MOUD) and often complicates clinical management during mechanical ventilation. Despite this, there is a paucity of data addressing optimal management of this patient population during mechanical ventilation. Specifically, data surrounding the optimal time for MOUD re-initiation is lacking. This retrospective cohort study evaluated 39 MICU encounters from January 2021 to August 2025. Patients were grouped into two cohorts: those reinitiated on MOUD during mechanical ventilation and those who were not. Reinitiation was defined as the resumption of a patient's prior to admission (PTA) MOUD regimen. The primary outcome was hospital-free days between the two previously defined groups. Secondary outcomes included time from admission to MOUD reinitiation, average max rate of opioid infusions while on the ventilator, ventilator-free days, and ICU-free days. Data collected included standard demographics, PTA MOUD regimen, last MOUD dose PTA, reason for mechanical ventilation, weight, serum creatinine, total bilirubin, QTc Interval, Simplified Acute Physiology Score (SAPS2 score), and concurrent illicit drug use. Normality was evaluated using the Shapiro–Wilk test. Continuous variables meeting parametric assumptions were analyzed using paired t-tests, whereas nonparametric data were assessed using Wilcoxon rank-sum tests. Categorical variables were analyzed using chi-square tests. Results and conclusions will be presented. This study was approved by the Institutional Review Board (IRB).

Abstract #30 Sniffing out MRSA: a pharmacist-driven nasal PCR approach to antibiotic de-escalation

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Methicillin-resistant Staphylococcus aureus (MRSA) nasal polymerase chain reaction (PCR) testing is a rapid tool to guide de-escalation of empiric anti-MRSA therapy in hospitalized patients with suspected pneumonia. Colonization of the nares is a recognized risk factor for MRSA pneumonia, and guidelines from the American Thoracic Society and Infectious Diseases Society of America support the use of the nasal PCR to guide antibiotic therapy due to its high negative predictive value. Pharmacist-driven protocols may further optimize antibiotic stewardship by facilitating timely testing and interpretation of results. At UCHealth Memorial Central Hospital, a pharmacist-driven MRSA PCR protocol was implemented in January 2020, allowing pharmacists to order tests when appropriate and recommend therapy adjustments in coordination with the managing provider. A retrospective evaluation of adult patients receiving empiric anti-MRSA therapy for pneumonia was conducted post-implementation from January 2020 to August 2025. Inclusion criteria were adult patients receiving empiric anti-MRSA therapy for suspected pneumonia with a MRSA nasal PCR obtained. Exclusion criteria included pregnant patients, prisoners, patients receiving only a single dose of anti-MRSA therapy in the emergency department, and those who died prior to availability of PCR results. The primary outcome was the total duration of anti-MRSA therapy in patients with suspected pneumonia and a negative PCR result. Secondary outcomes included time from PCR result to antibiotic discontinuation, time from antibiotic initiation to PCR ordering, and ordering provider (MD, DO, PA, NP vs. PharmD). This project did not require IRB approval. Of 500 patients reviewed, 210 received anti-MRSA therapy for pneumonia, and 184 (87.6%) had a negative PCR result. After applying exclusion criteria, 177 patients were included in the primary outcome analysis. The median duration of anti-MRSA therapy was 26.6 hours (IQR 16-45), with 27.3 hours for vancomycin and 24.5 hours for linezolid. The median time from PCR result to discontinuation of therapy was 14.8 hours (IQR 6.7-29.4), and the median time from antibiotic initiation to PCR ordering was approximately 10 minutes (IQR 0-8.9 hours). Pharmacists ordered 25% of PCR tests, with the remainder ordered by providers. Historically, pre-protocol evaluations at the institution demonstrated a median duration of 3 days (IQR 2-4) of anti-MRSA therapy for suspected pneumonia. Compared with this historical data, the pharmacist-driven protocol reduced therapy duration to approximately 1 day. These findings support the effectiveness of pharmacist-driven MRSA PCR protocols in reducing unnecessary antibiotic exposure and enhancing antimicrobial stewardship to improve patient care outcomes.

Abstract #31 Antibiotic duration in intra-abdominal infections: a retrospective evaluation of STOP-IT guidelines adherence and outcomes

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Introduction and background: Complicated intra-abdominal infections increase morbidity and mortality in a surgical patient population. The Strategies to Optimize the Duration of Prophylaxis in Intra-abdominal Infection Therapy (STOP-IT) trial showed that a fixed duration of antimicrobials (4 ± 1 day) was non-inferior to a longer course based on obtaining source control of the complicated infection. Increased prevalence of antimicrobial resistance is associated with unnecessary days of antibiotics. Therefore, the purpose of this review was to assess prescribing practices within UCHealth Memorial Hospital for patients meeting eligibility criteria for the STOP-IT trial. Methods: Data were gathered from a surgery registry at UCHealth Memorial Hospital with intra-abdominal procedures from December 25, 2017 to January 3, 2021. Eligible patients for the study were determined by inclusion criteria for the original STOP-IT trial. Patient data included general demographic information, procedural start and end times, APACHE II scores within 24 hours of the index procedure, antibiotics used, and the indication for use. The primary outcome of this study was the total duration of antibiotics within 4 ± 1 days of source control. Total duration of antibiotics was calculated based on the procedural end time or the antibiotic start time, which was a surrogate for source control of the infection. Secondary outcomes of the study looked at hospital length of stay, intensive care unit length of stay, and mortality corrected with the APACHE-II score within 24 hours of the index procedure using multivariate logistic regression. Continuous data were analyzed using a Wilcoxon rank-sum test and dichotomous data using a chi-square test. Results: 757 eligible patients were identified over the 36-month study period. 271 patients met inclusion criteria for the study. Additional results and conclusions will be presented. This project did not require IRB approval.

Abstract #32 Engraftment syndrome after immune checkpoint inhibitor salvage and autoHSCT in relapsed/refractory Hodgkin's lymphoma

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Engraftment syndrome (ES) is a complication that can occur after hematopoietic stem cell transplantation (HSCT) that is characterized by symptoms like non-infectious fever, rash, weight gain, diarrhea, and pulmonary manifestations such as pulmonary edema. Data suggest that use of immune checkpoint inhibitors (ICI) increases the risk of developing ES post-HSCT, though the data in this setting are limited. This study was a retrospective, single-center, cohort study assessing the incidence and severity of ES when utilizing an ICI as part of salvage therapy compared to chemotherapy alone in adult patients with relapsed/refractory Hodgkin's lymphoma (R/R HL) undergoing autologous HSCT (autoHSCT). Patients were excluded if they had prior immune checkpoint inhibitor exposure for a cancer other than HL and if they were taking corticosteroids chronically defined as at least 10 mg of prednisone equivalents for 3 weeks or longer. The primary outcome was the incidence of ES. Key secondary endpoints included the severity of ES, defined as requiring vasopressor support, aggressive oxygen requirements, or requiring a higher level of care, cumulative steroid dose required for treatment of ES, and the duration of hospitalization. There were 27 patients in the salvage ICI group and 24 patients that received chemotherapy alone. ES occurred in 18 patients treated with an ICI as salvage therapy compared to one patient treated with chemotherapy alone (66.7% vs. 4.2%, p <0.001). Severe ES occurred in 4 patients treated with an ICI whereas no patients in the chemotherapy alone group experienced severe ES (22.2% vs. 0%). Additionally, patients that received an ICI as salvage therapy had a longer median duration of hospitalization compared to chemotherapy alone (21 days vs. 18 days, p = 0.00128). Patients with ES in the ICI group required higher doses of corticosteroids for treatment, though ES only occurred in one patient that received chemotherapy alone (198 mg prednisone equivalents vs 80 mg). This single center cohort study suggests that patients that receive an ICI as salvage therapy for R/R HL have a higher incidence of ES, require high doses of corticosteroids to manage their symptoms, and have a longer duration of hospitalization compared to chemotherapy alone. Future studies should be directed at developing strategies to mitigate the consequences of ES in patients receiving ICI as salvage therapy prior to autoHSCT. This research was approved by the Colorado Multiple Institutional Review Board.

Abstract #33 Risk for gastrointestinal bleeding in patients with traumatic brain injury and spinal cord injury: Evaluation of stress ulcer prophylaxis

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Critically ill patients are at increased risk of stress ulcers, which may lead to clinically significant gastrointestinal (GI) bleeding, increasing hemodynamic instability, transfusion requirements, and worsening outcomes. The Society of Critical Care Medicine recently published guidelines identifying risk factors for stress ulcer development and recommending acid suppressive therapy for prophylaxis in patients with coagulopathy, shock, or chronic liver disease. Neurocritical care patients are thought to be at higher risk due to physiologic changes causing gastric acid hypersecretion; thus, guidelines provide a conditional recommendation for prophylaxis despite low-quality evidence. However, data comparing GI bleeding risk in neurocritically ill versus general trauma populations are limited. Clinically significant GI bleeding is uncommon in critically ill patients without risk factors, with high numbers needed to treat to prevent overt bleeding. Additionally, acid suppressive therapy carries potential risks, including Clostridioides difficile infection and pneumonia. We conducted a single-center retrospective cohort study of adult patients admitted to the surgical ICU from January 2021 to June 2025 to evaluate the risk of upper GI bleeding in patients with traumatic brain injury (TBI) or spinal cord injury (SCI) compared to general trauma patients. The primary outcome was emergent esophagogastroduodenoscopy (EGD) for suspected upper GI bleeding. Secondary outcomes included continuation of acid suppressive therapy at discharge, ICU and hospital length of stay, in-hospital mortality, and adverse effects related to acid suppressive therapy (e.g., C. difficile infection, pneumonia). A total of 2,970 patients were included: 1,510 with TBI/SCI and 1,460 without. Baseline characteristics were similar, though neurocritical care patients had higher injury severity scores and greater use of mechanical ventilation and vasopressors. High-dose NSAID use was more common in general trauma patients. Acid suppressive therapy was prescribed in 39.0% of TBI or SCI patients versus 33.3% of general trauma patients. Emergent EGD occurred in 1.2% of TBI or SCI patients versus 1.6% of general trauma patients (OR 0.72, 95% CI 0.39–1.33). There were no differences in discharge acid suppression or C. difficile infection. Pneumonia was more common in neurocritically ill patients. Mortality and ICU/hospital length of stay were higher in TBI or SCI patients. In conclusion, TBI or SCI alone was not associated with increased risk of upper GI bleeding compared to general trauma patients. These findings suggest TBI or SCI alone may not warrant routine stress ulcer prophylaxis. Institutional review board approval was obtained.

Abstract #34 Assessing treatment initiation following positive FLUVID results

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The FLUVID panel is a multiplex PCR assay designed to detect Influenza A/B, SARS-CoV-2, and RSV. While it is a valuable diagnostic tool for identifying respiratory pathogens, how often it leads to a change in clinical management is unknown. Despite this, approximately 30,000 FLUVID tests are ordered annually within our healthcare system which cost over $2 million, yet it is unknown how often this test is improving care. Positive results may not change management because many patients present outside the recommended treatment window or have mild, self-limited illness and are considered low risk for developing complications. This retrospective observational cohort study included all outpatients with a FLUVID test from July 2022 to June 2025. A random sample of 300 patients were evaluated for presenting symptoms. The primary outcome was the proportion of positive FLUVID tests that led to treatment. Secondary outcomes include clinical factors associated with a positive FLUVID test. Data were obtained through an electronic data pull and manual chart review. The proportion of patients with a positive FLUVID test result who received treatment will be summarized using descriptive statistics. Additional logistic regression models will assess independent predictors of a positive FLUVID test result. Results and conclusions will be presented. This study was approved by the IRB.

Abstract #35 : Influence of antihypertensive agent use prior to kidney donor nephrectomy on post-donation renal function

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Kidney transplantation remains the best long-term solution for most patients with end stage renal disease. However, the average waitlist time for a kidney transplant is 3-5 years. Kidney donation from a live donor not only expands the donor pool and decreases wait time for transplantation but also results in longer graft life when compared to deceased donors. It is important to understand living donor kidney function after donation to ensure donor safety as kidney donor follow-up is less rigorous than recipient follow up post-surgery. This retrospective cohort study identified 734 patients at our center who donated a living kidney from January 2016 to September 2023. There were two cohorts in the study, donors without hypertension and donors with hypertension on at least one but no more than two antihypertensive agents. The primary outcome of the study was to assess the association between serum creatinine post-donation and antihypertensive medication status at the time of donation. Demographics, serum creatinine, eGFR, systolic blood

pressure, and diastolic blood pressure were collected in both cohorts, and antihypertensive medications were collected for the donors with hypertension cohort. Continuous variables were summarized using medians, 25th, and 75th percentiles, and were compared between patients on antihypertensive medications at the time of donation and those not on antihypertensive medications at the time of donation using Wilcoxon rank sum tests. Categorical variables were summarized using frequencies and percentages and compared using Pearson's chi-squared tests and Fisher's exact tests. Results and conclusions will be presented. IRB approved.

Abstract #36 Sodium polystyrene sulfonate (SPS) versus sodium zirconium cyclosilicate (SZC) for the treatment of acute hyperkalemia

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Hyperkalemia is a common, potentially life-threatening electrolyte disturbance that can cause cardiac arrhythmias and other complications. Cation exchange resins, such as sodium zirconium cyclosilicate (SZC) and sodium polystyrene sulfonate (SPS), are utilized to reduce potassium in both emergent and chronic hyperkalemia. Studies directly comparing the efficacy and safety of these agents in the acute setting are lacking. This retrospective chart review compared the potassium lowering effects between SPS and SZC at various time intervals in addition to evaluating adverse effects. Patients were included if they had a potassium >5.0 mEq/L and documented administration of at least one dose of SPS or SZC. Patients with a history of gastrointestinal (GI) obstruction, gastroparesis, or necrosis, as well as those requiring insulin infusions, were excluded. The primary outcome was the percent reduction in potassium at 6 hours. Secondary outcomes included potassium reduction at 12 and 24 hours, use of rescue treatment for hyperkalemia (e.g. repeat doses of pharmacotherapy), and rates of GI complications (necrosis, perforation, or ischemia). In patients with a documented 6-hour potassium level, potassium decreased by 14.3% (± 11.5%) in the SPS group (n=59) compared to 9.46% (± 12.2%) in the SZC group (n=59, mean difference: -4.8%, p=0.03). The percent reduction in potassium remained statistically significant in favor of SPS at both 12 and 24 hours (p=0.002 and p=0.046, respectively). No significant differences were observed between groups in the prevalence of end-stage kidney disease (p=0.147) or in the pre-admission use of medications impacting the renin-angiotensin aldosterone pathway or potassium supplements. SZC patients required rescue therapy significantly more often than SPS patients (50.8% vs. 32.2%, p=0.04). No events of GI necrosis, perforation, or ischemia were noted in either group. Overall, SPS was associated with a greater reduction in potassium and a lower requirement for rescue therapy compared to SZC, with a similar safety profile observed between both agents. These findings contrast with existing literature and suggest that SPS remains an effective option for short term management of acute hyperkalemia management with a similar safety profile to SZC. Further studies are needed to assess effectiveness and safety of potassium binders in the acute management of hyperkalemia. This project did not require IRB approval.

Abstract #37 Improving discharge medication delivery through a Meds-to-Beds program, a retrospective review

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Medication nonadherence following hospital discharge is a well-recognized challenge, often resulting from barriers such as lack of transportation, medication cost, low health literacy, and medication delays. These barriers can contribute to adverse clinical outcomes, including exacerbation of chronic conditions, increased risk of hospital readmission, and mortality. The meds-to-eds (MTB) program is an initiative that aims to simplify the hospital discharge process by providing bedside delivery of prescribed medication. The goal of this study is to evaluate the MTB program and its potential impact on 30-day readmission rates in patients who utilized our discharge services. This retrospective cohort study included adults (≥18 years) admitted to HCA HealthONE Aurora with a hospital stay of ≥24 hours who filled ≥ l discharge medication at HCA HealthONE Centennial Pharmacy. Patients were excluded if they were admitted to HCA HealthONE Mental Health and Wellness Center, HCA HealthONE Spalding Rehabilitation, or emergency departments, planned readmission, discharged to hospice or palliative care, or patients who left against medical advice. Data from January 1, 2023, to January 1, 2025, were collected using an electronic health record (EHR), paper-based logs, Clinical Pharmacist Workflow, and the outpatient pharmacy prescription processing system. Among 310 MTB patients, 90 (29.03%) were readmitted within 30 days, with a mean readmission time of 15.62 days. At discharge, patients received a mean of 3.63 medications, with an average of 2.89 medications newly initiated. Most patients had medication coverage through Medicaid (106, 34.19%), followed by Medicare (75, 24.19%), private insurance (60, 19.35%), cash (57, 18.38%), and charity (12, 3.87%). Pharmacist-conducted medication reconciliation was completed in 30 patients (9.67%) and not performed in 280 (90.32%). Regarding hospital length of stay, the most frequent duration was 2 days (15.48%), with an average of 7.08 days. Cardiovascular (23.87%), infectious (20.96%), and respiratory (10.65%) conditions were the most frequent primary diagnoses. Among readmissions, infectious conditions predominated (24.44%), followed by cardiovascular conditions (15.55%). These findings suggest that optimizing discharge medication services through a MTB program may improve medication access and improve 30 day readmission. This research was supported (in whole or in part) by HCA Healthcare and/or an HCA Healthcare-affiliated entity. The views expressed in this publication represent those of the author(s) and do not necessarily represent the official views of HCA Healthcare or any of its affiliated entities. IRB exempt.

Abstract #38 Effect of dual gabapentin and pregabalin therapy on pain in trauma patients: A retrospective study

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Traumatic injuries frequently result in complex pain syndromes, often with a neuropathic component requiring multimodal analgesia. Gabapentin and pregabalin are commonly used adjunctive agents that bind the alpha-2-delta-1 subunit of voltage-gated calcium channels. Major neuropathic pain guidelines, including those from NICE and the VA, do not recommend their combined use due to concerns of therapeutic duplication and additive toxicity. Despite this, limited evidence suggests potential synergistic analgesia in refractory pain states. The purpose of this study was to evaluate the efficacy and safety of dual gabapentin and pregabalin therapy in adult trauma patients with uncontrolled pain. This was a single-center, retrospective, within-subject cohort study conducted at a level I trauma center. Adult trauma patients admitted between January 1, 2021 and January 1, 2025 who received overlapping gabapentin and pregabalin therapy were included. Given institutional practice favoring gabapentin as the initial gabapentinoid, pregabalin was used as add-on therapy for all included patients. Patients taking both agents as a part of a home regimen were excluded. Patients served as their own controls, with outcomes compared between a gabapentin monotherapy period and a subsequent dual therapy period. The primary outcome was the change in median numeric rating scale (NRS, 0–10) pain scores during gabapentin monotherapy and during dual therapy. Secondary outcomes included the incidence of gabapentinoid-related adverse effects (sedation, dizziness, cognitive impairment, peripheral edema), medication discontinuation due to adverse events, new opioid initiation following dual therapy, and characterization of concurrent analgesic use. Pain scores were compared using the

Wilcoxon signed-rank test, and descriptive statistics were used for safety and exploratory outcomes. All continuous data was analyzed using the appropriate statistical test. Results and conclusions will be presented. This study was deemed as non-human research by the local IRB.

Abstract #39 Clinical outcomes of de-escalation to oral beta-lactams in gram-negative bacteremia or pyelonephritis
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Gram-negative bacteremia and pyelonephritis are associated with significant morbidity, mortality, and healthcare costs, with up to 32% of pyelonephritis cases progressing to bacteremia and in-hospital mortality rates approaching 20%. Previous iterations of the Infectious Diseases Society of America (IDSA) guidelines advised against beta-lactam antibiotics in the treatment of complicated urinary tract infections and pyelonephritis due to unreliable bioavailability, with a preference towards fluoroquinolones or sulfamethoxazole-trimethoprim due to their consistent pharmacokinetic profile. However, the 2025 update to antibiotic management of complicated urinary tract infections published by the IDSA now recommend amoxicillin-clavulanate and other highly bioavailable oral beta-lactams as appropriate treatment options, as emerging evidence suggests appropriately dosed oral beta-lactam antibiotics may offer comparable outcomes to fluoroquinolones or sulfamethoxazole-trimethoprim in this population. This study aimed to evaluate the effectiveness and safety of oral beta-lactam antibiotics compared to other oral step-down agents or continued intravenous therapy in gram-negative bacteremia or pyelonephritis. This was a multi-center, retrospective, observational cohort study conducted from August 2024 to August 2025 across twenty hospitals within a United States community health system. This study included adult patients admitted to acute care or intensive care units with gram-negative bacteremia or pyelonephritis who received at least 3 days of active intravenous antibiotic therapy. Patients were allocated to three groups: 1) those who completed a full course of intravenous therapy, 2) those that stepped-down to oral fluoroquinolones or sulfamethoxazole-trimethoprim, and 3) those that stepped-down to oral beta-lactams. Patients were excluded if pregnant or breastfeeding, neutropenic, had complicated bacteremias in which oral beta-lactams were not indicated, demonstrated resistance to the selected oral agent via susceptibility testing, were transitioned to hospice, or deceased prior to follow-up completion. The primary outcome was the rate of antibiotic-free days at 60 days post-discharge. The secondary efficacy outcome was antibiotic-free days at 90 days. Safety outcomes of antibiotic-related adverse events were assessed, which included tendinopathy, QTc prolongation, nausea or vomiting, and Clostridioides difficile infections. Data was collected via the electronic medical record alongside external prescription and medical records. Appropriate statistical tests were utilized for parametric and non-parametric continuous data along with nominal outcomes. Results and conclusions will be presented. This study was deemed as non-human research by the local IRB.

Abstract #40 From critical to calm: a pharmacist-led initiative to deprescribe ICU-initiated quetiapine
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Quetiapine is frequently initiated off-label for the management of ICU delirium despite limited evidence supporting its continuation after resolution of acute symptoms. Continued use beyond the ICU may contribute to unnecessary antipsychotic exposure, increased risk of adverse effects, and polypharmacy during transitions of care. This quality improvement initiative evaluated the impact of a pharmacist-driven intervention to deprescribe quetiapine prior to transfer to the general medical floor or hospital discharge. This pre–post interventional study included adult ICU patients initiated on quetiapine for delirium management. The pre-intervention phase (July 1, 2025 to September 30, 2025) assessed baseline prescribing patterns. The post-intervention phase (October 1, 2025 to December 31, 2025) involved pharmacist-led review with i-Vent documentation and recommendations for dose reduction or discontinuation when clinically appropriate. A total of 36 patients were included in each group after applying inclusion criteria. Collected variables included patient demographics, duration of quetiapine therapy in the ICU and on general medical floors, and delirium and sedation assessments using CAM-ICU and RASS. The primary outcome was the percentage of patients with quetiapine discontinuation or dose reduction after ICU transfer. Secondary outcomes included time from ICU transfer to discontinuation, percentage of patients discharged on quetiapine, and incidence of delirium recurrence or agitation after discontinuation. Primary outcomes were analyzed using chi-square testing; secondary outcomes were evaluated using Mann–Whitney U testing and logistic regression. The percentage of patients with quetiapine discontinuation or dose reduction was higher in the post-intervention group compared to pre-intervention (78% vs 14%, $\chi^2 = 29.6$, $p < 0.001$). Time from ICU transfer to discontinuation showed a non-significant trend toward reduction ($p = 0.089$), and discharge on quetiapine was reduced (OR 0.10). No cases of delirium recurrence or agitation were observed in the post-intervention group. These findings highlight the role of pharmacist-led interventions in improving antipsychotic stewardship and reducing unnecessary medication use during transitions of care. This project did not require IRB approval.

Abstract #41 Optimizing intravenous iron use in postpartum anemia
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Intravenous (IV) iron use in postpartum patients has increased across UCHealth Northern Colorado hospitals. A review of utilization patterns identified opportunities to better align practice with guideline-supported criteria. Current literature supports oral ferrous sulfate as first-line therapy for most patients with postpartum iron deficiency anemia. IV iron is generally reserved for patients with more severe anemia or when oral iron therapy is not tolerated or unlikely to be effective This was a retrospective observational cohort analysis was conducted across UCHealth Northern Colorado hospitals between January 1 and June 30, 2025 to evaluate the appropriateness of IV iron use in postpartum patients admitted to women's care and birthing units. Appropriateness was assessed using guideline-supported criteria, including hemoglobin ≤9 g/dL, symptomatic anemia, or documented intolerance to oral iron therapy. A total of 98 unique patients met study inclusion criteria. Among these patients, 15.3% (n=15) received IV iron despite hemoglobin >9 g/dL and no documented symptoms of anemia. These findings suggest opportunities to improve alignment of IV iron use with guideline-based criteria and highlight potential benefits from standardized prescribing or documentation practices. Strategies to inform prescribing may include EHR use criteria, provider education, automatic pharmacist conversion to PO if criteria not met, or improved documentation of symptoms supporting IV iron use. Results and conclusions will be presented. IRB exempt.

Abstract #42 Improving utilization of grant-funded naloxone in the women's care unit and emergency department
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In 2025, the CDC reported 54,743 opioid overdoses nationally. The Naloxone Project is a non-profit that started in Colorado in 2021 to provide at-risk patients with naloxone. In 2022, UCHealth Poudre Valley Hospital (PVH) partnered with The Naloxone Project to provide naloxone through the emergency department (ED). In 2023, the focused post-partum subset, Maternal Overdose Matters (MOMs), was added to the project. A medication use evaluation (MUE) of grant naloxone utilization for patients receiving an opioid prescription of ≥ 50 morphine milligram equivalents (MME) or being treated for an opioid overdose in the ED or Women's Care Unit (WCU) was completed. Patient risk factors [diagnosis of substance used disorder (SUD), history of overdose, recent dispensing in the last 6 months of an opioid or benzodiazepine through the Prescription Drug Monitoring Program (PDMP)] were conducted for UCHealth PVH. Results showed underutilization, with only 26% of patients who met the above criteria for receiving grant-funded naloxone. Following the MUE results, strategies for improving dispensing were developed. Planned updates to the Electronic Health Record include changing the frequency from PRN to PRN prior to discharge to flag the discharging nurse to dispense the medication and adding administration instruction for the discharge nurse to ensure the naloxone is dispensed appropriately. A few other strategies included distributing nursing education and for the WCU pharmacist to attend morning huddle and discuss patients who qualify for the naloxone grant. Following implementation, comparisons will be made with naloxone-dispensing rates to the above defined high-risk groups. Results and conclusions will be presented comparing results from the prospective study to the prior MUE. IRB exempt.

Abstract #43 Comparison of home administration verse clinic administration of pegfilgrastim, filgrastim, and biosimilars
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Chemotherapy induced neutropenia occurs in up to 80% of patients receiving myelosuppressive therapy, significantly increasing their risk for serious infections such as febrile neutropenia, pneumonia, and sepsis. To mitigate these risks, granulocyte colony stimulating factors (G-CSF) are administered at least 24 hours after chemotherapy to stimulate white blood cell production and reduce the likelihood of neutropenic complications. A study reported a 6-10% incidence of febrile neutropenia among patients receiving pegfilgrastim via on-body injectors or other biosimilar prefilled devices. There is recent research that evaluated the impact on G-CSF effectiveness in patients receiving G-CSF at home that resulted in favorable outcomes to home administrations. Following this research, insurances companies have started requiring pegfilgrastim, filgrastim and other biosimilars to be administered at home instead of administering in the infusion centers by a nurse. In some instances, patients receive their first dose in clinic then the subsequent doses must be scheduled for delivery to the clinic then given to the patient to be administered at home. Depending on the insurance, they may require the G-CSF to be filled at the insurance preferred specialty pharmacies rather than one of the patients choosing. Our cancer center has implemented a process where the pharmacy team orders G-CSFs ahead of time for the patients to reduce the opportunities for delays in future chemotherapy cycles. However, there are still areas for process improvement to reduce adverse events and other unidentified areas that could delay care. This retrospective study evaluated over 100 patients that had a prescription for pegfilgrastim, filgrastim, or biosimilar. Patients were selected through a stratified randomization process allowing for an equal number of patients receiving their medication at home and in the clinic. The study includes patients at Intermountain Peaks Region Cancer Centers of Colorado that received at least three administrations pegfilgrastim, filgrastim or biosimilar between January 2023 to July 2025. The primary outcome evaluated will be a composite outcome of adverse events, such as pneumonia, sepsis, and neutropenic fever. The other primary outcome that will be evaluated is delays in care, such as a delay in the patient's chemotherapy cycle or patients needing a dose adjustment due to neutropenia. Results and conclusions will be presented. IRB approved.

Abstract #44 MRSA nasal screening-guided antibiotic de-escalation in skin and soft tissue infections
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Skin and soft tissue infections (SSTIs) are among the most common bacterial infections in the United States, with methicillin-resistant Staphylococcus aureus (MRSA) representing a significant proportion of causative pathogens. While empiric anti-MRSA therapy remains a cornerstone of initial SSTI management, its overuse exposes patients to unnecessary risks including nephrotoxicity and Clostridioides difficile infection while contributing to antimicrobial resistance. MRSA nasal colonization screening is well-established as a stewardship tool in pneumonia, where negative predictive values (NPVs) consistently exceed 95-98%, but supporting evidence in SSTIs remains limited, with prior studies reporting NPVs of 72.8-97.5% and sensitivities of 57.7-81%. Given a local institutional MRSA prevalence of 33.8%, this study aims to evaluate the predictive performance of MRSA nasal screening for MRSA SSTIs at Presbyterian St. Luke's Hospital to inform future stewardship strategies. This single-center, retrospective, observational chart review will include adult patients (≥18 years) hospitalized between January 2024 and December 2025 with a documented SSTI, empiric anti-MRSA therapy initiated within 72 hours, and both MRSA nasal screening and wound/tissue/aspirate culture obtained during the same encounter. Patients with surgical site infections, infections involving implanted hardware, unavailable MRSA susceptibility data, or repeat encounters within 30 days will be excluded. A target sample size of approximately 104 patients was calculated to achieve adequate precision for sensitivity and specificity estimation (±10% margin of error, 95% CI) based on the institutional MRSA prevalence. This study is currently pending IRB approval; following approval, patients will be identified via VigiLanz Clinical Pharmacist Workflow microbiology results reports and confirmed through MEDITECH electronic health record review. The primary outcome is concordance between MRSA nasal screen and wound culture results, quantified by sensitivity, specificity, positive predictive value (PPV), and NPV. Secondary outcomes include re-escalation rates, anti-MRSA days of therapy, time to de-escalation, length of stay, and incidence of anti-MRSA-related adverse events. Results and conclusions will be presented at the 2025 CPS Residency Conference of the Rockies.

Abstract #45 Vancomycin vs. linezolid as first line option for elevated vancomycin MIC MRSA ventilator-associated pneumonia
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Methicillin-resistant Staphylococcus aureus (MRSA) is an opportunistic pathogen that causes pneumonia, and as more antimicrobial resistance to vancomycin emerges, MRSA with an elevated vancomycin MIC (evMRSA) ventilator-associated pneumonia (VAP) has become a clinical challenge. A

vancomycin minimum inhibitory concentration (MIC) above 1 µg/mL can result in slower clinical responses, higher treatment failure rates, and increased mortality, even with a susceptible MIC. The Infectious Diseases Society of America (IDSA) recommends vancomycin or linezolid as first-line therapy for VAP, and states that with rising vancomycin resistance, patients with elevated vancomycin MICs may warrant consideration of alternative agents, especially with insufficient clinical response. The primary objective of this multi-center, retrospective cohort study was to determine whether vancomycin should continue to be used in instances of evMRSA VAP, or if patients should be switched to linezolid immediately upon susceptibility results to achieve a better clinical outcome. Adult patients were enrolled between January 1, 2020 and December 31, 2025. Exclusion criteria included patients who were immunocompromised, had a coinfection with a pathogen other than Staphylococcus aureus, or had a concomitant infection from a source other than VAP. Patients were included if they were treated with vancomycin or linezolid for a minimum duration of 5 days. Patients who received both medications were placed in the group of the medication they were treated with for greater than 50% of the antibiotic course. The primary endpoint was the incidence of recurrent MRSA pneumonia in the same admission, defined as a subsequent MRSA positive respiratory culture at least 7 days from the initial positive culture in a patient that was previously clinically improving. Secondary endpoints included the number of ICU-free days, ventilator-free days, hospital-free days, antibiotic-free days, and incidence of ED visits/readmission related to the original VAP within 30 days of antibiotic treatment. Potential patients were identified using ICD10 codes for both pneumonia due to MRSA and VAP, then a manual chart review was performed to identify study patients by assessing the vancomycin MIC on the susceptibility report of the positive MRSA respiratory culture. All data was analyzed using appropriate statistical tests. Results and conclusions will be presented at time of conference. This study was deemed as non-human research by the local IRB.

Abstract #46 Training, well-being, and growth from graduation to practice

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Community-based (CB) pharmacy residencies have evolved significantly over the past decades, playing a crucial role in enhancing pharmacists' clinical skills and preparing them for expanded patient care roles; however, match rates have declined, with unfilled PGY1 positions increasing from 2021 to 2024–2025, and limited research exists evaluating the long-term impact of these programs. This study examines the longitudinal impact of completing a PGY1 community-based pharmacy residency on pharmacists' career trajectories, compensation, and well-being compared with pharmacists without postgraduate training. A cross-sectional, survey-based study was conducted among pharmacists who completed a PGY1 community-based (PGY1-CB) residency and pharmacists with no postgraduate training (NO-PG) using validated questions from selected domains of the NIOSH Worker Well-Being Questionnaire. The survey assessed career trajectory, compensation, and well-being and was distributed to CB residency program directors through email communication and social media. Cohorts of PGY1-CB trained pharmacists and NO-PG pharmacists were formed. Participants included pharmacists in the United States working in pharmacy-related positions; pharmacists who completed postgraduate training that did not include a PGY1-CB or who were not employed in a pharmacy-related role were excluded. Demographic data were collected, all responses were deidentified, and descriptive statistics and comparative analyses using t-tests were planned. Institutional Review Board approval was granted in December 2025. Data collection occurred from January through April 2026, and results are expected to be available for dissemination in late April 2026. This study aims to provide insight into the long-term career outcomes of PGY1-CB residency graduates, including professional opportunities, compensation, and overall well-being, to better inform prospective residents, program directors, and others regarding the value of community-based pharmacy residency training.

Abstract #47 Early versus late sodium-glucose cotransporter-2 inhibitor initiation in solid organ transplant recipients

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Sodium-glucose cotransporter-2 inhibitors (SGLT2i) are increasingly utilized for their cardiovascular and renal benefits. However, their safety in solid organ transplant (SOT) recipients, particularly in the early post-transplant period, remains unclear. This study aimed to evaluate the safety of SGLT2i initiation following SOT, with a focus on timing of initiation across the post-transplant continuum, including comparisons within the first year post-transplant versus later initiation, as well as relative to patients not receiving SGLT2i. We conducted a retrospective cohort study of adult kidney, liver, heart, lung, pancreas, and multi-organ recipients transplanted between January 1,2022 to December 31, 2025, at a single academic medical center. Patients were categorized based on timing of SGLT2i initiation across clinically relevant post-transplant intervals, including within and beyond one year following transplant. Safety outcomes included incidence of and time to diagnosis of urinary tract infection (UTI), pyelonephritis, fungal infection, ketoacidosis, and acute kidney injury (AKI). SGLT2i initiation was modeled as a time-dependent covariate using Cox proportional hazards models. Among 1,941 transplant recipients, 282 (14.5%) received an SGLT2i post-transplant. Preliminary analyses suggest similar rates of UTI across groups, with other adverse events remaining infrequent. In unadjusted Cox models with time-dependent ordering of SGLT2i, we found start of SGLT2i was associated with higher likelihood of ketoacidosis (HR = 3.29, 95% CI: 1.51, 7.20). When evaluating only patients with a diagnosis of diabetes, the relationship was no longer statistically significant. These initial results suggest that SGLT2i use, including within the first year post-transplant, should be considered given the cardiovascular and renal benefits associated with these agents long term while balancing risk of adverse effects, including monitoring for ketoacidosis. Additional analyses are ongoing, and complete results will be presented. This study was reviewed by the institutional review board and deemed exempt.

Abstract #48 Pharmacist-led transition to automated insulin delivery: Assessing the patient experience behind the technology and impact on diabetes distress

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Managing diabetes can be overwhelming for patients, often leading to emotional exhaustion and a sense of being consumed by the condition. For many, switching from multiple daily injections to a system that automatically responds in real time—integrating with a continuous glucose monitor (CGM)—may alleviate some of that burden and reduce diabetes-related distress. While improvements in glycemic control from automated insulin delivery are well understood, there is a gap in research quantifying whether these clinical gains translate to meaningful reductions in diabetes distress. This prospective cohort study employed the Diabetes Distress Scale (DDS-17) for pre- and post-assessment of transitioning to an automated insulin delivery system in patients 18 years and older with type 1 or type 2 diabetes mellitus. Demographics, duration of diabetes, A1c, and comorbidities were collected for each patient. Results and conclusions will be presented. This study has been reviewed by the Colorado Multiple Institutional Review Board and given an exemption status.

Abstract #49 Implementation of extended infusion ampicillin/sulbactam at a single site

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Antimicrobial resistance continues to rise in the United States, as reported by the Centers for Disease Control and Prevention (CDC). This growing resistance not only limits the effectiveness of narrow-spectrum therapies but also contributes to longer hospital stays and increased healthcare burden, underscoring the urgent need to optimize the use of existing antibiotics. This study seeks to evaluate the implementation of an extended infusion regimen of ampicillin/sulbactam at Lutheran Hospital. Beta-lactam antibiotics exhibit time-dependent activity and effectiveness improves when serum concentrations remain above the minimum inhibitory concentration for a greater portion of the dosing interval, a goal which is supported by prolonged infusion strategies. At Lutheran Hospital, the change in ampicillin/sulbactam infusion time was enacted through caregiver education. Pharmacy caregivers were educated and instructed that all previously intermittent 30-minute infusions of ampicillin/sulbactam should be changed to be administered as follows: an initial 30-minute loading dose, followed by 4-hour extended infusions. The dosing intervals remained consistent with the existing renal dosing protocol outlined by Intermountain Health so that the total daily dose remained the same. Two cohorts were analyzed: one from December 1, 2024, to April 30, 2025, prior to extended infusion implementation, and another from December 1, 2025, to April 30, 2026, following the adoption of extended infusion ampicillin/sulbactam. Patients included were those admitted to Lutheran Hospital who received at least 48 hours of ampicillin/sulbactam. The primary outcome assessing feasibility and safety was the incidence of adverse drug events (ADEs) and therapy modifications, including the reasons for those changes, comparing the pre- and post-implementation periods. Secondary outcomes were exploratory and evaluated clinical measures including mortality, hospital length of stay, ICU length of stay, and duration of antibiotic therapy. This project was reviewed by IRB and determined to be exempt. At the time of abstract submission, data analysis was ongoing. Results and conclusions will be reported

Abstract #50: Improvement of testosterone lab draw timing

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This project sought to improve the appropriateness of lab draws for patients receiving or considering testosterone replacement therapy (TRT) at the Cheyenne Veterans Affairs Health Care System (CVAHCS). The timing of testosterone laboratory testing is important to ensure appropriate diagnosis and safe monitoring and management of TRT in Veterans. The National VA Criteria for Use for Testosterone Replacement Therapy (TRT) in Adult Men states that laboratory testing should be done between 8 AM and 10 AM with the patient in a fasted state. Using a pre/post implementation project design, inclusion criteria consisted of biological male patients at the CVAHCS with testosterone levels drawn from 7/1/2025 to 12/31/2025 before education was given to provider and lab staff compared to biological males with levels drawn after education. The primary endpoint will be the change in proper lab timing incidence post-education of providers and lab staff. Proper timing is defined as testosterone levels drawn between 8 AM and 10 AM. Due to limitations in determining fasting status via the electronic health record (EHR), time since last meal will not be analyzed. Objective analysis will consist of percentage change in appropriately timed testosterone labs. Confounders that may impact data include improper entry of lab draw time into EHR by lab staff, patient availability, willingness of providers to educate patients on importance of lab timing and laboratory staffing issues. Statistical analysis of the primary endpoint will be performed using a Chi-Square Test. A One-Sample Student T-Test will be used to analyze the secondary endpoint. Initial timing sample data analysis prior to project implementation indicated that 54% of testosterone labs were drawn outside of the required timing window. Preliminary post-implementation data indicates 37% of testosterone labs were drawn outside the required timing window, a 31.4% improvement, with additional provider education and feedback ongoing. Results and conclusions will be presented. No IRB required.

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Multiple guidelines recommend the use of intravenous beta-blocking (BB) agents or nondihydropyridine calcium channel blockers (non-DHP CCB) as first line agents for heart rate control. While both diltiazem and metoprolol are acceptable options for rate control, in the setting of atrial fibrillation (AFib) with rapid ventricular rate (RVR), diltiazem's non-DHP CCB blocking action leads to a faster onset and a more significant reduction in heart rate. The relationship between blood ionized calcium level and effectiveness of diltiazem versus metoprolol in the acute treatment of AFib with RVR has not been investigated thoroughly. This retrospective observational cohort study evaluated the treatment response of 242 patients in Afib with RVR treated with diltiazem or metoprolol at differing calcium levels between January 2021 and July 2025. Objective response in the two treatment arms of diltiazem and metoprolol was evaluated at high, normal, and low ionized calcium levels based on laboratory reference ranges set by the institution. Objective response was defined as an existing heart rhythm that returned to sinus rhythm, a heart rate that decreased to below 110 beats/min within 30 minutes of administration, or a heart rate that decreased >20% if it was below 120 beats/min. Age, sex, weight, comorbidities, doses of diltiazem and metoprolol, ionized calcium levels, albumin levels, home medications, heart rate, blood pressure, and responses at 60, 90, and 120 minutes were recorded for each patient. Continuous variables with a normal distribution will be presented as mean ± standard deviation and compared using a two-sided t-test. Continuous variables with a non-normal distribution will be reported as median (interquartile range) and analyzed using the Wilcoxon Rank-Sum test. Categorical variables will be compared using the chi-square test or Fisher’s exact test, as appropriate. Results and conclusions will be presented. The study was determined to be exempt from local Institutional Review Board approval.