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Research Trainee Award Finalists

Evaluation of Paliperidone Palmitate Loading Doses in Adult Patients With Reduced Versus Normal Renal Function at a Stand-Alone Psychiatric Hospital

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Type: Original research. **Purpose:** Limited data exists for monthly paliperidone palmitate use in patients with reduced renal function (RRF). The package insert (PI) provides dose-reduction strategies based on oral pharmacokinetic data. Whereas a reduced loading dose strategy is recommended in RRF, adherence to this guidance varies. The risk of extrapyramidal symptoms (EPS) with RRF is unclear compared with normal renal function (NRF). This study aims to assess the incidence of EPS for patients initiated on paliperidone palmitate in RRF compared with NRF. **Methods:** This institutional review board–approved, single-center, retrospective review included adult patients admitted from July 1, 2020, to June 30, 2022, who received 2 loading doses of paliperidone palmitate. The RRF group included patients with a creatinine clearance (CrCl) $<$ 80 mL/min before the first loading dose. Patients were excluded if CrCl could not be calculated or if only a maintenance dose was administered during admission. The primary outcome was the incidence of EPS after the first loading dose, which was confirmed through chart review and administration of a medication to treat EPS. Secondary outcomes included readmission rates and prescription fill history for paliperidone palmitate within 90 days of discharge. **Results:** This study included 163 patients (RRF = 18 and NRF = 145). Patients with RRF were 48.5 years old (interquartile range [IQR]: 42.75, 55.75) with a median CrCl of 68.15 mL/min (IQR: 62.31, 73.32). Patients with NRF were 30 years old (IQR: 24, 38) with a median CrCl of 117 mL/min (IQR: 102.1, 132.5). Adherence to PI recommendations for those with RRF was 33.33% (6 out of 18 patients received reduced loading doses). The incidence of EPS for those with RRF was 11.1% versus 22.38% for those with NRF. Akathisia was the most common EPS in both groups. The 90-day readmission rates were 16.67% for patients with RRF and 12.41% for patients with NRF. Paliperidone palmitate dispensed 90 days after discharge was 38.89% in patients with RRF and 31.03% in patients with NRF. **Conclusions and Future Directions:** EPS incidence did not differ between RRF and NRF groups. Further research is needed to determine the safety of traditional loading doses of paliperidone palmitate in RRF.

Retrospective Study of Neuropsychiatric Hospitalizations in Patients Receiving Montelukast Versus Loratadine for Allergic Rhinitis in a Veterans Affairs Population

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Type: Work in progress. **Background:** In the United States, allergic rhinitis (AR) is the fifth most common chronic disease and contributes to impaired quality of life and productivity. Four medication classes (intranasal steroids, oral antihistamines, intranasal antihistamines, and leukotriene receptor antagonists [LTRAs]) are utilized in AR treatment. Montelukast is the only FDA-approved LTRA for AR. In 2020, post-marketing surveillance prompted the FDA to issue a black box warning about potential serious mental health outcomes associated with montelukast use. However, current evidence is mixed with randomized controlled studies reporting mild infrequent events and post-marketing safety signals indicating various severe neuropsychiatric outcomes. **Objectives:** (1) Determine whether montelukast has an increased risk of neuropsychiatric hospitalizations compared with loratadine in adults with allergic rhinitis at a large academic Veterans Affairs medical center. (2)

Determine the incidence of ED visits, incidence of mental health same-day access visits, incidence of non-psychiatric hospitalizations, number of discontinuations due to any adverse effect, and subgroup analysis of the primary endpoint. **Methods:** This institutional review board–approved retrospective chart review will include adult patients who received montelukast for AR at a Veterans Affairs medical center between January 1, 2023, and June 30, 2023. The control group will include patients who received loratadine within the same time period. Nonveteran patients, patients with a history of asthma or who received an asthma diagnosis during the study period, patients with dyspnea, pregnant patients, patients with a substance use disorder (except tobacco use disorder), and patients utilizing other AR medications will be excluded. Demographic information (age, sex, race, ethnicity) will be collected. Other pertinent data to be collected include the number of psychiatric hospitalizations/visits in the previous year (2022), average duration of montelukast or loratadine use, and mental health diagnoses. Descriptive statistics and regression models will be performed to examine factors associated with the likelihood of psychiatric hospitalization. An odds ratio with 95% confidence intervals will be calculated for the primary endpoint. **Outcomes:** We will determine the incidence and likelihood of neuropsychiatric hospitalization during and 6 months post-use of montelukast versus loratadine. Through secondary endpoints, we will inspect each agent's effect on other mental health safety outcomes.

Health Equity Award Finalists

Evaluating the Administration of 1-Time Order Intramuscular Antipsychotics Among Different Racial Groups Within Adult Inpatient Psychiatric Units

Chandler Chapman[1]; Miranda Stratton, PharmD, BCPP[1]; Jessica Karthan, PharmD[1]; Joseph Cameron Mitchell, PharmD, BCPS, BCPP[1]; Elizabeth Taber, PharmD, BCPP[1]; Tyehimba Hunt-Harrison, MD, MPH[2]

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Type: Work in progress. **Background:** Inpatient psychiatric settings often employ intramuscular (IM) antipsychotics to mitigate acute agitation or aggression in patients at imminent risk of harming themselves or others. This reduces reliance on physical restraints and associated risks, such as injury and additional psychological distress. Whereas they are an essential tool in psychiatric emergencies, IM antipsychotics carry significant risks, including extrapyramidal symptoms and cardiovascular complications as well as concerns around patient autonomy and treatment perception. Despite their widespread use in inpatient settings, research on racial and ethnic differences in IM antipsychotic administration remains limited. This is particularly concerning as health disparities contribute to elevated rates of cardiovascular disease and diabetes among patients of color, subsequently increasing their risk of adverse outcomes. Furthermore, the American Psychiatric Association has long documented systemic racism and significant treatment disparities in mental health care, highlighting the need for more research on potential differences in IM antipsychotic administration among different race or ethnicities while inpatient. **Objective:** To identify potential differences in IM antipsychotic exposure for the treatment of agitation or aggression (eg, total doses received, frequency of administration) that may pertain to patient race or ethnicity. **Methods:** This institutional review board–approved, retrospective chart review will be conducted at a large academic medical center. This medication use evaluation will include adult inpatients ($\geq$ 18 years) admitted to adult inpatient psychiatric units between January 1, 2018, and December 31, 2023, who received IM antipsychotic injections (olanzapine, ziprasidone, chlorpromazine, haloperidol, fluphenazine) for agitation or aggression. Exclusion criteria includes patients $<$ 18 years old, those with an eating disorder, those under the care of the eating disorder unit, and patients who are pregnant. Demographic information (age, gender, race, ethnicity, body mass index) will be collected, along with relevant data on number of maintenance psychiatric medications, length of admission, and IM antipsychotic(s) dosage and frequency. Statistical analysis will include descriptive statistics to characterize patient demographics, Mann-Whitney U tests to compare differences between racial and ethnic groups, and Fisher exact tests to assess significance of identified differences. **Outcomes:** This evaluation will report the demographics of patients who received 1-time IM antipsychotics and explore any racial or ethnic differences in administration of these medications.

Impact of Social Determinants of Health on Escalation to Antipsychotic Polypharmacy in Outpatient Mental Health Clinics

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Type: Original research. **Purpose:** Recommendations for antipsychotic polypharmacy (APP) are exclusive to schizophrenia guidelines, which cite weak and inconsistent evidence regarding possible benefits. Although the risks associated with APP are shown to outweigh the benefits in most cases, APP is still used in clinical practice. This project describes the incidence of select social determinants of health (SDoH) in patients prescribed APP at 1 health care

system and determine if there are SDoH associated with rapid escalation from antipsychotic monotherapy to APP. **Methods:** This is a retrospective, quality improvement project. Chart reviews were performed on patients prescribed at least 2 unique, active, scheduled antipsychotic prescriptions. Data collected included baseline characteristics, pertinent mental health and antipsychotic history, and the following SDoH: trauma history, education or literacy, housing insecurity, and limited access to health care and government support. Rapid escalation to APP was defined as less than a 4-week trial of the primary antipsychotic before a second antipsychotic was added. Data was analyzed utilizing descriptive statistics and χ^2 tests. **Results:** A total of 105 patients were included. The average age at which patients were initiated on APP was 50 years old ($SD = 14.4$). Eighty-four percent of patients were male, and 57% identified as a minority race. On average, patients trialed 1 antipsychotic ($SD = 1.36$) before progressing to APP. Sixty-three percent were diagnosed with schizophrenia spectrum or other psychotic disorders (SSPD), 10% of patients were not diagnosed with a psychotic disorder but exhibited psychotic features, and 27% of patients did not exhibit psychotic features. Results showed that patients with a lower tier of health care coverage, as defined by the Veterans Affairs Service Connection, were more likely to be rapidly escalated to APP ($P = .023$). **Conclusions:** There appears to be an association between a lower tier of health care coverage and rapid escalation to APP. Whereas not significant, trends suggest that factors such as older age, lower level of education, and higher acuity mental health diagnoses may predispose patients to more rapid escalation to APP. Interestingly, more than one third of patients were escalated to APP despite a lack of SSPD diagnosis. Identifying these SDoH aims to increase conscientious prescribing among providers considering APP.

Innovative Practices Award Finalists

Impact of a Pharmacy Mental Health Practitioner on an Inpatient Psychiatry Consultation Liaison Service

Harrison Ferro, PharmD, BCPP

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Type: Innovative practices. **Background:** Mental health clinical pharmacist practitioners (MH CPP) are licensed pharmacists with advanced training in mental health treatment. MH CPPs increase mental health care access and reduce health care costs. No literature exists assessing the impact of MH CPPs within an inpatient mental health consult liaison (CL) service. The goal of this study was to identify the impact of integrating an MH CPP into an inpatient psychiatry CL service. **Description of Innovative Service:** An MH CPP was integrated into a psychiatry CL team providing mental health services to patients admitted to an inpatient medical unit. The MH CPP completed a psychiatric interview, reviewed past medical and psychiatric history, and provided recommendations for psychiatric medications. To assess the impact of the service, a retrospective review of patients encountered by a MH CPP between September 1, 2023, and August 31, 2024, was completed. Results were collected through electronic health record–generated reports and chart review. **Impact on Patient Care:** The MH CPP evaluated 306 of 1032 total mental health consults during the study period. There were 586 encounters by the MH CPP between initial and follow-up encounters, of which 378 were seen without a psychiatrist. This estimated 252 hours of patient encounters, approximating 1 to 2 hours of saved psychiatrist time per day. There were 1552 medication recommendations provided. The most common medication recommendations included use of antidepressants (378), antipsychotics (366), and medications for substance use disorders (310). There were 860 nonpharmacologic interventions, most of which included medication monitoring (325). **Conclusion:** An MH CPP successfully integrated into an inpatient psychiatry CL service. A majority of mental health consults were seen independently without a psychiatrist. This demonstrates expanding access to mental health services offered by an MH CPP. An MH CPP was able to save valuable psychiatrist time. This allowed for a psychiatrist to devote additional time to patient care, and there is currently a national shortage of psychiatrists. This project demonstrates the need to expand MH CPP services and serves as a model for replication in other health care systems.

Original Research Award Finalists

Potential Inpatient Cost Savings Using Subcutaneous Risperidone ER Versus Paliperidone Palmitate Based on Prescribing Trends of Oral Risperidone

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Type: Original research. **Background:** The available comparative literature on the inpatient initiation of long-acting injectable antipsychotics (LAI-A), specifically intramuscular paliperidone palmitate once monthly (PP1M) and subcutaneous risperidone (SC-RLAI), remains limited. As a

result, differences in drug costs may play a pivotal role in guiding hospital pharmacy and therapeutics committees when selecting a preferred LAI-A. **Objectives:** Evaluate the oral risperidone dosages used prior to inpatient initiation of PP1M to assess whether dose-equivalent SC-RLAI initiation could serve as a viable alternative preferred formulary option. Additionally, the study aims to estimate potential cost savings if PP1M initiations were substituted with equivalent SC-RLAI doses in the inpatient setting. **Methods:** This was a single-center retrospective exploratory analysis utilizing hospital data from September 1, 2020, to February 29, 2024. Total daily doses of oral risperidone used in the day prior to PP1M conversion in the inpatient setting were collected by chart review. Drug acquisition costs were estimated based on drug compendia databases. The primary outcome was the predicted annualized drug acquisition cost savings in US dollars if each PP1M initiation was replaced with an equivalent SC-RLAI. Secondary outcomes included percentages of risperidone oral doses used and reduced length of stay by replacing PP1M with SC-RLAI. **Results:** Based on the 3.5-year data period, the use of SC-RLAI instead of PP1M would translate to an average drug acquisition cost reduction of $49 257.37 per year (N = 74 PP1M initiations). On average, 32.3 hospital days per year would have been saved because SC-RLAI's single-injection initiation eliminates the 3-day interval required between PP1M's 2 injections. The most common total daily dose of oral risperidone was 6 mg, making up 35.1% of pre-PP1M initiations. **Conclusions:** Inpatient institutions may have an opportunity to decrease drug costs and length of stay by switching from PP1M to SC-RLAI as a formulary-preferred medication when clinically appropriate. Future studies should examine long-term efficacy outcomes and overall health care costs of either medication when initiated during hospital admission.

Psychiatric Pharmacist Impact on Long-Acting Injectable Antipsychotic Utilization

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University of California Davis Health, Sacramento, CA

Type: Original research. **Background:** Medication adherence is crucial for patients with schizophrenia and other mental health disorders but can be challenging. Long-acting injectable (LAI) antipsychotics can improve adherence yet are underused despite many drug options. **Purpose:** The purpose of this retrospective study is to evaluate the usage of LAI antipsychotics before and after the implementation of a psychiatric pharmacy service at an academic medical center as well as the clinical impact psychiatric pharmacists have on LAI antipsychotic use. **Methods:** This study is a retrospective, cohort study evaluating patients who received LAI antipsychotics 2 years prior to the implementation of psychiatric pharmacists (PRE) compared with 2 years after (POST). Inclusion criteria included adult patients who received LAI antipsychotic administration during a hospital admission. The primary endpoint is the frequency of clinically appropriate dosing among the PRE and POST cohorts analyzed using the odds ratio and χ^2 test. Secondary endpoints include LAI antipsychotic orders by admitting service, length of stay, proportion of patients with new start LAI prescriptions, and hospital readmission. **Results:** Two hundred ninety-one LAI antipsychotic administrations were captured during the study period, and 199 administrations were included in this study: 86 in the PRE cohort and 113 in the POST cohort. The groups were highly similar in regard to demographics, diagnosis, and payer source. Ninety-three percent of LAI doses administered were clinically appropriate in the POST cohort compared with 84% in the PRE cohort. Patients in the PRE cohort had 2.55 times higher odds of incorrect dosing ($P = .04$). Use of LAIs among acute care medicine and trauma services overall increased in the POST cohort, but the difference was not statically significantly different. Length of hospital stay did not differ between cohorts. Thirty-five doses in the POST cohort were initiation doses compared with only 15 in the PRE cohort ($P = .03$). **Conclusions and Future Directions:** Embedding psychiatric pharmacists into acute care clinical settings can aid in the appropriate utility of LAI antipsychotics, including minimizing dosing errors and increasing initiation of these medications. Protocolizing LAI ordering may further improve clinical utility and appropriate use of these medications.

Therapeutic Case Report Award Finalists

Clozapine-Induced Eosinopenia in Patients With Treatment-Resistant Schizophrenia: Case Series and Literature Review

Sam C. Buesking, PharmD Candidate[1]; Carrie R. Kriz, MS[2]; Leigh Anne Nelson, PharmD, BCPP[1]; Stephen P. Jarvis, MD[2]

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Type: Therapeutic case report. **Background:** Clozapine, an atypical antipsychotic recommended for treatment-resistant schizophrenia (TRS), has been associated with hematologic side effects such as agranulocytosis (ie, absolute neutrophil count [ANC] $< 500/mm^3$) and eosinophilia (ie, eosinophil count $> 500/mm^3$). Clozapine-induced eosinopenia (ie, eosinophil count $< 10/mm^3$) has rarely been discussed or reported in the literature. **Complete Patient History:** We present a case series of 3 patients receiving clozapine for TRS with dramatic, sustained decreases in their eosinophil counts without attributable comorbidities

or concomitant therapies. Patient 1 developed eosinopenia on day 219 after a dose increase to 250 mg/d. Eosinopenia was sustained through day 1006 of clozapine therapy (ie, end of data collection). Patient 2 developed eosinopenia on day 646, following a dose increase to 400 mg/d. Eosinopenia was sustained through day 1920 of clozapine therapy (ie, end of data collection). Patient 3 experienced sustained eosinopenia on days 577 to 1491 of clozapine therapy following a dose increase to 400 to 450 mg/d. Eosinophil counts were 0 for all 3 patients, whereas their ANC remained stable and within normal limits. Eosinopenia, in our case series, is a probable adverse drug reaction to clozapine using standardized criteria (ie, Naranjo Adverse Drug Reaction Probability Scale). **Review of the Literature:** There have been only 3 other reports in the literature describing clozapine-induced eosinopenia. One case report (n = 1) theorized that high serum concentrations of clozapine may cause eosinopenia. The second case report (n = 1) theorized that clozapine-induced eosinopenia might predict late-onset agranulocytosis. A retrospective analysis (n = 23) of clozapine-induced blood dyscrasias found that chronic blood dyscrasias (ie, leukocytosis, neutrophilia, and eosinopenia) were found in 73.8% of the study population, but only eosinopenia had a significant intersex difference. The majority of those who experienced chronic eosinopenia were female (83.3%). Our case series cannot support or refute these theories regarding clozapine-induced eosinopenia, but it still adds to the limited body of evidence in this area. **Conclusion:** Eosinophils are important in the human body's direct defense against helminth, parasitic, viral, fungal, and bacterial infections and play an important role in immunomodulation. Additional studies with larger sample sizes are needed to fully characterize clozapine-induced eosinopenia and its potential negative consequences.

Original Research Abstracts

Antimicrobial Exposure and Risk for Major Depressive Disorder Recurrence

Amy N. Bowman, PharmD[1]; Lucas W. Watson, PharmD, BCPP[1]; Brett Heintz, PharmD, BCPS[1]; Daniel J. Livorsi, MD, MSc[1,2]; Brian C. Lund, PharmD, MS[1,2]

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Type: Original research. **Purpose:** A growing body of research suggests a connection between the gastrointestinal microbiome and psychiatric conditions, including depression. Antibacterial therapy is a known disruptor of the gastrointestinal microbiome. A number of studies have shown a connection between antibacterials and risk for incident depression; however, there have not been studies evaluating risk for recurrence among patients receiving maintenance antidepressant therapy. Our objective was to determine whether incident antibacterial exposure is associated with major depressive disorder recurrence. **Methods:** Using national administrative data from the Veterans Health Administration, we identified 42 266 patients with incident antibacterial exposure during calendar year 2018, who had been receiving stable antidepressant monotherapy for at least 6 months prior and had diagnosed depression. The primary outcome of depression recurrence was defined by a subsequent change in the preexisting maintenance antidepressant regimen or addition of psychotherapy. Cox proportional hazards regression was utilized, adjusting for demographics, psychiatric comorbidity, prior psychiatric encounters, and pharmacotherapy. **Results:** Depression recurrence within 6 weeks after incident antibacterial exposure was observed in 6.7% (891/12 381) of patients who received narrow-spectrum, 7.3% (1513/19 319) who received intermediate-spectrum, and 7.4% (590/7396) who received broad spectrum antibacterials. Intermediate or broad-spectrum exposure was associated with a small but significant increase in depression recurrence when compared with narrow spectrum (hazard ratio [HR] = 1.1; 95% confidence interval [CI]: 1.01, 1.18). This finding remained significant after adjustment for potential confounders (HR = 1.1; 95% CI: 1.01, 1.19). Patient characteristics independently associated with depression recurrence in the multivariable model included age < 55 years (HR = 1.29; 95% CI: 1.17, 1.42), comorbid substance use disorder (HR = 1.3; 95% CI: 1.15, 1.46), generalized anxiety disorder (HR = 1.19; 95% CI: 1.06, 1.33), prior psychiatric-related emergency room visits (HR = 1.52; 95% CI: 1.26, 1.84), and use of a selective norepinephrine reuptake inhibitor (HR = 1.11; 95% CI: 1.02, 1.21). **Conclusion:** We observed a small increase in depression recurrence following incident exposure to intermediate- or broad-spectrum antibacterials as compared with narrow spectrum exposure. This effect was statistically significant but may not be clinically meaningful due to the relatively small difference in risk for recurrence. Further studies are required to confirm these novel findings.

Antipsychotic Prescribing Patterns in Dual Diagnosis Patients on ED Discharge

Michael Ley, PharmD[1]; Casey Tiefenthaler, PharmD, BCPP[1]; Kelly C. Lee, PharmD, MAS, APh, BCPP, FCCP, FASHP[2]; Kim Dinh, BS[2]; Yuka Roxas, BS[2]; Jamie Kneebusch, PharmD, BCPS, BCPP[1,2]

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Type: Original research. **Background:** Antipsychotics are often used in the emergency department (ED) to de-escalate agitation or psychosis, but continuing them at discharge for substance use disorder (SUD) lacks clinical

justification. Dual diagnosis (DD) involves co-occurring psychiatric disorders and SUD, yet data on off-label antipsychotic prescribing in this group is limited. With SUD contributing to 11% of US ED visits, many patients risk receiving inappropriate antipsychotic prescriptions at discharge. **Methods:** A retrospective review was conducted for all adult patients with a documented psychiatric disorder admitted to the ED between September 1, 2021, and March 31, 2024, who received at least 1 dose of any non–long-acting injectable antipsychotic and discharged with an antipsychotic prescription. Patients were classified by International Classification of Diseases, 10th Revision (ICD-10) codes into either psychiatric diagnosis (PD) or DD groups. Patients were excluded if they transferred from the ED, visited the ED more than once during the study period, or died prior to discharge. Discharge antipsychotic prescriptions were classified as appropriate if the patient had an FDA-labeled ICD-10 diagnosis. The primary outcome was the proportion of off-label antipsychotic prescriptions at discharge from the ED between the 2 study groups. Secondary outcomes included the frequency of antipsychotic use in the ED and at discharge. **Results:** Ninety-six patients were analyzed; 40 (42%) in the PD group and 56 (58%) in the DD group. Demographics (age, race, sex, length of stay) were similar in both groups. Olanzapine was the most common antipsychotic prescribed in the ED (36.5%) and at discharge (47.1%). There was no difference in off-label prescribing between the 2 groups ($P = .537$). Patients who received a psychiatric consultation were more likely to be prescribed an off-label antipsychotic at discharge (66.7% versus 40%, $P = .013$). Additionally, patients aged 65 and older received a higher average number of antipsychotic doses in the ED (2.33 versus 1.48, $P = .031$) compared with those younger than 65. **Conclusion:** The percentage of off-label prescribing of antipsychotics at discharge from the ED was not significantly different between patients with psychiatric conditions alone and those with DD. Notable trends in subgroup analyses warrant further investigation to address potentially inappropriate antipsychotic prescribing at ED discharge.

As-Needed Medication Use for Agitation and Psychosis Across Valproic Acid Formulations

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Type: Original research. **Background:** Pharmacokinetic differences exist between valproic acid (VPA) formulations (IR, DR, ER) that may impact therapeutic outcomes. The use of as-needed (PRN) medications (benzodiazepines, antipsychotics) may serve as a proxy for effectiveness of scheduled medications for symptom management. This study compared the number of PRN doses for agitation and/or psychosis between VPA formulations. **Methods:** A retrospective review was conducted for patients with bipolar I or schizoaffective disorder admitted between January 1, 2019, and December 5, 2024, who received 3 days of VPA doses as maintenance therapy. The primary outcome was the average total number of PRN benzodiazepine and/or antipsychotic doses used for agitation and/or psychosis among patients receiving maintenance doses of VPA (IR, DR, ER). Secondary outcomes included differences in VPA total daily dose (TDD) across formulations and demographic subgroup analyses. Descriptive statistics, analysis of variance, and χ^2/Fisher exact tests were used for comparisons ($P < .05$ considered significant). **Results:** A total of 100 patients were included in the analysis; 56% identifying as male and 57% Caucasian. The average number of total daily PRN doses was not significantly different across formulations (IR: 0.59, DR: 0.39, ER: 0.23, $P = .095$). There was a significant difference in the average number of PRN antipsychotic doses administered per day across formulations (IR: 0.42, DR: 0.17, ER: 0.13, $P = .006$) with IR requiring more PRN doses. Patients receiving IR also had a higher TDD (17.4 mg/kg/day) compared with DR (13.5 mg/kg/day) and ER (14.5 mg/kg/day) formulations ($P = .031$). The average TDD was higher for patients admitted to psychiatric services (15.7 mg/kg/day) than those admitted to non-psychiatric services (13.3 mg/kg/day) ($P = .044$). Males were more likely than females to require both antipsychotics and benzodiazepines as PRN medications (51.4% versus 36.4%, $P = .037$). **Conclusion:** The significant difference in the number of PRN antipsychotic doses required for agitation and/or psychosis among patients receiving VPA IR compared with DR and ER formulations suggests that IR formulations may provide less effective control of the underlying psychiatric disorder. Further investigation is warranted to confirm these findings.

Assessing the Impact of Naloxone Training for Students, Faculty, and Staff Within a School of Pharmacy

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Type: Original research. **Purpose:** To test the feasibility and effectiveness of implementing pilot student-led naloxone trainings for pharmacy staff, faculty, and students on how to

recognize the signs of an opioid overdose and administer naloxone as well as assess the impact of the training on knowledge, attitudes, and confidence levels regarding naloxone administration. **Methods:** Education materials were made by a partnering opioid misuse–focused organization and faculty advisor. Six 50-minute training sessions were scheduled between November 7, 2024, and January 30, 2025, and led by the researchers and partnering organization. Pre-surveys and post-surveys were modified based on previous literature to assess attitudes, confidence, and knowledge surrounding opioid overdoses and administering naloxone. Pre- and post-surveys were administered via Qualtrics and data analyzed with Microsoft Excel. Descriptive statistics were calculated for the post-evaluation assessment and paired sample *t* tests were used to compare pre- and post-survey responses ($\alpha = .05$). **Results:** There were 73 participants across 4 sessions to date. Participants initiated the surveys (67 for pre-survey; 58 for post-survey), and 40 participants completed both surveys. Of participants who completed both pre-and post-surveys, knowledge did not change significantly (pre-survey mean: 6.6, post-survey mean: 7.2; $P = .0582$). For attitude, participants' overall mean scores increased (pre-survey: 72.4, post-survey: 78.3; $P < .0001$); mean subscores of concern decreased (pre-survey: 20.8, post-survey: 17.5; $P < .0001$) and mean readiness increased (pre-survey: 39.2, post-survey: 40.4; $P = .0196$). Participants' confidence also increased significantly with participants most frequently expressing that they were either *very confident* or *extremely confident* ($P < .001$ across all questions). Overall, participants felt that the value of the training session, quality of the trainer(s), and achievement of learning objectives were *very effective*; usefulness of the educational materials was *extremely effective*. Final analysis forthcoming. **Conclusion:** Student-led organizations collaborated successfully to implement brief training sessions for pharmacy students, faculty, and staff. Participants perceived the training to be effective, and our preliminary findings showed a significant positive change in both attitude and confidence regarding participants' perception and ability to assist in an event related to opioid overdose though knowledge was unchanged.

Assessing the Pharmacist's Role in Harm Reduction via Clinical Exposure

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Type: Original research. **Introduction:** Complications surrounding opioid and prescription drug abuse continue to be a public health epidemic. Needle exchange programs have a documented history of directly reducing transmission rates of communicable diseases, overdose deaths, and environmentally hazardous drug paraphernalia, all while increasing rates of referrals to drug-abuse treatment and mental health counseling. Due to the limited numbers of these programs and standardized assessments in pharmacy school, many pharmacy learners are not offered opportunities to assess their comfort level in serving these underserved patient populations. **Content:** This prospective field study investigates the perceptions of pharmacy students toward harm-reduction strategies and those that use these services via predesigned surveys and engagement strategies, such as Pharmacy Loteria. These strategies seek to capture pharmacy learner beliefs/attitudes before and after exposure to this polarizing patient population to quantify their outlook and comfort level on providing health care to the homeless/vulnerable. An outline of the learner experiences/rotation stations (wound clinic, needle exchange clinic, etc) will also be discussed. **Methods:** Pharmacy learners from all years of their Doctor of Pharmacy program completed a field, outreach experience in which they served those using housing and needle exchange services in a local day clinic. Pharmacy learners completed pre- and post-surveys to assess their comfort level in serving these individuals and their biases toward them. Pharmacy learners completed rotations in the wound care clinic, needle exchange clinic, Pharmacy Loteria group, and data collection. Clients at the day center participated in these experiences and completed voluntary surveys to assess their viewpoints of pharmacy as a profession. **Results:** Twenty-four pharmacy learners completed the experience with 79% reporting that they had not been exposed to harm reduction in any capacity prior to the experience. Comfort in serving those who actively inject drugs improved from 7.33 to 8.88 after the experience. Patient interactions with the homeless or underserved should be a part of the PharmD curriculum improved from 7.5 to 9.33. **Importance:** This unique study highlights the continued need to expand services for pharmacy involvement in harm-reduction strategies and how the use of health care learners can fill gaps in health care services.

Attitudes Toward Pharmacy Among Those Who Actively Inject Drugs

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Type: Original research. **Introduction:** People who inject drugs (PWID) often face significant barriers to health care, including stigma and mistrust. Pharmacists, as accessible health care providers, have the potential to bridge these gaps, yet the attitudes of PWID toward pharmacy services remain underexplored. Understanding these attitudes is essential for tailoring interventions that improve engagement and health outcomes for this population. **Content:** This prospective field study investigated the perceptions of those who used the services of a needle exchange clinic and day center toward pharmacists. The client surveys of those who utilize these services supplement those of the learners

in that they assess if this patient population feels comfortable with pharmacists and if they believe they can aid them with their substance use or medication needs. These surveys will be presented in addition to their results. An outline of the learner experiences or rotation stations (wound clinic, needle exchange clinic, etc) will also be discussed. **Methods:** Pharmacy learners from all years of their doctor of pharmacy program completed a field outreach experience in which they served those utilizing housing and needle exchange services in a local day clinic and collected data from semi-structured interviews. Clients at the day center participated in these experiences and completed voluntary surveys to assess their viewpoints of pharmacy as a profession, their past mental health experiences, and comfort level utilizing pharmacy services. **Results:** One hundred seventy-nine clients at the day center completed the voluntary survey with 42% believing that a pharmacist could aid them with their substance use disorder. A total of 66% reported prior usage of an illicit substance with methamphetamine (78%) and cocaine (62%) being reported as the most commonly used substances. **Importance:** This unique study provides the framework for assessing both health care provider and patient preferences for expanding services by pharmacists in an underserved clinical setting. A vast majority of primary literature focuses on drug access and utilization for substance use disorder but often lacks patient perception data on what barriers to care exist and what forms of health care these individuals actually want.

Awareness and Perceptions of Fentanyl Criminalization Policies: A Survey Report

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Type: Original research. **Purpose:** This study explores clinicians' awareness and perceptions of recent federal and state laws on fentanyl and related analogs (FRA), examining their impact on patient care for individuals with substance use disorders (SUDs) and identifying barriers to treatment access. Insights aim to inform more effective, compassionate care models for the opioid crisis. **Methods:** A survey assessed clinicians' awareness and perceptions of FRA criminalization policies. Participants included more than 800 members of a Midwest online opioid learning community. The Qualtrics survey, featuring quantitative and qualitative questions, evaluated awareness of FRA policies and their perceived impact on care. The survey was open for 4 weeks. Institutional review board (IRB) approval was obtained (SIUE IRB #2565), and participation was voluntary with informed consent. No personal information was collected. Descriptive statistical models analyzed the data to explore policy-clinical outcome alignment. **Results:** The survey received 36 responses, primarily from social workers (31%) and peer support specialists (25%). Nearly half reported that 81% to 100% of their work involved individuals with SUDs. Awareness of recent (last 2 years) legal changes varied: 22% were very or extremely familiar with federal and state laws; 58% and 62% moderately or slightly familiar, and 19% (federal) and 17% (state) not familiar. Formal training was lacking with 61% having none or being unsure. Concerns about FRA criminalization included fears of increased difficulty seeking help (84%), higher overdose risks and treatment access challenges (71%), and reduced access to housing or employment (81%). Barriers for those with incarceration history included legal restrictions (77%) related to felony disqualifications and insurance limitations. Respondents reported significant impacts on prescribing (39%) and patient care (33%). Clinicians recommended decriminalization and shifting from punitive measures to enhanced treatment/prevention resources. **Conclusions:** Findings highlight a gap in clinicians' awareness and preparedness regarding recent FRA-related legal changes. Enhanced education and training on drug policies, alongside harm reduction and decriminalization, are crucial to addressing barriers in care for SUD patients.

Buspirone Use Evaluation at an Inpatient Psychiatric Hospital

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Type: Original research. **Purpose:** Buspirone is an anxiolytic approved for treating generalized anxiety disorder and providing relief from short-term anxiety symptoms. It is often used in conjunction with other antianxiety medications and is typically dosed at 30 to 60 mg daily. In practice, however, buspirone is often used for off-label reasons and/or at subtherapeutic doses. The purpose of this project is to evaluate inpatient buspirone patterns and to identify potential opportunities for deprescribing. **Methods:** This was a retrospective chart review of patients $\geq$ 4 years old who were admitted to a psychiatric hospital between July 1, 2023, and June 30, 2024, who had an active order for buspirone. Patient demographics, including age, race, and sex, were collected. Hospital encounter information, including admission and discharge dates, length of stay, unit of discharge, buspirone indication, average buspirone daily dose, and continuation status (continuation at discharge versus deprescribed) were reviewed. In addition, concurrent medications, including antidepressants, mood stabilizers, benzodiazepines, hydroxyzine, and gabapentin, were reviewed. Data were analyzed using descriptive statistics. **Results:** A

total of 232 patients had an active order for buspirone; 16.4% were new starts, and 83.6% were continuations from home. Among patients ordered buspirone, the majority were female (60.8%), and white (82.8%) with an average age of 40 years. Only 12.1% had a documented, approved FDA indication. Buspirone was deprescribed in 25% of patients prior to discharge. The average daily dose of buspirone was 25.5 mg/day. The most common medications ordered concomitantly with buspirone were atypical antipsychotics (52.2%) and selective serotonin reuptake inhibitors (44.8%). **Conclusions and Future Directions:** The majority of patients who were ordered buspirone during their inpatient psychiatric hospitalization did not have a documented FDA approved indication. Whereas a small portion had anxiety-related disorders, a notable percentage was prescribed buspirone for depression and/or anxiety symptoms associated with other psychiatric conditions. For most patients, buspirone was a continuation from home versus initiation of therapy. Overall, buspirone dosing was suboptimal. These results highlight the need for increased focus on the evidence-based use of buspirone at our institution.

Commercially Insured Patient Profiles and Risk Factors Attributing to Nonadherence Among Patients With Opioid Use Disorder Treated With Monthly Injectable Buprenorphine: A Retrospective Claims Analysis

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Type: Original research. **Background:** Buprenorphine is an effective medication for opioid use disorder (MOUD); however, challenges of adherence for oral formulations include administration burden and fluctuation in daily buprenorphine exposure. Few studies have examined commercially insured patient use of monthly injectable buprenorphine, including patient characteristics that predict nonadherence. **Methods:** A retrospective claims analysis was conducted using the Merative MarketScan Commercial and Medicare Database. The index selection period was from March 1, 2019, to December 31, 2022, and the study period from March 1, 2018, to December 31, 2023. The index date was the first claim for buprenorphine extended-release injection (BUP-XR) during the index selection period. Patients with BUP-XR use 12 months prior to index or those with naltrexone-XR use 30 days prior to index were excluded. Patient profiles, including demographics, clinical characteristics, and medication use were assessed during the 12-month baseline period. Patients were categorized based on their proportion of days covered (PDC) with BUP-XR during the 6-month post-index period. Risk factors for nonadherence (PDC to BUP-XR $<$ .8) compared with adherence (PDC to BUP-XR $\geq$ .8) were reported using crude relative risks and 95% confidence intervals (CIs). **Results:** Six hundred sixty-three BUP-XR patients were identified and were, on average, 37.5 $\pm$ 11.4 years old, predominantly male (67.4%) and resided in the South (45.1%). Patients had high rates of other substance use disorder (52.8%), including cocaine use disorder (13.1%), generalized anxiety disorder (52.2%), depression or bipolar disorder (47.1%), chronic pain (39.5%), and alcohol use disorder (22.2%). A majority, 57.6% (n = 382) of patients, were identified as adherent. Risk factors to nonadherence to BUP-XR included (1) patients with versus without cocaine use disorder, relative risk of 1.63 (95% CI: 1.07, 2.51), and (2) patients with versus without antipsychotic use, relative risk of 1.59 (95% CI: 1.23, 2.06), among several other risk factors. **Conclusion:** Patients using BUP-XR with risk factors to nonadherence, including those identified by this study, such as additional substance use disorders (eg, cocaine use disorder) and medication use (eg, antipsychotics) may benefit from a higher level of contact or multidisciplinary approach with substance use or psychiatric providers to improve adherence to BUP-XR. Continuous therapy is essential to improving patient outcomes for those receiving MOUD.

Compatibility of Administering Long-Acting Injectable Antipsychotics in Community Pharmacies Across Washington State

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Type: Original research. **Purpose:** Long-acting injectable antipsychotics (LAIAs) are an evidence-based treatment for schizophrenia that improve adherence and reduce relapse compared with oral antipsychotics. Despite benefits, LAIAs remain underused. Administering LAIAs in community pharmacies could increase uptake; however, this service has yet to be widely adopted across community settings, highlighting the need for additional pre-implementation research. This study evaluates the compatibility of LAIA administration in community pharmacies in Washington state. **Methods:** Pharmacists and pharmacy technicians from chain and independent community pharmacies in Washington state were recruited using purposive sampling through the Washington State Pharmacy Association's Community Practice, Independent, and Technician Academies. A

cross-sectional REDCap survey was distributed via email on June 21, 2024. The survey collected demographic information and assessed participants' perceptions of acceptability, appropriateness, and feasibility of administering LAIAs in community pharmacies (ie, common pre-implementation outcomes). These domains were evaluated using the validated Implementation Outcomes Questionnaire (IOQ). Participants rated corresponding items for each domain on a 6-point Likert scale, on which 1 indicated *strongly disagree* and 6 indicated *strongly agree*. The average score was calculated for each domain with a score of 3.5 or higher suggesting compatibility. Data were analyzed using descriptive statistics. **Results:** Forty-three participants (33 pharmacists and 10 technicians) responded to the IOQ. The majority of responding pharmacists held a PharmD (64%), had practiced for more than 10 years (58%), and worked in an independent setting (55%). Most technicians were certified (60%) and practiced in independent settings (70%). Eight pharmacists and 1 technician reported administering LAIAs, and several respondents serve clients experiencing serious mental illness (63%). For pharmacists, the average scores for acceptability, appropriateness, and feasibility were 4.98, 3.91, and 4.34, respectively. For technicians, the corresponding scores were 5.43, 3.90, and 4.28, respectively. Respondents identified adequate reimbursement, sufficient training, and adoption of appointment-based models as key areas for improving compatibility. **Conclusions:** Pharmacists and pharmacy technicians in Washington state who responded viewed LAIA administration in community pharmacies as acceptable, appropriate, and feasible, reflecting favorable compatibility across pre-implementation outcomes. The study's generalizability is limited by the small sample size and overrepresentation of independent settings, which may be more flexible and open to expanding services.

Effectiveness of PharmD-Integrated Mental Health Courses for Improving Perceptions of Mental Health Conditions Among Pharmacy Students

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Type: Original research. **Background:** Students in PharmD programs across the United States generally display a greater prevalence of mental health issues compared with general student populations as significantly higher psychiatric scores have been seen for depression, anxiety, academic distress, and substance use in these student populations. Despite mental health resources offered at program sites, pharmacy students may be unwilling to utilize them as needed due to unawareness, lack of time, and stigma. A curriculum-integrated course on mental health conditions and support can effectively address mental health stigma, potentially improving pharmacy student outcomes in personal and clinical respects. **Purpose:** This study aims to investigate the impact that mental health elective courses and early intervention courses have on improving pharmacy students' perceptions of addressing mental health issues, providing insight into the long-term benefits of implementing them as a standard in PharmD curricula. **Methodology:** This literature review was conducted via Google Scholar and PubMed. Search terms—in conjunction with the AND Boolean operator—included "mental health," "stigma," "pharmacy students," and "course." To assure recency, studies published from 2018 to 2024 were selected and appraised. **Results:** Across 6 studies, participation in a mental health elective course or early intervention training program resulted in significant decreases in stigma and improved attitudes toward mental health among pharmacy students. Such courses produced an increased willingness to engage in conversation, encourage help-seeking behavior, and capacity to positively interact with patients regarding their mental health concerns. However, there are gaps regarding what specific aspects of these courses make them effective relative to adjacent studies carried out in other PharmD programs. **Conclusions:** By incorporating in-depth mental health training into standard curricula, attitudes toward mental health issues among pharmacy students can be greatly improved as they become better equipped to efficiently recognize and address them. Such insights point to further studies on establishing correlations between pharmacy student competency in mental health care and future interactions with patients and health professionals under stressful work settings. There is also the potential for pharmacy students to apply such methodologies to improve their own mental health, benefiting both future health professionals and patients.

Evaluating the Understandability, Actionability, Quality, and Readability of AI-Generated Health Information on Eating Disorders: A Comparative Analysis of ChatGPT Free and Pro Versions

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Type: Original research. **Purpose:** The purpose of this study was to evaluate and compare the understandability, actionability, quality, and readability of responses generated by the free (GPT-4o mini) and Pro (GPT-4o) versions of ChatGPT to health-related questions about eating

disorders. **Methods:** A set of 25 questions addressing various aspects of eating disorders, including symptoms, treatment, and self-management, was developed. Each response generated by ChatGPT identified specific resources used to construct the content. Responses were evaluated for readability using the Flesch Reading Ease and Flesch-Kincaid Grade Level formulas. Understandability and actionability were assessed using the Patient Education Materials Assessment Tool, whereas quality was evaluated with the DISCERN instrument. **Results:** In total, 5 resources were cited in responses generated by the Pro version and 8 resources in the free version. For the Pro version, the mean understandability score was 14.4 (SD: 0.89; range: 2; maximum: 15), the mean actionability score was 2.2 (SD: 0.45; range: 1; maximum: 3), and the mean quality score was 64 (SD: 5.66; range: 16; maximum: 72). The Flesch-Kincaid Grade Level mean was 15.28 (SD: 6.75; range: 28; maximum: 35), and the Flesch Reading Ease mean was 22.28 (SD: 21.20; range: 60; maximum: 60). For the free version, the mean understandability score was 14.1 (SD: 1.75; range: 5; maximum: 16), mean actionability score was 2.6 (SD: 1.19; range: 3; maximum: 5), and mean quality score was 62.6 (SD: 9.05; range: 26; maximum: 74). The Flesch-Kincaid Grade Level mean was 13.64 (SD: 1.98; range: 8; maximum: 17), whereas the Flesch Reading Ease mean was 18.84 (SD: 13.78; range: 48; maximum: 48). **Conclusions and Future Directions:** The findings indicate that responses generated by both the free and Pro versions of ChatGPT are best suited for college and graduate-level users. The resources cited by both versions of ChatGPT demonstrated moderate understandability but scored poorly in terms of actionability. Quality, as assessed by the DISCERN instrument, was moderate for both versions. Future research should explore strategies to improve the actionability and readability of artificial intelligence–generated health information, ensuring its applicability across a wider range of educational and literacy levels.

Evaluating the Use of Sexually Transmitted Infection Testing in a Psychiatric Hospital

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Type: Original research. **Background:** Sexually transmitted infections (STIs) are highly prevalent in the psychiatric population. Studies report significant rates of STIs, including chlamydia, gonorrhea, and trichomoniasis, in individuals with severe and persistent mental illness. Multiple guidelines recommend annual chlamydia and gonorrhea screening for sexually active women under 25 and older women with risk factors. Guidelines also identify individuals with substance use disorders as elevated STI risk. This study examines STI testing in psychiatric inpatients. **Objectives:** To assess STI testing patterns and positivity rates in psychiatric inpatients at the University of Pittsburgh Medical Center Western Psychiatric Hospital and to identify potential gaps in screening among at-risk populations. **Methods:** A retrospective review was conducted on patients admitted to an acute psychiatric hospital from September 1, 2017, to July 31, 2024. Patients tested for chlamydia, gonorrhea, and trichomoniasis during hospitalization were included. Patient demographics, psychiatric diagnoses, STI test results, and hospitalization details were analyzed using descriptive statistics. **Results:** Of the 2661 tests, positivity rates were 6.1% for chlamydia, 2.2% for gonorrhea, and 7.3% for trichomoniasis. Notably, 106 patients tested positive for at least 1 STI with 14 testing positive for 2 STIs and 2 patients for 3. Of the patients tested for STIs, most were female (68.6%) with an average age of 27.1 years. Of those patients who tested positive for STIs, a higher proportion were female (87.7%) with an average age of 26.1 years. Depressive disorders were the most common diagnoses (38.9%), followed by schizophrenia spectrum and other psychotic disorders (18.6%) and bipolar and related disorders (15.9%). **Conclusions:** STI screening and testing practices at our institution align with Centers for Disease Control and Prevention and US Preventive Services Task Force guidelines and underscore the need for standardization and routine STI screening in psychiatric settings, particularly among high-risk individuals. Development and implementation of enhanced STI screening protocols for high-risk individuals could improve sexual health outcomes in this vulnerable population.

Evaluation of Naloxone Kits Prescribed to Patients Diagnosed With Stimulant Use Disorder

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Type: Original research. **Background:** Prescribing naloxone nasal spray to patients with stimulant use disorder can be life-saving, although stimulants like cocaine or methamphetamine do not directly cause opioid overdoses. Many stimulant users may unknowingly consume opioids, particularly fentanyl, which is often mixed with stimulants, increasing the risk of opioid overdose. Additionally, stimulant users often have increased contact with opioid users, increasing the chance of witnessing an overdose. By providing naloxone, healthcare providers equip patients with a tool to reverse opioid overdose and significantly reduce the risk of death. Prescribing naloxone to stimulant users promotes harm reduction and safety, addressing the opioid and stimulant crises. **Objectives:** The primary objective is to increase the number of naloxone nasal kits

prescribed to patients with stimulant use disorder. **Methods:** This institutional review board approved retrospective chart review was performed using the Computerized Patient Record System and the Opioid Overdose Education and Naloxone Distribution dashboard for identified patients with a diagnosis of stimulant use disorder to assess the appropriate prescribing of naloxone. Data collected includes patient demographics, comorbidities, medication regimen profiles, adverse drug reactions, prescription history for naloxone, urine toxicology screen and history of overdose. Patients in need of a naloxone kit were contacted to offer the naloxone kit as well as provide counseling. **Results:** There were 475 actionable patients in need of a naloxone kit identified by the dashboard on September 16, 2024. At the start of data collection, 66% of patients identified with stimulant use disorder had an active prescription for naloxone. The national goal for calendar year 2024 for this metric was to maintain at least 70%. On October 31, 2024 (end of calendar year 2024) the number of actionable patients decreased to 382 and the percent of patients with stimulant use disorder with an active naloxone kit increased to 71.1% following pharmacist-led interventions. **Conclusion:** Results of the study demonstrate an increase in the number of naloxone kits prescribed to patients with stimulant use disorder.

Evaluation of Patient Outcomes Associated With Administration of Long-Acting Injectable Antipsychotics in the Inpatient Psychiatric Setting

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Type: Original research. **Purpose:** The American Psychiatric Association recommends the use of antipsychotic long-acting injectables (LAIs) for patients with schizophrenia with a history of nonadherence or unclear adherence or patient preference for an injectable. LAI antipsychotics are often initiated in outpatient settings; however, in the inpatient setting, LAIs are less frequently initiated but may be used to address nonadherence or as part of discharge planning to improve continuity of care. This study evaluates the impact of administering LAI antipsychotics in the inpatient psychiatric setting, focusing on readmission rates and treatment regimens post-readmission. **Methods:** This retrospective, multisite study was conducted at 2 HCA Healthcare psychiatric hospitals from June 1, 2023, to June 1, 2024. Subjects included patients aged 18 to 89 who received either risperidone microspheres LAI or paliperidone palmitate LAI during their inpatient stay. Comparisons were made between LAI groups and a randomly selected cohort discharged on oral antipsychotic therapy. Outcomes included 90-day readmission rates and treatment regimens upon readmission. **Results:** A total of 187 LAI doses were administered during the study period, including 134 paliperidone LAI doses and 53 risperidone LAI doses, across 128 admissions (80 admissions for paliperidone LAI and 48 for risperidone LAI). Regarding readmissions within 90 days, 17 patients from the paliperidone LAI group and 13 from the risperidone LAI group were readmitted. Among the 80 randomly selected patients discharged on oral therapy, 13 of 40 in the paliperidone oral group and 10 of 40 in the risperidone oral group were readmitted. For the secondary outcome in the LAI group, treatment regimens upon readmission included continuation of the same LAI in 17 patients, a switch to a different LAI in 3 patients, and oral monotherapy in 10 patients. **Conclusion:** The findings emphasize the importance of enhanced discharge planning, including ensuring timely follow-up for injections and addressing cost and insurance barriers. These results also highlight the need for further research into treatment decisions post-readmission and their long-term effects on patient outcomes.

Evaluation of Psychiatric Pharmacists' Perspectives of Medical and Recreational Cannabis

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Type: Original research. **Background:** There is a lack of research evaluating the attitudes of psychiatric pharmacists toward cannabis in the United States. Previous studies have described attitudes of pharmacists in California, student pharmacists, and community pharmacists. However, psychiatric pharmacists are likely to come across cannabis use in their patient population and may view it differently. **Objectives:** The primary outcome is to evaluate if psychiatric pharmacists viewed cannabis favorably or unfavorably. Secondary outcomes evaluated potential indications for cannabis, confidence in knowledge on cannabis, and additional thoughts. **Methods:** This is an institutional review board approved online survey study of psychiatric pharmacists across the United States. Respondent demographics and workplace experiences were collected. Descriptive statistics and χ^2 were used to analyze the primary and secondary outcomes. Weighted values were used to assign responses as favorable or unfavorable. **Results:** A total of 196 responses were collected and 66.3% (130/196) identified as female and 89.3% (175/196) as white with 35.7% (70/196) of respondents aged 26 to 34 years old. Additionally,

27.6% (54/196) worked for 6 to 11 years as a psychiatric pharmacist, and 56.9% (111/195) practice in an urban setting. Only 4.5% (8/179) of psychiatric pharmacists viewed cannabis favorably. No correlation was found between duration of years worked as a psychiatric pharmacist and views on cannabis ($P = .269$). A total of 37.2% (29/78) of psychiatric pharmacists who had used cannabis viewed it unfavorably compared with 62.7% (54/86) who had never used cannabis ($P < .05$). State legalization had no effect on pharmacists' attitudes toward cannabis ($P = .158$). Conditions such as cancer-related pain and cachexia, terminal illness, and chronic pain were the most common indications for which psychiatric pharmacists believed cannabis could be beneficial. Concerns such as the need for more research evaluating the risks versus the benefits of medical cannabis were echoed throughout the survey. **Conclusion:** Pharmacists who worked in behavioral health, where cannabis use in patients is frequently encountered, tended to view cannabis unfavorably or neutrally. However, psychiatric pharmacists who personally used cannabis tended to view it more favorably.

Evaluation of Therapeutic Indication and Utilization of Lamotrigine in an Inpatient Psychiatric Hospital

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Type: Original research. **Purpose:** Lamotrigine is often recommended as a mood-stabilizing agent for maintenance treatment of bipolar disorder. Whereas there is strict guidance in regard to dose titration and reinitiation of lamotrigine, prescribing patterns in clinical practice can deviate from these recommendations. This study aims to retrospectively evaluate the indication, titration practices, and dose selection of lamotrigine in adult patients in an inpatient psychiatric hospital. **Methods:** A retrospective chart review was conducted for adult patients who received at least 1 dose of lamotrigine throughout their inpatient stay. The patients included were between 18 and 65 years old and were admitted and discharged between July 1, 2023, and June 30, 2024 (n = 213). **Results:** The primary diagnoses for patients prescribed lamotrigine included mood disorders (n = 134); anxiety, dissociative, or stress-related diagnoses (n = 36); and schizophrenia, schizotypal, or delusional diagnoses (n = 17). Of note, 25 patients included within the review also presented with co-occurring seizure disorders. For patients initiated on lamotrigine during their hospitalization, (n = 37), only 70% were titrated per the recommendations from the package insert. There were 31 patients who were documented as nonadherent prior to their admission, and 7 of these patients were restarted at higher doses than recommended. Additionally, there were 2 reported adverse drug reactions of rash. In both cases, titration occurred more rapidly than the package insert recommends. **Conclusions and Future Directions:** Titration of lamotrigine did not follow the recommendations of the package insert in 15% of cases, often occurring more rapidly than package insert suggested. This could result in increased risk of serious medication adverse events and patient harm. There is a clear opportunity for pharmacists to provide education for providers to support safe prescribing and support clear documentation alerts of adherence.

Identification and Assessment of Mental Health–Related Stigma in Relation to Mental Health Diagnosis and Medication Use Among College Students

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Type: Original research. **Background:** Mental health–related stigma can significantly impact an individual's recovery process, creating barriers that may prevent the individual from seeking help or fully engaging in treatment. The Stigma-9 Questionnaire is a tool designed to assess and measure the level of perceived stigma associated with mental health issues. Various demographic characteristics may also influence mental health stigma. **Objectives:** The objective of our study is to assess mental health stigma in college students with regards to diagnosis, medication use, and individual characteristics. **Methods:** A modified Stigma-9 survey was electronically distributed to individuals enrolled at a private university in the Southeastern United States in an undergraduate or graduate program between October 21, 2024, and November 15, 2024. The primary endpoint was to determine if a personal psychiatric diagnosis and/or history of psychiatric medication use affected perceived mental health stigma. The secondary endpoint was to assess the impact of respondent characteristics on stigma, diagnosis, and medication use. Independent *t* testing was used to analyze survey responses, and χ^2 testing was used to assess the interaction of categorical variables. **Results:** Of the 6331 individuals meeting criteria for inclusion, 654 participated in the survey (10.3% response rate). The majority (69.7%) were female and enrolled in an undergraduate program (84.9%). Three hundred eleven participants (47.6%) had a previous mental health diagnosis. Those with a diagnosis perceived higher rates of stigma related to treatment but were more confident in their ability to help someone else in crisis. Medication use did not significantly impact stigma but those using medications

were less likely to have received education about mental health prior to college. Gender, field and level of study, and geographic location of origin all significantly impacted survey responses. **Conclusions:** Our findings indicate that there is an association between mental health–related stigma and previous mental health diagnosis as well as various demographic factors.

Impact of Inpatient Pharmacist-Led Metabolic Monitoring in Patients Administered Antipsychotics

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Type: Original research. **Purpose:** Patients on antipsychotic therapy are at an increased risk of metabolic side effects. Annual monitoring is recommended to reduce the risk of atherosclerotic cardiovascular disease. However, adherence to recommendations remains inconsistent. This study aimed to evaluate the outcomes of a pharmacist-led metabolic monitoring. **Methods:** This retrospective single-center cohort study included adult inpatients on at least 1 antipsychotic medication, who received metabolic monitoring documented by a psychiatric provider or pharmacist and were admitted between January 1, 2022, and February 28, 2023. Patients with delirium were excluded. The primary outcome was the rate of appropriate metabolic monitoring, defined as hemoglobin A1c and lipid panel either ordered on or resulted within 1 year of assessment date. Secondary outcomes include the number of pharmacist recommendations for initiating metformin or statin therapy as well as therapy continuation rate at discharge. Demographic data was summarized using descriptive statistics, binomial tests were used to analyze categorical variables, and continuous variables were compared using the Student *t* test in R v4.3.3 statistical software (Vienna, Austria). **Results:** A total of 360 patients were included with 221 in the pharmacist-led intervention group and 139 in the provider-led control group. Demographics were similar between cohorts, including gender (36% versus 31% male, $P = .35$), average age (63 $\pm$ 17.9 versus 59 $\pm$ 17.6 years, $P = .43$), and diabetes prevalence (17% versus 12%, $P = .25$). The rate of appropriate metabolic monitoring was significantly greater with pharmacist-led monitoring compared with provider-led monitoring (42% versus 86%, $P < .01$). Pharmacist-led monitoring led to significantly more statin (23% versus 9%, $P < .01$) with no significant difference observed with initiation of metformin (4% versus 1%, $P = .09$). Continuation of either therapy at discharge (13% versus 51%, $P < .01$). Pharmacists recommended to initiate statin therapy in 87 (39%) patients and metformin in 5 (2%) patients. Pharmacist-led monitoring led to similar rates of statin initiation (24% versus 19%, $P = .28$), metformin initiation (4% versus 1%, $P = .08$), but significantly less continuation of either therapy at discharge (52% versus 13%, $P < .01$). **Conclusion:** Pharmacist intervention led to increased metabolic monitoring and numerically greater statin and metformin initiation. However, therapy continuation at discharge was not sustained, likely limiting impact on long-term treatment outcomes.

Impact of Psychiatry Advanced Pharmacy Practice Experience on Student Pharmacist Apprehensions Toward Psychiatry

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Type: Original research. **Purpose:** Patients often face challenges in receiving mental health care, such as the shortage of mental health professionals. Pharmacists play an important role in the care of patients, and it is important to assess factors that can increase students' engagement in the behavioral health specialty. The objective of this study is to assess the impact of an inpatient psychiatric advanced pharmacy practice experience (APPE) on student pharmacist apprehensions toward caring for patients with psychiatric illnesses. **Methods:** A 13-question survey was sent to fourth-year student pharmacists who had an APPE rotation in an inpatient psychiatry unit between October 1, 2021, and April 30, 2023. Three APPE rotation sites with inpatient psychiatric services were included in the study. The same survey was sent on the first and last day of the rotation to compare the comfort level toward patients with psychiatric diagnoses using a 5-point Likert scale. The first 12 questions assessed the students' level of comfort in various patient scenarios, and the 13th question determined their interest level in psychiatry as a career. A Mann-Whitney U test was conducted for each question to test the difference in the median of participants' responses before and after the psychiatric rotation. **Results:** A total of 58 students completed the pre-survey, and 52 students completed the post-survey. Statistically significant improvements were seen in questions 1 to 12, indicating a higher level of comfort in students' interactions with patients with psychiatric illness at the end of the psychiatry APPE rotation ($P < .05$). For question 13, which addressed the students' interest in the field of psychiatry, no statistically significant change in the pre- and post-survey was observed ($P = .0913$). **Conclusions and Future Directions:** Student pharmacists' comfort levels in providing care for psychiatric patients improved over a 5-week rotation at an inpatient

psychiatric unit. Although the increase in comfort level was seen broadly across different disease states and scenarios, more research is needed to assess how to improve confidence and interest in psychiatry.

Low-Dose Glucagon-Like Peptide-1 Receptor Agonists to Reverse Antipsychotic-Induced Weight Gain in Patients With Type 2 Diabetes Mellitus

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Type: Original research. **Purpose:** The purpose of this study was to evaluate if glucagon-like peptide-1 receptor agonists (GLP-1 RAs), at the doses used for type 2 diabetes mellitus (T2DM) treatment, can reverse antipsychotic-induced weight gain (AIWG). **Methods:** This was a retrospective chart review of patient data from June 1, 2023, to May 28, 2024, collected from health center electronic medical health records. All study patients had at least a 7% weight gain from the start of antipsychotic treatment (baseline) within the subsequent 3 years and were diagnosed with T2DM to be included. The study group patients received a GLP-1 RA at T2DM doses after the onset of AIWG; the control group patients did not receive a GLP-1 RA. The primary outcome was absolute weight loss in kilograms during the first year of treatment with the GLP-1 RA in the study group versus the first year of antipsychotic treatment in the control group. A 2×2 analysis of variance with repeated measures on time factor was conducted to compare the mean change in weight from baseline to 3, 6, and 12 months between the control and study groups. **Results:** A total of 27 patients in the control group and 26 in the study group met inclusion criteria. There were no statistically significant differences in age (control 48.26 ± 13.3 years; study 49.50 ± 12.9 years; $P = .366$) or sex (control 40.7% male; study 30.8% male; $P = .449$). The most common GLP-1 RA used in the study group was dulaglutide (69.2%). There were statistically significant differences in mean weight change from baseline to 3-month follow-up (7.33 kg versus −2.86 kg, control and study, respectively; $P < .001$), 6-month follow-up (10.57 kg versus −2.56 kg; $P < .001$), and 12-month follow-up (9.50 kg versus −8.59 kg; $P < .001$). **Conclusion:** Over the 12-month review period, study group patients exhibited notable weight loss with a mean reduction of 8.59 kg at 12-month follow-up, whereas the control group experienced a mean weight gain of 9.5 kg. These findings highlight the potential of GLP-1 RAs to counteract weight gain associated with antipsychotic treatment even at the lower doses used to treat diabetes versus obesity, offering a promising strategy for improving weight outcomes in this patient population.

Opioid Use Disorder Medicaid Patient Profiles and Risk Factors Contributing to Non-Adherence to Monthly Injectable Buprenorphine: Retrospective Claims Analysis

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Type: Original Research. **Background:** Buprenorphine is an effective medication for opioid use disorder (MOUD); however, challenges of adherence for oral formulations include administration burden and fluctuation in daily buprenorphine exposure. Few studies have examined patient utilization of monthly injectable buprenorphine, including patient characteristics that predict non-adherence. **Methods:** A retrospective claims analysis was conducted using the Merative™ MarketScan® Medicaid Database. The index selection period was from March 1, 2019–December 31, 2022 and the study period from March 1, 2018–December 31, 2023. The index date was the first claim for buprenorphine extended-release injection (BUP-XR) during the index selection period. Patients with BUP-XR use 12 months prior to index, or those with naltrexone-XR use 30 days prior to index, were excluded. Patient profiles including demographics, clinical characteristics, and medication use were assessed during the 12-month baseline period. Patients were categorized based on their proportion of days covered (PDC) with BUP-XR during the 6-month post-index period. Risk factors for non-adherence (PDC to BUP-XR < 0.8), compared to adherence (PDC to BUP-XR ≥ 0.8), were reported using crude relative risks (RR) and 95% confidence intervals (CI). **Results:** Among the 2,741 BUP-XR patients identified, the average age was 35.9 ± 8.1 years, 51.3% were female, 88.9% were white, and 71.4% resided in urban areas. Common baseline comorbidities were other substance use disorder (84.0%), depression/bipolar disorder (64.1%), generalized anxiety disorder (62.1%), chronic pain (39.7%), and alcohol use disorder (23.7%). A majority of patients (n = 1794; 65.5%) were classified as non-adherent (PDC to BUP-XR < 0.8). Risk factors for non-adherence to BUP-XR included: (1) patients with vs. without cocaine use disorder (RR: 1.44; 95% CI: 1.23–1.68) or with vs. without other stimulant use disorder (RR: 1.26; 95% CI: 1.13–1.41), and (2) patients with vs. without Hepatitis B or C (RR: 1.26; 95% CI: 1.11–1.43). **Conclusion:** Patients utilizing BUP-XR with risk factors for non-adherence including those identified by this study such as additional substance use disorders (e.g., cocaine, stimulants) and comorbid Hepatitis B or C may benefit from a higher level

of contact/multidisciplinary approach with substance use/psychiatric providers to improve adherence to BUP-XR. Continuous therapy is essential to improving patient outcomes for those receiving MOUD.

Provider Perspectives on Low-Dose Initiation Strategies for Buprenorphine

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Type: Original research. **Background:** The increasing prevalence of fentanyl use and its associated withdrawal syndrome pose significant challenges for the effective management of this opioid use disorder. Buprenorphine demonstrates treatment efficacy; however, conventional initiation protocols in patients with high fentanyl exposure can cause precipitated withdrawal as a partial opioid agonist. This may leave patients hesitant to start treatment. Understanding the perspectives of health care providers who treat this patient population is imperative to understanding the application of emerging strategies for buprenorphine induction, their practical application, and the benefits of such approaches that have remained underexplored. This research may help inform evidence-based protocols to improve clinical outcomes and patient care. **Objectives and Purpose:** The objective of this research is to explore providers' perspective on low-dose initiation strategies for buprenorphine in the treatment of patients who use illicitly manufactured fentanyl. By understanding the clinical experiences of the providers, this study hopes to identify potential barriers and benefits associated with this type of buprenorphine induction in diverse patient populations. **Methods:** Semi-structured, qualitative key informant interviews guided by the Consolidated Framework for Implementation Research were conducted with 5 providers in outpatient settings who prescribe medications for opioid use disorder. The interviews were audio-recorded, transcribed, and de-identified prior to analysis. Qualitative analysis and thematic coding were used to identify salient themes. **Results:** Data saturation was reached after interviewing 5 providers with varied credentials (PharmD, MD, and ARNP). All participants agreed that a low-dose buprenorphine induction strategy could benefit individuals who use illicitly manufactured fentanyl. Four primary themes emerged: the influence of patients' environments, the complexity added by psychological withdrawal, the importance of holistic support, and the role of buprenorphine as a harm-reduction measure. **Conclusion:** In conclusion, a low-dose buprenorphine induction strategy was endorsed by all providers surveyed. Various challenges and considerations exist when treating opioid use disorder, particularly in contexts involving illicitly manufactured fentanyl. Findings underscore that addressing the whole patient—including their environment, psychological well-being, and other holistic measures—greatly enhanced engagement and retention in treatment

Psilocybin for Treatment-Resistant Depression: Exploring Potential Mechanisms of Action and Addressing Unblinding in Randomized Control Trials

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Type: Original research. **Background:** MDD affects roughly 8.3% of Americans with symptoms including depressed mood, lack of pleasure, insomnia or hypersomnia, decreased concentration, and suicidal ideation. Antidepressants, such as selective serotonin reuptake inhibitors, SNRIs, mirtazapine, bupropion, and vortioxetine are considered first-line treatments for MDD. However, a significant portion of patients do not derive substantial benefits from their use, necessitating new treatment options. Treatment-resistant depression (TRD) occurs when patients experience lingering symptoms despite an adequate trial of at least 2 antidepressants. Psilocybin is an investigational drug currently being studied for TRD. Preclinical and clinical trials have shown that psilocybin administration correlates with increased neuroplasticity and reduced depressive symptoms. **Purpose:** This research investigates the potential of psilocybin to treat TRD, categorize its potential mechanisms of action, and discuss limitations in clinical trial design with psilocybin. **Methodology:** This literature review employs a systematic approach, using peer-reviewed sources from PubMed. Search terms included psilocybin, depression, neuroplasticity, and default mode network. **Results:** Studies referenced included 2 randomized controlled trials (RCTs), 2 open-label trials, and a systematic review regarding psychedelic blinding trials and trial designs. Psilocybin administration may reduce depressive symptoms in TRD by decreasing default mode network (DMN) interconnectivity and increasing global network integration. Overactivity in the DMN has been linked to negative ruminative thoughts in depression. Additionally, psilocybin boosts brain-derived neurotrophic factor) levels, a biomarker of neuroplasticity. Despite these benefits, the undeniable subjective effects of psilocybin challenge blinding (placebo versus psilocybin) in RCTs, potentially leading

to overestimated results and diminished internal validity. Some researchers suggest using deception to obfuscate their true treatment assignments (psilocybin versus placebo), potentially addressing unblinding issues. **Discussion/Conclusions:** The findings highlight psilocybin's potential as a novel treatment for TRD, offering a new mechanism of action through enhanced neuroplasticity. Based on these insights, we propose a hypothetical clinical trial design for psilocybin in TRD that incorporates deception to more effectively blind patients to obtain less biased results.

Psychedelic-Assisted Therapy for PTSD and Depression: A Review of the Literature

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Type: Original research. **Purpose:** This scoping review evaluates the literature on 3,4-Methylenedioxymethamphetamine (MDMA) as a potential treatment for posttraumatic stress disorder (PTSD) and depression. Current treatments, such as selective serotonin reuptake inhibitors and psychotherapy, often have limitations in efficacy and side effects. MDMA, by enhancing serotonin release and amplifying the effects of psychotherapy, may offer a more effective approach to trauma processing. This review examines MDMA's pharmacological properties, clinical efficacy, and safety profile in comparison with existing treatments. **Methods:** A comprehensive review of studies published between 2000 and 2024 was conducted using PubMed and secondary databases. Key terms included MDMA, PTSD, posttraumatic stress disorder, depression, and interventions. Systematic reviews, controlled trials, and relevant journal articles were prioritized. Baseline study characteristics, such as country of origin, sample size, study duration, and patient demographics, were assessed. Descriptive statistics were used to synthesize findings and identify gaps in the research. **Results:** MDMA treatment demonstrated greater improvements in PTSD and depression symptoms compared with placebo with symptom reductions ranging from 67% to 86.5% in MDMA groups versus 10% to 69% in placebo groups. These consistent positive outcomes were observed across diverse demographics and study designs, providing strong evidence to support MDMA's potential as a therapeutic option. **Conclusion:** MDMA-assisted therapy shows significant promise in treating PTSD and depression, offering a potential solution to the shortcomings of existing treatments. However, standardized protocols and consistent outcome measures are necessary to enhance its clinical utility. Current research highlights its potential, but further high-quality studies across diverse populations are essential to validate its therapeutic role. Addressing practitioner skepticism and ensuring reliable data will be critical steps in advancing MDMA toward approved therapeutic use.

Psycho-Oncology and the Use of Psychotropics for the Management of Chemo Brain Symptoms: A Review of the Literature

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Type: Original research. **Purpose:** Chemotherapy-induced cognitive impairment (CICI), or "chemo brain," refers to cognitive dysfunction observed in cancer patients undergoing chemotherapy, affecting memory, speech, and information processing. Although the exact mechanisms are unclear, contributors include neuronal inflammation, oxidative stress, and biochemical alterations disrupting neuronal processes. This condition significantly impacts patients' quality of life, yet research remains fragmented. As cancer survivorship increases, identifying effective treatment strategies for CICI has become imperative. This review aims to consolidate findings on the cognitive effects of chemotherapy, available pharmacologic treatments, and future strategies for evidence-based therapeutic interventions. **Methods:** A literature search was conducted through PubMed MEDLINE using key terms related to chemotherapy-induced cognitive impairment, pharmacologic treatments, and interventions. Human trials evaluating pharmacologic approaches were included. Thirty-seven articles were screened based on inclusion criteria of cancer type, study design, and publication date. Data extraction focused on chemotherapy and interventional drugs, cancer types, study populations, and study lengths. Baseline characteristics of sample size, country of origin, and patient demographics were analyzed. Descriptive statistics, including counts and percentages, were used to summarize findings. **Results:** Studies predominantly examined breast cancer patients and platinum-based agents, such as cisplatin, which increase sphingosine-1-phosphate levels, promoting neuroinflammation and mitochondrial dysfunction. Other chemotherapeutic agents, including methotrexate and fluorouracil (5-FU), were found to cause neurotoxicity by crossing the blood-brain barrier. Methotrexate affects microglia involved in neural circuitry, whereas 5-FU damages myelinated tracts, reduces brain-derived neurotrophic factor, and impacts the hippocampus. Selective serotonin reuptake inhibitors, such as citalopram, show promise in reducing inflammation and improving cognitive function. Additional agents, including methylphenidate, modafinil, and acetylcholinesterase inhibitors, are also being investigated. **Conclusion:** This review highlights the significant impact of chemotherapy on cognitive function with multiple studies identifying fundamental mechanisms such

as neuroinflammation and oxidative stress. Whereas various interventions and treatments have been studied, no consensus has been reached on a definitive therapeutic strategy for chemo brain. The results emphasize the need for continued research, particularly in large-scale clinical trials, to better understand effective prophylactic and therapeutic options for managing chemotherapy-induced cognitive impairment.

Quality, Readability, Accessibility, and Understandability of ChatGPT-Generated Information for Alzheimer Disease

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Type: Original research. **Purpose:** This study aims to assess the readability, understandability, quality, and actionability of ChatGPT generated information about Alzheimer disease. **Methods:** A questionnaire was developed to "ask" ChatGPT about various aspects of Alzheimer disease. ChatGPT was also asked to identify the resource used to answer each question. Answers generated from ChatGPT were evaluated using the Flesch Reading Ease formula and the Flesch-Kincaid Grade Level formula to determine readability. The understandability and actionability of the ChatGPT-generated responses were evaluated using the Patient Education Materials Assessment Tool (PEMAT). The quality of the resources was assessed using the DISCERN instrument. **Results:** A total of 26 questions were asked with ChatGPT supplying 5 resources for those questions. The mean scores were 17.48 (SD, 15.55; range, 0 to 62.19) for reading ease, 16.19 (SD, 3.21; range, 7.65 to 21.7) for grade level, 8.2 (SD, 1.72; range, 6 to 11; maximum, 19) for understandability, 1.80 (SD: 1.17; range, 1 to 4; maximum, 7) for actionability, and 50.4 (SD: 9.09; range 40 to 65, maximum 80) for quality. **Conclusions and Future Directions:** ChatGPT generated responses for information about Alzheimer disease would be best understood by individuals with higher levels of education. ChatGPT-generated responses scored poorly for actionability and understandability based on PEMAT scores, but resources were of moderate quality using the DISCERN method. ChatGPT-generated responses regarding disease state information used as patient education needs improvement to be useful for this purpose.

Sublingual Dexmedetomidine Versus Standard of Care for Agitation Within an Inpatient Psychiatric Facility

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Type: Original research. **Objective:** The objective of this study is to assess how sublingual dexmedetomidine administration affects patient outcomes and clinical course compared with standard-of-care (SOC) agitation management. SOC is defined as the concurrent administration of oral haloperidol and lorazepam. By assessing data on the use of sublingual dexmedetomidine, this information may be used to help guide clinicians regarding psychotropic agent selection for acute agitation management. **Methods:** Data collection will be performed retrospectively on electronic medical records of patients admitted from August 1, 2023, to April 1, 2025. Medical records will be included if a patient received sublingual dexmedetomidine or concurrent oral haloperidol and lorazepam for agitation and are at least 18 years of age. Medical records of pregnant patients will be excluded. The primary endpoint is presence or absence of additional dosing of sublingual dexmedetomidine, oral haloperidol, or lorazepam within the same day as initial dosing. This will be assessed as a dichotomous endpoint utilizing a χ^2 test for statistical analysis. Secondary endpoints will include the total number of additional doses required, group attendance, total length of stay, physical restraint use, and documented side effects. **Preliminary Results:** Eighteen records were included in the sublingual dexmedetomidine group and 36 in the SOC. The most common psychiatric diagnosis was schizophrenia with 55.5% of each arm being diagnosed. Included records were primarily male, comprising 44.45% of the sublingual dexmedetomidine group and 55.56% of the SOC group. Regarding the primary endpoint, 78% of the sublingual dexmedetomidine group required additional dosing within the same day, whereas only 14% of the SOC required any additional dosing. **Conclusion:** A larger proportion of records in the sublingual dexmedetomidine group reflected additional dosing following initial dose. The total number of additional doses required for adequate agitation management was also greater in the sublingual dexmedetomidine group compared with SOC. Additional data will be collected to strengthen the power of these findings and to further assess markers of clinical course including group attendance, length of stay, restraint use, and adverse events. Upon completion, results may be used to identify patient-specific factors that influence patient response to sublingual dexmedetomidine.

Survey of Local Patterns of Fentanyl Exposure and Assessment of Harm-Reduction Strategies

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Type: Original research. **Purpose:** Fentanyl, a synthetic opioid, is a common filler in illicitly manufactured substances.

Adulteration significantly heightens the risk of overdose, making fentanyl contamination a critical public health challenge. A shift toward intentional fentanyl use further complicates the growing opioid crisis. The aim of this study was to identify patterns of local fentanyl contamination and misuse and assess interventions by psychiatric providers for patients at high risk of opioid overdose. **Methods:** This 2-part observational study involved prospective patient surveys and retrospective data collection from the electronic health record. Patients who tested positive for fentanyl on a urine drug screen within 6 months of a hospital or emergency department encounter for psychiatric services were included. Participants completed a 10-question survey regarding their drug use patterns, knowledge of fentanyl risks, and willingness to engage with harm-reduction approaches. Once discharged, study investigators reviewed the electronic health record, collecting data related to the participants' demographics, past medical history, and harm-reduction interventions. **Results:** Data collection is ongoing. As of January 2025, 6 participants completed the study (mean age 41.3 years, 66.7% male). All participants reported 5 to 7 days of substance use per week, and 83.3% indicated more than 11 years of use. Frequently used substances included fentanyl (83.3%), crystal methamphetamine (83.3%), heroin (66.7%), and cannabis (66.7%). Five participants thought their preferred substances were extremely likely to be contaminated with fentanyl, whereas 1 thought this was extremely unlikely. The majority of participants believed a person was extremely likely to experience an overdose if exposed to fentanyl. The same proportion (83.3%) thought they were extremely likely or likely to experience an overdose themselves given their current substance use. Despite prevalent use, 66.7% of participants reported never having used fentanyl test strips; however, 83.3% indicated willingness, if made available. Half the participants had previously been prescribed medications for opioid use disorder. During hospitalization, 5 participants were initiated on buprenorphine, and the same number received take-home naloxone nasal spray. **Conclusions:** Preliminary findings highlight the need for targeted harm-reduction strategies, including fentanyl detection tools and patient education, to enhance community safety and address the local fentanyl crisis.

The Impact of a Modified Clozapine Titration Protocol on the Rates of Diagnosed Clozapine-Induced Myocarditis for Newly Initiated Patients Admitted to a Stand-Alone Psychiatric Hospital

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Type: Original research. **Purpose:** A slower clozapine titration schedule, which reduces exposure during initiation, may decrease the risk of clozapine-induced myocarditis (CIM). Our institution implemented a modified titration protocol February 28, 2020, that achieves a dose of 100 mg over 9 days compared with the manufacturer's traditional 4-day titration schedule. This study aims to evaluate the impact of this institution-specific dosing protocol on the rates of CIM. **Methods:** This institutional review board–approved, retrospective review included adult inpatients newly initiated or reinitiated on clozapine between July 1, 2018, and June 30, 2024, who received at least clozapine 100 mg per day while admitted. The primary outcome was the incidence of diagnosed CIM pre- versus post-implementation of the institution protocol (identified via chart review). Secondary outcomes included incidence of suspected CIM (C-reactive protein $>$ 50 mg/dL and troponin $>$ twice the upper limit of normal, or clozapine discontinuation due to myocarditis concern without definitive diagnosis), time between first clozapine dose and discharge, and frequency of medical sendouts for diagnosed or suspected CIM. **Results:** There were 220 patients in the study. Eighty-five patients were in the pre-protocol group with 44 patients (51.8%) receiving traditional clozapine dosing. There were 135 patients in the post-protocol group with 71 patients (52.6%) who received the modified dosing schedule. There were patients in each group who deviated from the predefined titration schedules, however, were still included for analysis of primary and secondary outcomes. The rates of CIM in the pre- and post-groups were 13.6% (6 patients) and 8.1% (11 patients), respectively. In the pre-group, no patients were suspected to have myocarditis, had a median of 32 days between first clozapine dose and discharge, and had 7 patients (15.9%) medically sent out. In the post-group, two patients (1.5%) were suspected to have myocarditis, had a median of 30 days between first clozapine dose and discharge, and had 17 patients (12.6%) medically sent out. **Conclusions and Future Directions:** A lower incidence of CIM was observed in the post-protocol group compared with the pre-protocol group. Further investigation is necessary to determine overall risk difference for myocarditis between various clozapine titration schedules.

The Impact of Pharmacogenomic Testing on Antidepressant Therapy at a VA Medical Center

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Type: Original research. **Background:** PHarmacogenomics teSting for VetERans (PHASER) analyzes veterans' pharmacogenomic profiles to assist with medication management. The

program evaluates 11 genes and 46 drug-genotype interactions. Changes in therapy are guided by the Clinical Pharmacogenetics Implementation Consortium (CPIC) Guidelines. The use of pharmacogenomic testing for veterans with mental health disorders may help improve treatment efficacy by guiding medication prescribing. **Objectives:** Determine percentage of change in antidepressant prescribing based on PHASER results. Secondary objectives included identifying actionable phenotypes and their potential impact on antidepressant medication trials, use of pharmacy pharmacogenomics outpatient consults, and efficacy and safety of PHASER-guided antidepressant prescribing. **Methods:** Retrospective chart review of veterans between March 16, 2023, and October 31, 2023, identified via PHASER Power-BI report. Inclusion criteria were age $\geq$ 18 years followed by a mental health provider. Exclusion criteria were antidepressants prescribed by non–mental health provider; pharmacogenomics testing ordered by non–mental health provider; no diagnosis of major depressive disorder, posttraumatic stress disorder, obsessive compulsive disorder, generalized anxiety disorder, panic disorder, or social anxiety disorder; diagnosis of schizophrenia, bipolar disorder, or attention-deficit/hyperactivity disorder. **Results:** One hundred fifty-eight veterans were identified via PHASER Power-BI report; 77 met inclusion criteria. Sixty (78%) veterans had actionable phenotypes based on PHASER results. Of the actionable phenotypes, 39 (65%) veterans were identified as having no change made. Twenty-one veterans (35%) were identified as having a change in antidepressant prescribing based on PHASER results, and the majority (20/21, 95%) had appropriate changes consistent with CPIC guidelines. **Conclusion:** Despite most veterans having actionable phenotypes, there was limited change to antidepressant therapy. Future projects should continue to analyze the impact of pharmacogenomic testing and identify reasons when changes were not implemented. This project highlights a potential area in which benefit from pharmacy pharmacogenomics consults may yield improved clinical outcomes.

Therapeutic Use of Cannabidiol (CBD) in Autism Spectrum Disorder: A Comprehensive Review of Mechanisms of Action and Clinical Applications

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Type: Original research. **Background:** Autism spectrum disorder (ASD) is a neurodevelopmental disorder marked by impaired social interaction, communication challenges, and repetitive and stereotyped behaviors with global prevalence on the rise. Current pharmacologic treatments include antipsychotics, such as risperidone and aripiprazole, which primarily target aggression and irritability, leaving core symptoms largely unaddressed. Cannabidiol (CBD), a non-psychotropic cannabis derivative, exhibits anti-inflammatory, neuroprotective, and anxiolytic properties, suggesting potential as an adjunct therapy for ASD. **Purpose:** This literature review evaluated CBD's potential mechanisms of action, clinical efficacy, safety, and drug-drug interactions in the context of ASD treatment with a focus on its effects on the endocannabinoid system, gut-brain axis, and neurotransmitter modulation, synthesizing data from preclinical and clinical trials. **Methodology:** This literature review systematically analyzed preclinical and clinical studies on CBD use in ASD by utilizing PubMed with MeSH terms, including cannabidiol and autism spectrum disorder. Studies were selected based on inclusion criteria focusing on CBD's molecular mechanisms, behavioral outcomes in ASD patients, and pharmacokinetic interactions and then categorized by safety, efficacy, and tolerability with strengths and limitations assessed for translational relevance and clinical implications. The scope also included cross-comparison studies of drug-drug interaction implications as a secondary outcome. Exclusion criteria eliminated anecdotal reports and articles lacking quantitative or measurable clinical outcomes. Additionally, studies focusing solely on THC or unrelated cannabinoids, such as cannabidivarin, were excluded to ensure relevance to CBD. **Results:** Evidence indicates that CBD modulates endocannabinoid signaling through 2 receptor subtypes, cannabinoid receptor types 1 and 2, and reduces neuroinflammation. Unlike tetrahydrocannabinol, CBD is not a direct agonist of CB1 or CB2 receptors, but influences endocannabinoid signaling by inhibiting fatty acid amide hydrolase, increasing anandamide levels. Clinical trials in ASD report statistically significant behavioral improvements in social deficits, anxiety, and sleep disturbances although adverse effects such as irritability, appetite changes, and somnolence were noted. Drug-drug interaction analysis revealed increased serum levels of anxiolytic medications, especially selective serotonin reuptake inhibitors, and elevated liver function tests with such as valproate and clobazam, underscoring the significance of therapeutic monitoring. Gaps remain in understanding long-term safety, optimal dosing, and mechanisms of adverse effects.

Encore Presentation Abstracts

5-HT2C Receptors Contribute to Viloxazine's Effects on ADHD-Relevant Behaviors in Rats on the 5-Choice Serial Reaction Time Task

Brittney Yegla, PhD[1]; Jennie Garcia-Olivares, PhD[1]; Alvin Terry Jr, PhD[2]; Chungping Yu, PhD[1]; Jonathan Rubin, MD[1]

[1] Supernus Pharmaceuticals, Inc, Rockville, MD; [2] Augusta University, Augusta, GA

Type: Encore presentation. **Previously Presented:** Previously presented at NEI 2024, APSARD 2025.

A Prescription Digital Therapeutic, CT-152, for Treating Major Depressive Disorder: Effectiveness and Safety Results of the MIRAI Randomized Controlled Trial

Brian Rothman[1], Mary Slomkowski[1], Austin Speier[2], Madhukar H. Trivedi[3,4], Shaheen E Lakhan[2], Erica Lawson[1], Michael Fahmy[1], Daniel Carpenter[5], Dalei Chen[1], Ainslie Forbes[1]

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Type: Encore presentation. **Previously Presented:** Psych Congress Elevate, May 30–June 2, 2024, Las Vegas, Nevada; Psych Congress, October 29–November 2, 2024; Boston, Massachusetts; Nevada Psychiatric Association Annual National Psychopharmacology Update, February 12–15, 2025; Las Vegas, Nevada.

A Randomized, Open-Label, Multiple-Dose, 2-Way Study to Evaluate Bioavailability of Clonidine HCl Extended-Release Oral Suspension Compared With Clonidine HCl Extended-Release Tablets

Eman Rafla, MBBS; Matt Witkovic, DNP; Jennifer Horng, MD; Jim Potenziano, PhD; Joseph C. Grieco, PhD

Tris Pharma, Inc, Monmouth Junction, NJ

Type: Encore presentation. **Previously Presented:** NEI Fall Congress, November 7-10, 2024.

A Review of the Delivery Technologies Used in Attention-Deficit/Hyperactivity Disorder Stimulant Medications

Andrew J. Cutler, MD[1]; Jacob Hanaie, PharmD, APh[2]

[1] State University of New York Upstate Medical University, Lakewood Ranch, FL; [2] Kedren Acute Psychiatric Hospital & Community Mental Health Center and University of Southern California, Los Angeles, CA

Type: Encore presentation. **Previously Presented:** BPA Conference, March 21-24, 2024, Los Angeles, California.

Adjunctive Lumateperone in Patients With Major Depressive Disorder: Results From an Additional Randomized, Double-Blind, Phase 3 Trial

Willie R. Earley, MD[1]; Suresh Durgam, MD[1]; Susan G. Kozauer, MD[1]; Yifan Mo, PhD[1]; Hassan Lakkis, PhD[1]; Eleni Mastromihalis, PharmD[1]; Susan G. Kornstein, MD[2]; Maurizio Fava, MD[3].

[1] Intra-Cellular Therapies, Inc, Bedminster, NJ; [2] Department of Psychiatry, Virginia Commonwealth University School of Medicine, Richmond, VA; [3] Massachusetts General Hospital and Harvard Medical School, Boston, MA

Type: Encore presentation. **Previously Presented:** Psych Congress, October 29-November 2, 2024, Boston, Massachusetts; Neuroscience Education Institute, November 7-10, 2024, Colorado Springs, Colorado; CNS Summit, November 10-13, 2024, Boston, Massachusetts; American College of Neuropsychopharmacology, December 8-11, 2024, Phoenix, Arizona; Anxiety & Depression Association of America, April 3-5, 2025, Las Vegas, Nevada.

Alternative Modes of Administration for Once-Daily Valbenazine to Treat Tardive Dyskinesia or Chorea Associated With Huntington Disease in Patients Experiencing Dysphagia

Roland Jimenez, Mello Hebert, Linda Rees, Alexander Mar, Ali Bristow, Christine Holman, Kira Aldrich, Richard Moore, Khody Farahmand

Neurocrine Biosciences, Inc, San Diego, CA

Type: Encore presentation.

Budget Impact Analysis of Xanomeline and Trospium Chloride for the Treatment of Adults With Schizophrenia in the United States

Annika Bjerke[1], Tyler Mantaian[1], Kristin Gillard[2], Matthew Sidovar[2], Breyanne Bannister[1], Jeff Lee[1], Jonathan Kowalski[1]

[1] Lumanity, Sheffield, United Kingdom; [2] Bristol Myers Squibb, Princeton, NJ

Type: Encore presentation. **Previously Presented:** AMCP 2025.

CT-152, a Prescription Digital Therapeutic for Major Depressive Disorder: A Real-World Analysis of Durability of Treatment Effect

Jeffrey Cochran[1], Huan Jiang[1], Hossain Saboonchi[1], Ranjeeth Valandas[1], Zhen Zhang[1], Akshay Vashist[1], Amit Kulkarni[1], Sandipan Bhattacharjee[2], Veronica Nguyen[2], Tarolyn Carlton[1], Ainslie Forbes[1], Brian Rothman[1], Mary Slomkowski[1], A. John Rush[3]

[1] Otsuka Pharmaceutical Development & Commercialization, Inc, Princeton, NJ; [2] Employee of Otsuka Pharmaceutical Development & Commercialization, Inc, at the time the study was conducted; [3] Duke-National University of Singapore Medical School, Singapore

Type: Encore presentation. **Previously Presented:** Psych Congress, October 29-November 2, 2024, Boston, Massachusetts; Nevada Psychiatric Association Annual National Psychopharmacology Update, February 12-15, 2025, Las Vegas, Nevada.

Early Improvement of Symptoms in Bipolar I Depression Predicts Functional Response and Recovery: A Post Hoc Analysis

Roger S. McIntyre, MD, FRCPC[1]; Mauricio Tohen, MD, DrPH, MBA[2]; Greg Mattingly, MD[3]; Eduard Vieta, MD, PhD[4]; Leslie Citrome, MD, MPH[5]; Anita H. Clayton, MD[6]; Jun Yu, MS, PhD[7]; Huy-Binh Nguyen, PhD[7]

[1] University of Toronto, Ontario, Canada; [2] University of New Mexico School of Medicine, Albuquerque, NM; [3] Midwest Research Group, St Charles, MO; [4] University of Barcelona, Spain; [5] New York Medical College, Valhalla, NY; [6] University of Virginia School of Medicine, Charlottesville, VA; [7] AbbVie, Florham Park, NJ

Type: Encore presentation. **Previously Presented:** ASCP 2024.

Efficacy and Safety of Esketamine Nasal Spray as Monotherapy in Adult Patients With Treatment-Resistant Depression for up to 4 Months of Treatment: A Post Hoc Analysis

Andrew J. Cutler[1], Dong-Jing Fu[2], Ibrahim Turkoz[2], Mai Himedan[2], Oliver Lopena[2], Lisa Lim[2], John S. Verbanac[2]

[1] State University of New York Upstate Medical University, Syracuse, NY; [2] Johnson & Johnson, Titusville, NJ

Type: Encore presentation. **Previously Presented:** ADAA 2025, Las Vegas, NV, April 3-5, 2025.

Long-Term Safety and Efficacy of Xanomeline and Trospium Chloride in Schizophrenia: Results From the 52-Week, Open-Label EMERGENT-4 Trial

Inder Kaul, MD, MPH; Amy Claxton, PhD; Colin Sauder, PhD; Tejendra Patel, PharmD; Soumya Chaturvedi, MS, PhD; Haiyuan Zhu, PhD; Ronald Marcus, MD; Sharon Sawchak, RN; Stephen K. Brannan, MD

Bristol Myers Squibb, Princeton, NJ

Type: Encore presentation. **Previously Presented:** Psych Congress 2024, NEI 2024, NPA 2025.

Long-Term Safety, Tolerability, and Efficacy of Xanomeline and Trospium Chloride in People With Schizophrenia: Results From the 52-Week, Open-Label EMERGENT-5 Trial

Inder Kaul, MD, MPH; Amy Claxton, PhD; Colin Sauder, PhD; Sharon Sawchak, RN; Tejendra Patel, PharmD; Soumya Chaturvedi, MS, PhD; Haiyuan Zhu, PhD

Bristol Myers Squibb, Princeton, NJ

Type: Encore presentation. **Previously Presented:** Psych Congress 2024, NPA 2025.

Lumateperone as Adjunctive Therapy in Patients With Major Depressive Disorder: Results From a Randomized, Double-Blind, Phase-3 Trial

Suresh Durgam, MD[1]; Willie R. Earley, MD[1]; Susan G. Kozauer, MD[1]; Changzheng Chen, PhD[1]; Hassan Lakkis, PhD[1]; Margaret Martin, PharmD[1]; Roger S. McIntyre, MD[2]; Stephen Stahl, MD, PhD[3]

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Type: Encore presentation. **Previously Presented:** European College of Neuropsychopharmacology (ECNP), September 21-24, 2024, Milan, Italy; Psych Congress, October 29-November 2, 2024, Boston, Massachusetts; Neuroscience Education Institute, November 7-10, 2024, Colorado Springs, Colorado; CNS Summit, November 10-13, 2024, Boston, Massachusetts; American College of Neuropsychopharmacology, December 8-11, 2024, Phoenix, Arizona; Anxiety & Depression Association of America, April 3-5, 2025, Las Vegas, Nevada.

Medication Adherence Following Pharmacogenomic Testing in Insurance Claims Data From Patients With Major Depressive Disorder

Andria L. Del Tredici, PhD[1]; Samantha Socco, PharmD[1]; Holly L. Johnson, PhD[1]; Brady DeHart, PhD[2]; Alexander Gutin, PhD[1]; Katie Johansen Taber, PhD[1]; Pamela Morin, MBA[2]; Laura Becker, MS[2]; Julia Certa, MPH[2]; Boadie W. Dunlop, MD[3]; Devika Chawla, PhD[1]; Andrew A. Nierenberg, MD[4]

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Type: Encore presentation. **Previously Presented:** December 2024 at ACNP.

Nonprescription Syringe and Over-the-Counter Naloxone Availability in Community Pharmacies: A Secret Shopper Purchase Audit in Austin, Texas

Lindsey J. Loera, PharmD[1]; Shannon R. Mayberry, PharmDc 2025[1]; Jennifer E. Lines, PharmDc 2025[1]; Sarah A. Hilzendager, PharmDc 2025[1]; Lucas G. Hill, PharmD[1]; Aaron Ferguson[2]; Daniel S. Sledge, LP[1]

[1] The University of Texas at Austin College of Pharmacy, Austin, TX; [2] Texas Drug User Health Alliance, Austin, TX

Type: Encore presentation. **Previously Presented:** AMERSA 2024 Annual Conference, Chicago, Illinois, November 2024.

Quantifying Nonprescription Syringe Access in Oregon: A County-Level Perspective

Marissa McGinnis, PharmD Candidate; Savannah Justen, PharmD Candidate; Victor Abreu, PharmD; Natalea Braden-Suchy, PharmD; Phuong Duong, PharmD, MBA; Adriane Irwin, PharmD, MS

Oregon State University, Corvallis, OR

Type: Encore presentation. **Previously Presented:** OPHA 80th Annual Conference & Meeting.

Safety and Tolerability of Lumateperone 42 mg for the Adjunctive Treatment of Major Depressive Disorder: A Pooled Analysis of 2 Randomized, Placebo-Controlled Trials

Susan G. Kozauer, MD[1]; Suresh Durgam, MD[1]; Willie R. Earley, MD[1]; Changzheng Chen, PhD[1]; Hassan Lakkis, PhD[1]; Betsy Yuan, PharmD, BCPP[1]; Christoph U. Correll, MD[2,3,4]

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Type: Encore presentation. **Previously Presented:** American College of Neuropsychopharmacology, December 8-11, 2024, Phoenix, Arizona.

Strengthening the Behavioral and Mental Health Workforce Through Pharmacy Education

Clayton English, PharmD, BCPS, BCPP, BCGP[1]; Peggy Odegard, BSPharm, PharmD, CDCES[1]; Andy Stergachis, BPharm, MS, PhD[1,2]; Sean Sullivan, BSPharm, MS, PhD[1]; Jennifer Hookstra Danielson, BSPharm, PharmD, MBA, CDCES[3]; Chelsea Markle, PharmD, BCPP[1,4]; Steve Fijalka, PharmD[1,4]; Jennifer Bacci, PharmD, MPH, BCACP[1]

[1] University of Washington School of Pharmacy, Seattle, WA; [2] University of Washington School of Public Health, Seattle, WA; [3] Southern Illinois University Edwardsville School of Pharmacy, Edwardsville, IL; [4] UW Medicine, Seattle, WA

Type: Encore presentation. **Previously Presented:** AACP 2024 Annual Meeting-Boston, Massachusetts, July 2024.

Study Retention Rates in the Olanzapine/ Samidorphan Phase 3 Clinical Program

René S. Kahn, MD, PhD[1]; Christina Arevalo, MS[2]; Marni E. Harris, PhD[2]; David McDonnell, MD[3]

[1] Icahn School of Medicine at Mount Sinai, NY; [2] Alkermes, Inc, Waltham, MA; [3] Alkermes Pharma Ireland Ltd, Dublin, Ireland

Type: Encore presentation. **Previously Presented:** Psych Congress 2024, October 29-November 2, 2024, Boston, Massachusetts; SIRS 2025, March 29-April 2, 2025, Chicago, Illinois.

Substantial Long-Term Improvements With Valbenazine 40 mg in Adults With Tardive Dyskinesia

Andrew J. Cutler[1], Kira Aldrich[2], Khody Farahmand[2], Corinne Ley[2], Gregory Burns[2], Eduardo Dunayevich[2], Sara Gao[2]

[1] Norton College of Medicine, State University of New York Upstate Medical University, Syracuse, NY; [2] Neurocrine Biosciences, Inc, San Diego, CA

Type: Encore presentation. **Previously Presented:** AANN.

Texas Community Pharmacists' Knowledge, Perceptions, and Practices Related to Dispensing Buprenorphine for Opioid Use Disorder: A Cross-Sectional Online Survey

Delandra M. Robinson, PharmDc 2026; Kristopher A. Rodriguez, PharmDc 2025; Sorina B. Torrez, PharmD, MSc; Lucas G. Hill, PharmD; Andres Temblador, MA; Lindsey J. Loera, PharmD

The University of Texas at Austin College of Pharmacy, Austin, TX

Type: Encore presentation. **Previously Presented:** AMERSA 2024 Annual Conference, Chicago, Illinois, November 2024.

Treatment Patterns and Healthcare Resource Utilization of Patients With Schizophrenia Prescribed Aripiprazole Lauroxil Versus Oral Aripiprazole: A Retrospective Claims-Based Study

John M. Kane, MD[1]; Andrea B. Barthel, MS[2]; Chenxue Liang, MS, MPH[2]; Zhengfan Wang, PhD[2];

Elizabeth S. Nagelhout, PhD[2]; Lauren N. Strand, PhD[3]; Michael J. Doane, PhD[3]; Regina Grebla, PhD[3]

[1] The Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, Hempstead, NY; [2] Genesis Research, Hoboken, NJ; [3] Alkermes, Inc, Waltham, MA

Type: Encore presentation. **Previously Presented:** Previously presented at Psych Congress 2024, October 29-November 2, 2024, Boston, Massachusetts; NEI Congress 2024, November 7-10, 2024, Colorado Springs, Colorado; AMCP 2025, March 31-April 3, 2025, Houston, Texas.

Viloxazine Extended-Release Capsules Meaningfully Improved Executive Function in Adult ADHD: Post Hoc Analyses of Phase III Double-Blind and Open-Label Extension Trials

Robert M. Roth, PhD[1]; Peter Isquith, PhD[2], Christian Teter, PharmD, BCPP[3]; Georgette Cox, PhD[3]; Jami Earnest, PharmD, BCPP[3]; Andrea Formella, PharmD[3]

[1] Dartmouth Health/Geisel School of Medicine at Dartmouth, Hanover, NH; [2] Boston Children's Hospital, Boston, MA; [3] Supernus Pharmaceuticals, Inc, Rockville, MD

Type: Encore presentation. **Previously Presented:** APSARD 2025 (January 2025).

Weight Loss Was More Common Than Weight Gain in Adults Treated With Viloxazine ER for Attention-Deficit/Hyperactivity Disorder in Short- and Long-Term Phase 3 Clinical Trials

Andrew J. Cutler, MD[1]; Vladimir Maletic, MD[2]; Peibing Qin, PhD[3]; Andrea Formella, PharmD[3]; Jami Earnest, PharmD[3]

[1] State University of New York Upstate Medical University, Syracuse, NY; [2] Posthumous authorship; [3] Supernus Pharmaceuticals, Inc, Rockville, MD

Type: Encore presentation. **Previously Presented:** Presented at Psych Congress and NEI 2024, and APSARD 2025.

Work in Progress Abstracts

A Convergent, Parallel, Mixed Methods Study to Identify Barriers to Access to Mental Health Care in the Haitian Population of a Midwestern Academic Medical Center

Rebekah Torchon, PharmD, MS; Carol Ott, PharmD, MS, BCPP; David Butterfield, PharmD, BCPS, BCPP; Todd Walroth, PharmD BCPS, BCCCP, FCCM; Shelby Albertson, PharmD, BCACP

Eskenazi Health, Indianapolis, IN

Type: Work in progress. **Background:** Haitian immigrants are disproportionally exposed to a variety of risk factors known to play a significant role in the development of mental illness in addition to abuse, trauma, violence, and discrimination. Historically, the majority of Haitian settlements have been along the east coast of the United States, but there has been a rise in migration to midwestern states. This study aims to identify barriers to mental health care present in the community and health system, including stigma, transportation, health care cost, comfort with health care providers, health literacy, language barriers, and accessing psychotropic medications. **Objectives:** (1) To identify barriers to mental health care from the perspective of the Haitian population. (2) To evaluate specific health system barriers that can be addressed by the health system as identified by the participants' responses. **Methods:** This institutional review board–approved research, funded by the American Association of Psychiatric Pharmacists Foundation, is a convergent, parallel, mixed methods study that will use qualitative one-on-one interviews and a quantitative Likert scale survey to assess ethnopsychiatric beliefs related to mental illness and mental health care in people of Haitian descent. Prior to the interview, participants will complete a 10-question Qualtrics survey designed to determine their beliefs, comfort, shared decision making, adverse experiences, and social determinants of health in the setting of a midwestern health clinic. Surveys will be scored from 1 (*strongly disagree*), 2 (*disagree*), 3 (*agree*), to 4 (*strongly agree*). Purposeful and snowball sampling will be used to recruit participants. Estimated 40 qualitative interviews lasting 30 minutes will be conducted in Haitian Creole or English based on participant preference. Each patient will be compensated with a $25 gift card for their time. Study outcomes will report on themes discovered and supporting survey data. Statistical analysis will be performed on quantitative data. **Outcomes:** We will report on themes discovered during the interview and supporting survey data.

A Retrospective Comparison of Initiation With Intramuscular Paliperidone Palmitate LAI and Subcutaneous Risperidone LAI on 30-Day Readmission Rates in a Behavioral Health Inpatient Treatment Facility

Isabella Fregoso, PharmD; Esther Moon, PharmD, BCPP; Andrew Williams, PharmD, BCPP

Riverside University Health System Medical Center, Riverside, CA

Type: Work in progress. **Background:** Long-acting injectable (LAI) antipsychotics represent a cornerstone in the pharmacological management of psychiatric disorders due to their efficacy in improving treatment adherence and

reducing the risk of relapse and disease progression. Data shows that patients with schizophrenia who are nonadherent to medications have higher rates of adverse outcomes, including hospitalization, emergency care, arrest, violence, victimization, and substance misuse. However, LAIs remain significantly underused in clinical practice due to reasons such as cost, accessibility, limited prescriber awareness, and consumer stigma/misconceptions. Currently, one of the most utilized LAIs in the United States, intramuscular paliperidone palmitate (IM-PP) LAI, requires 2 loading doses to be initiated, whereas subcutaneous risperidone (SQ-R) LAI can be initiated with the intended maintenance dose. However, there is a gap in literature comparing the effect of these LAIs on treatment outcomes in patients with psychiatric disorders. **Objectives:** The primary objective is to compare 30-day readmission rates in patients who were initiated on IM-PP LAI with patients that were initiated on SQ-R LAI during an inpatient psychiatric hospital admission. The secondary objectives are to (1) compare psychiatric emergency treatment service (ETS) visit rates within 30 days and (2) assess time to readmission following discharge in patients who were initiated on IM-PP versus SQ-R during a psychiatric hospital admission. **Methods:** This retrospective review includes adult patients who were admitted to a county inpatient psychiatric facility and initiated on IM-PP LAI or SQ-R LAI from July 1, 2023, to December 31, 2024. The current study proposal is being reviewed by the hospital's institutional review board. Pertinent data to be collected includes the primary psychiatric diagnosis, LAI dose(s), oral risperidone dose and length of trial, prevalence of oral overlap, previous psychiatric hospitalization(s) in the past 30 days, length of stay, concomitant antipsychotic and/or mood stabilizer use, previous antipsychotic/LAI history, and use of illicit substances. **Outcomes:** This study will report the proportion of patients who experienced a 30-day readmission or ETS visit following discharge from an inpatient psychiatric hospital admission during which they were initiated on either IM-PP or SQ-R.

A Retrospective Evaluation of Benzodiazepine Tapering Practices and Outcomes in Veterans Following Chronic Use at a Level 1A Federal Health Care System

Kami Johnston, PharmD; Thao Anh Mai, PharmD; Jeffrey Gold, PharmD, BCPP

Veterans Affairs Eastern Colorado Healthcare System, Aurora, CO. Drs Johnston and Mai are equal contributors to this work and designated as co–first authors.

Type: Work in progress. **Background:** Chronic use of benzodiazepines is associated with multiple risks, including cognitive impairment, falls and fractures, physical dependence, withdrawal, substance use disorder, and overdose when combined with other substances. Due to these associated risks, several clinical guidelines recommend against the long-term use of benzodiazepines and advocate for deprescribing in patients without a clear clinical indication for prolonged use. However, large variability exists in current guideline recommendations regarding deprescribing practices. **Objectives:** (1) Characterize benzodiazepine tapering practices in patients with chronic benzodiazepine use. (2) Assess benzodiazepine taper outcomes and correlate to any identified deprescribing patterns. **Methods:** This quality improvement project will consist of retrospective chart review of patients at a large federal healthcare system who were prescribed benzodiazepines for at least 6 months from January 1, 2014, through December 31, 2024, prior to discontinuation. Prescription data, including benzodiazepine prescribed, dose, associated diagnoses, duration of use preceding taper, and duration of taper will be collected in addition to demographic information (age, sex, race, ethnicity). To evaluate impact on patient care, sustained benzodiazepine abstinence rates and the presence/absence of protracted benzodiazepine withdrawal symptoms will be analyzed. Descriptive statistics will be used to summarize the data and examine the relationship between deprescribing practices and taper outcomes. **Outcomes:** We will characterize chronic benzodiazepine use and benzodiazepine tapers in regard to type, dose, and duration. Outcome parameters, including successful completion of taper, sustained abstinence from benzodiazepines, and presence/absence of protracted withdrawal symptoms will be evaluated, and correlation between specific tapering practices and outcomes will be explored.

A Retrospective Review of As-Needed Medications and Their Role in Predicting Aggression in Forensic Psychiatric Patients

Gabrielle Morgan, PharmD[1,3]; O. Greg Deardorff, PharmD, BCPP[1,2,3]; Roger W. Sommi, PharmD, BCPP, FCCP[1]; Anthony Menditto, PhD[1,2]; Alexandria Choate, PhD[1]; Manfredo Flores Cruz, PsyD[1]; Niels C. Beck, PhD[1,2]

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Type: Work in progress. **Background:** Encountering aggression is common in psychiatric environments for both patients and staff as individuals with mental illnesses, such as schizophrenia, are at an increased risk of violent behaviors. Aggression can result in injury to the patient or others and may lead to restraint or seclusion, further increasing the risk of harm. As needed (PRN) medications are commonly used to manage acute agitation and aggression. By tracking PRN usage patterns, we may be able to predict and prevent future aggressive incidents in forensic settings, ultimately reducing the risk of injury to all involved. **Objectives:** (1) Analyze the pattern of psychoactive PRN medication use

surrounding aggressive incidents, including their impact on restraint, seclusion, and additional injury. (2) Identify commonly used psychoactive PRN medications and investigate the use of additional medication classes (eg, PRN for pain, sleep) in patients with frequent aggression. **Methods:** This retrospective chart review will be conducted at a 449-bed, long-term state forensic psychiatric facility. The project will include individuals admitted to the New Outlook Program between February 1, 2024, and July 31, 2024. These individuals must have experienced at least 1 aggressive incident involving physical harm to another individual or property, and they must be prescribed at least 1 psychoactive PRN medication. Data on both psychoactive and nonpsychoactive PRN medications (eg, for pain, sleep) will be analyzed. Psychiatric diagnoses along with PRN medication dose, frequency, and duration will be collected. Additionally, demographic information, such as age, sex, and race, will be included. The average number of PRN usage per patient during the study period will be calculated to assess weekly fluctuations in PRN use surrounding an aggressive incident. Descriptive statistics will be used to assess the data being collected. **Outcomes:** We will report on PRN usage patterns associated with aggressive incidents, including the average doses, frequency of administration, and specific medications used. Furthermore, we will examine fluctuations in PRN use over time and evaluate the potential of PRN medications as predictive indicators for future aggression.

Advancing Schizophrenia Treatment: A Modified Delphi Consensus on the Critical Role of Psychiatric Pharmacists in Prescription Digital Therapeutics

Nathaniel Rickles, PharmD, PhD, BCPP[1]; Ravi Patel, PharmD[2]; Smit Patel, PharmD[3]

[1] University of Connecticut, Storrs, CT; [2] University of Pittsburgh, Pittsburgh, PA; [3] Digital Medicine Society (DiMe), Boston, MA

Type: Work in progress. **Background:** Prescription digital therapeutics (PDTs) are software-based interventions for managing and treating medical conditions prescribed by health care providers and dispensed by pharmacists. PDTs (class II software as medical devices) are subject to Food and Drug Administration regulation, which requires demonstration of clinical effectiveness and adherence to postmarketing requirements. The application of PDTs for people living with schizophrenia appears promising though access to PDTs may be limited. Psychiatric pharmacists play an important role in mental health care delivery by facilitating access and utilization of PDTs, potentially improving patient outcomes. **Objectives:** Develop recommendations on how psychiatric pharmacists can contribute to use of PDTs by people with schizophrenia by determining the role of pharmacists as advocates for embedding PDTs for schizophrenia treatment within existing health care systems; highlighting how pharmacists can broaden access to and encourage engagement with PDTs for schizophrenia; and identifying assistance pharmacists can provide so they are a point of care for people with schizophrenia using PDTs as well as their caregivers. **Methods:** A modified Delphi methodology will be used to capture perspectives from US-based pharmacists around current and future roles related to PDTs. An institutional review board–approved consensus framework and survey (56 open- or closed-ended questions, including ranking exercises and multiple-option questions) were developed by background research and input from a steering committee of 4 experts across psychiatric pharmacy and PDTs to ensure survey answers would adequately inform consensus discussions. Ten pharmacy experts with diverse mental and/or digital health experience were recruited to complete the online survey. These experts and the steering committee will participate in a Delphi panel to generate consensus on the role of pharmacists supporting PDT use by people with schizophrenia. **Outcomes:** Online surveys will be completed during the first quarter of 2025. Quantitative survey findings will be reported using summary statistics (mean, median, standard deviation for continuous variables; frequency and percentage of respondents for categorical variables). Answers to free-text questions will be subject to thematic analyses. The proportion of Delphi panel participants who agreed with each potential consensus statement will also be summarized, generating recommendations on psychiatric pharmacists' contributions to use of PDTs to treat schizophrenia.

An Evaluation of Buprenorphine Transition Strategies in a Pharmacist-Led Chronic Pain Clinic

Kaitlin Grout, PharmD; Caylee Sams, PharmD

Ralph H. Johnson Veterans Affairs Medical Center, Charleston, SC

Type: Work in progress. **Background:** The management of chronic pain has become increasingly complex in light of the opioid epidemic. Buprenorphine, a partial mu agonist, provides analgesic benefit similar to that of full mu agonists and is a preferred option to traditional opioid therapy for chronic pain management due to its favorable safety and side effect profile. Given the complexity of transitioning patients from full mu agonists to buprenorphine and limited evidence regarding induction strategies, this study aims to review transition techniques being utilized in a pharmacist-led chronic pain clinic. **Objectives:** (1) Evaluate if transition strategy or patient-specific factors are associated with patients achieving successful maintenance on buprenorphine for chronic pain management. (2) Evaluate if social determinants of health (SDoH) are associated with transition outcomes and assess if specific SDoH may predict which induction strategy produces favorable clinical

responses. (3) Identify reasons for discontinuation of buprenorphine while determining association between transition strategy and reason for discontinuation. **Methods:** This retrospective chart review will include adult patients with a completed pain pharmacy consult between August 1, 2022, and August 1, 2024, who attempted to undergo transition from full mu agonist therapy to buprenorphine in a pharmacist-led chronic pain clinic. Transition strategies were categorized as *start/stop* method or *cross-titration* from full mu agonist regimens. Successful transition was defined as achieving maintenance treatment with buprenorphine without a concomitant prescription for a full mu agonist for at least 90 days. Clinical and demographic factors will be collected, including information related to the previously prescribed full mu agonists, buprenorphine prescriptions, SDoH, and pain and mental health diagnoses for which patients are actively receiving treatment. Descriptive statistics, multivariate logistic regression models, independent *t* tests, and χ^2 tests will be used to evaluate factors associated with successful induction. **Outcomes:** We will report the incidence of successful buprenorphine maintenance therapy associated with each transition strategy as well as clinical and demographic factors associated with successful transition. With this information, we will propose a site-specific, standardized protocol to increase the likelihood of successful transition based on patient-specific factors.

Analysis of Correlation Between Total Anticholinergic Load and As-Needed Medication Administrations in an Inpatient Psychiatric Hospital

Christian Grillo, PharmD; Sian Clements, PharmD; Jose Rey, MS, PharmD, BCPP
Nova Southeastern University, Davie, FL

Type: Work in progress. **Purpose:** The purpose of this study is to evaluate the relationship between a patient's anticholinergic burden and the possible change in frequency of as-needed (PRN) medication administration. Patients receiving a variety of psychotropics may be taking psychotropic medications that are intrinsically anticholinergic in nature, such as clozapine, or take anticholinergic medications to manage side effects (eg, drooling). These medications can lead to a degree of cognitive impairment and may contribute to an increased need for PRN medications to manage symptoms; thus, this study aims to explore if patients with a higher anticholinergic load require more frequent administration of PRN medications. **Methods:** This retrospective cohort study will review electronic health records over a 3-month period (January 1, 2025, to March 31, 2025) from patients admitted to a state psychiatric hospital in a deidentified manner. Inclusion criteria will involve adults diagnosed with schizophrenia or schizoaffective disorder who have been at the facility for at least 6 months (most recent intake on June 1, 2024). Data collected will include patient demographics, psychiatric diagnoses, prescribed medications, and the frequency/count of PRN medication administrations during the hospital stay. The anticholinergic load will be calculated using the Anticholinergic Cognitive Burden scale and adding these scores to determine a total load per patient. The primary outcome is the correlation between total anticholinergic load and the number of PRN administrations. Secondary outcomes will include associations between specific classes of anticholinergic medications (eg, classes of antipsychotics, peripheral anticholinergics) and PRN use. Statistical analysis will involve Pearson correlation tests, depending on data distribution, and multiple linear regression will be used to adjust for confounding factors, including age, gender, forensic status, and comorbid conditions. Subgroup analyses will explore whether anticholinergic load differs across diagnostic categories, such as between schizophrenia and mood disorders.

Appropriateness of Antipsychotic Long-Acting Injectable (LAI) Prescribing, Monitoring, and Administration at Veterans Affairs Northern California Health Care System (VANCHCS)

Erena S. Hovhannisyan Romero, PharmD; Brandi Brucato, PharmD; Kristina Ward, PharmD, BCPP
Veterans Affairs Northern California Health Care System, Mather, CA

Type: Work in progress. **Background:** In patients with schizophrenia and bipolar disorder, medication adherence is identified as a priority with the goal of achieving symptom relief and preventing acute psychiatric hospitalization or rehospitalization. Long-acting injectable (LAI) antipsychotics have been a promising dosage form in patients combating nonadherence to their oral antipsychotic therapy due to their favorable frequency of administration. Despite the benefits of LAI use, several factors may contribute to their underuse, including limited knowledge or experience regarding LAIs, personal bias against needles, prescribing patterns limiting LAIs as a last resort, lack of storage, and limited staffing. Due to the number of factors that may contribute to appropriate LAI prescribing, monitoring, and administration, assessing current practice may serve to highlight current patterns; provide education; and prevent medication errors, potential waste, adverse events, and patient harm. **Objectives:** The primary objectives are to investigate the appropriateness of antipsychotic LAI prescribing and monitoring. The secondary objective is to assess the appropriateness of LAI administration. The exploratory objectives are to assess how many patients are on dual-antipsychotic therapy during maintenance treatment and if missed dose adjustments were done appropriately if needed. **Methods:** This institutional review board–

exempt retrospective chart review will include adult patients who were prescribed LAIs from VANCHCS between May 1, 2024, and October 31, 2024. Data collection will assess LAI drug name, dose, dosing frequency, adjustments for renal/hepatic function, adjustment for drug-drug interactions, appropriateness of loading initiation, oral overlap, and monitoring HbA1c lipid panel, Abnormal Involuntary Movement Scale, and EKG. Additional demographic information that will be collected includes age, race, and gender. Other pertinent data will include mental health diagnosis, dual-antipsychotic prescribing, location of administration, injection site, and missed doses (if applicable). **Outcomes:** This quality improvement project will report on the demographic information and appropriateness of prescribing, monitoring, and administration of LAI agents within the VANCHCS by providing insight into current patterns and potential areas of improvement.

Aripiprazole, a Partial Dopamine Agonist Antipsychotic, and Its Effects on Psychosis When Used Concomitantly With Full Dopamine Antagonist Antipsychotics

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Type: Work in progress. **Background:** Aripiprazole is a commonly prescribed antipsychotic for schizophrenia, schizoaffective disorder, and bipolar disorder. It is valued for its favorable tolerability and fewer metabolic side effects compared with other atypical antipsychotics, likely due to its partial agonist action at the D2 dopamine receptor. Several studies suggest that the combination of aripiprazole and antipsychotics with full dopamine antagonistic activity has the potential to worsen psychotic symptoms due to competition at the dopamine receptor. Current research remains mixed and inconclusive, underscoring the need to determine whether such combinations are safe and effective or may worsen psychosis when prescribed concomitantly. **Objectives:** (1) Evaluate the effects of combination aripiprazole and antipsychotics with full dopaminergic activity on psychosis compared with patients on aripiprazole monotherapy. (2) Identify trends of specific combinations of antipsychotics that worsened psychosis and evaluate any subsequent medication changes **Methods:** This institutional review board–approved retrospective chart review will include adults at least 18 years old; admitted to an inpatient medical facility; and diagnosed with schizophrenia, schizoaffective disorder, or bipolar disorder. They must have received aripiprazole in addition to an antipsychotic with full dopaminergic activity from January 2, 2020, through October 2, 2024. The included patients will be compared with patients on aripiprazole monotherapy. Demographic information (age, gender, weight, height, race, and ethnicity) will be collected. Other pertinent data to be collected includes psychiatric comorbidities, hospital readmission rates, as-needed psychotropic medication administrations, and the need for physical restraints. Categorical data will be analyzed using a χ^2 or Fisher exact *t* tests for normally distributed continuous data and Mann-Whitney U tests for non-normally distributed data. **Outcomes:** We will report the number of patients who experienced worsened psychosis as a result of aripiprazole used in combination with full dopaminergic activity antipsychotics. Social history such as substance or alcohol use will be evaluated as potential confounding variables due to potential effects on psychosis.

Assessing the Impact of Patient Health Questionnaire-9 and General Anxiety Disorder-7 Monitoring in Outpatient Depression and Anxiety

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Type: Work in progress. **Background:** Depression and anxiety are common and undertreated in veteran and civilian populations. Antidepressants, which are used to treat both conditions, have high failure rates due in part to the difficulty of many patients in recognizing gradual changes in their symptoms. Monitoring tools such as General Anxiety Disorder-7 (GAD-7) and Patient Health Questionnaire-9 (PHQ-9) are recommended by multiple guidelines to be used at baseline and shortly after medication adjustments and can be beneficial in accurately and quickly identifying treatment responses, remission, or resistance. **Objectives:** (1) Evaluate current use of GAD-7 and PHQ-9 assessments in the treatment of MDD and GAD. (2) Improve treatment outcomes by enhancing use of monitoring tools. **Methods:** This study is a single-center, retrospective chart review. Patients at a single Veterans Affairs (VA) Medical Center are included if they had a MDD or GAD diagnosis and were prescribed a new antidepressant as an outpatient. Patients are excluded for antidepressants initially prescribed by an inpatient or non-VA provider or for any other antidepressant indication. Other exclusions include a baseline GAD-7 or PHQ-9 < 5 or concurrent diagnosis of dementia or bipolar disorder. Veterans meeting criteria between September 1, 2023, and November 30, 2023, are included in pre-intervention data and are reviewed retrospectively for 3 months. Study intervention consists of pharmacy-led education to appropriate nursing staff and providers regarding appropriate PHQ-9 and GAD-7 monitoring. Postintervention, data is collected for 3 months for new antidepressant starts until a total sample size of $n = 52$ is met. Descriptive statistics are used to compare pre-

intervention and post-intervention data. **Outcomes:** Primary outcome: change in percentage utilization of both baseline and follow-up GAD-7 and PHQ-9 as defined by guidelines Secondary outcomes: (1) Change in percentage utilization of GAD-7 and PHQ-9 at baseline. (2) Change in percentage utilization of GAD-7 and PHQ-9 at follow-up. (3) Change in percentage incidence of treatment adjustment at initial follow-up.

Atypical Antipsychotic Associated Weight Gain for Autism Spectrum Disorder Irritability

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Type: Work in progress. **Background:** One in 36 American children will be diagnosed with autism spectrum disorder (ASD). Of those diagnosed, approximately 20% will present with moderate-to-severe irritability. Aripiprazole and risperidone are the only 2 second-generation antipsychotics (SGAs) FDA approved for the management of ASD-associated irritability. Both agents are associated with weight gain with rates being higher for risperidone compared with aripiprazole (33% versus 20%). Thus, other SGAs with a lower incidence of weight gain may be considered as an off-label alternative to prevent unwanted weight gain. One study demonstrated that, in pediatric patients treated with lurasidone for ASD-associated irritability, only 2% to 8% experienced weight gain. A study with a similar population demonstrated that ziprasidone and quetiapine were not associated with an increase in body mass index. The incidence of SGA-associated weight gain and subsequent pharmacotherapy changes has not been previously evaluated at a child and adolescent psychiatry clinic. **Objectives:** (1) Evaluate the incidence of weight gain associated with the use of aripiprazole and risperidone for the treatment of irritability associated with ASD requiring a change in pharmacotherapy. (2) Characterize to what agents the patients who experienced SGA-associated gain weight gain were switched. **Methods:** This institutional review board exempt retrospective medical record review will include pediatric patients who received an outpatient SGA prescription for irritability associated with ASD between January 1, 2024, and June 30, 2024. Patients will be excluded if their primary diagnosis is attention deficit/hyperactivity disorder, unspecified bipolar disorder, schizophrenia, or psychosis. Demographic information, including age, gender, race, ethnicity, height, weight, and psychiatric comorbid conditions will be collected. Other pertinent metabolic data to be collected includes blood pressure, hemoglobin A1c, lipid panel, and prolactin. This data will be collected both prior to and post initiation of the SGA. Descriptive statistics will be performed to examine factors associated with the SGA prescribed and unintentional weight gain. **Outcomes:** The results of this project will be used to develop a treatment algorithm for the ambulatory child and adolescent psychiatry providers for the prescribing of SGAs to treat ASD irritability in patients who have experienced or are considered high risk for weight gain.

Barriers to Use of Clozapine Versus Antipsychotic Polypharmacy in a State Hospital System

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Type: Work in progress. **Background:** Clozapine, a second-generation antipsychotic, is the first-line recommendation for treatment-resistant schizophrenia. The utilization rates of clozapine are consistently lower than expected in many treatment settings. Barriers to clozapine use include side effects, medical complications, required laboratory monitoring, administrative burden, and lack of centralized resources. Due to barriers in clozapine administration, antipsychotic polypharmacy is often used as a replacement for a clozapine trial. Antipsychotic polypharmacy occurs at significant rates in patients with psychotic disorders and may be reduced if perceived barriers to clozapine are investigated and addressed. **Objectives:** (1) Assess documentation of clozapine trials and barriers in patients prescribed antipsychotic polypharmacy. (2) Analyze rates of clozapine prescribing in patients receiving antipsychotic polypharmacy. **Methods:** This retrospective, multisite study will be conducted through chart review to assess documentation of clozapine consideration and prescribing patterns of antipsychotics. This review will include patients prescribed antipsychotic polypharmacy from September 30, 2023, through October 1, 2024, who were admitted and discharged during this time frame. Antipsychotic polypharmacy for the purposes of this study will be defined as 2 or more scheduled antipsychotics on a patient's profile that are not being cross-titrated. These charts will then be reviewed for evidence of a previous clozapine trial or documentation to barriers to clozapine initiation. Demographic information, including age and gender, will be collected. Other pertinent data will include discharge diagnosis, discharge disposition, number of antipsychotics at admission and discharge, length of stay, allergy documentation for clozapine, and documentation pertaining to clozapine. Reasons for discontinuation/barriers to prescribing clozapine that are obtained via chart review will be grouped into categories. **Outcomes:** Documentation rates of clozapine trials and barriers to prescribing in patients prescribed antipsychotic polypharmacy will be reported. Rates of patients transitioned to clozapine monotherapy or clozapine-based polypharmacy and patients transitioned to a long-acting injectable antipsychotic will also be reported. Patients prescribed clozapine-based regimens and those prescribed antipsychotic polypharmacy without clozapine will be analyzed separately to compare length of stay, number of antipsychotics at discharge, and discharge disposition.

Characterization of Medications Prescribed for Agitation in a Psychiatric ICU

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Type: Work in progress. **Background:** Agitation is one of many symptoms associated with behavioral emergencies. During these events, medications are one tool used to help maintain patient and staff safety. Historically, the use of as-needed (PRN) medications has been controversial. Early 2000s literature concluded that PRN medications led to unnecessary exposure of patients to psychotropic medications. In contrast, newer standardized protocols for the management of agitation decrease the total number of PRN medications administered without increasing restraint rates. A study published in 2024 on PRN medication use in an inpatient psychiatric unit found that Black patients within a community hospital facility were more likely to be prescribed and receive psychotropic PRN medication than White patients despite controlling for sex, age, length of stay, and psychiatric diagnosis. This study highlights the existence of racial disparities in PRN medication use and the need for further research. **Objectives:** The primary objective of this study is to assess for any associations between clinical patient demographic information and prescribed PRN medications for agitation/behavioral emergencies during the first 7 days of admission to a psychiatric intensive care unit (ICU). Secondary objectives will include identification of prescribing and administration patterns of PRN medications for agitation in the psychiatric ICU. **Methods:** This study is an institutional review board approved retrospective chart review including patients $\geq$ 18 years old, admitted to the psychiatric ICU from psychiatric emergency services at a single-center, urban, academic medical center between January 1, 2023, and December 31, 2024. Demographic information (age, gender, race, ethnicity, and body mass index) and other pertinent data collected includes admission diagnosis, toxicology results, medication orders (drug name, drug class, dose, instructions), and medication administrations during the first 7 days of admission to the psychiatric ICU. Data will be analyzed using descriptive statistics and logistic regression. Analysis for association between clinical characteristics and selected medications will be through χ^2 analysis and logistic regression. **Outcomes:** Clinical characteristics of patients prescribed medications for agitation in a psychiatric ICU and assessment of any potential relationship between clinical characteristics and medications selected will be reported. Prescription and administration patterns for acute agitation in the psychiatric ICU will also be described.

Clinical Outcomes of Long-Acting Injectables in People Experiencing Homelessness

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Type: Work in progress. **Purpose:** In recent years, the number of people experiencing homelessness (PEH) in America has increased. Many PEH struggle to access health care due to lack of insurance and provider engagement, which can further exacerbate these conditions. In 2023, 21% of PEH self-reported having serious mental illnesses. Though schizophrenia is relatively rare in the general population (0.7%), it is much more prevalent in PEH (12.4%). Long-acting injectable antipsychotics (LAIs) are associated with improved adherence, decreased rehospitalizations, and decreased mortality. Limited studies have evaluated these outcomes in the homeless population. This study aims to describe the implementation of LAIs in PEH and assess clinical outcomes. **Methods:** This is a retrospective, single-center study assessing clinical and safety outcomes in patients experiencing houselessness in the county of Los Angeles. The project aims to describe the implementation of a novel street medicine program in a large urban setting. Electronic health care records of patients will be reviewed. Inclusion criteria are patients aged 18 years or older who have received at least 1 LAI from January 1, 2022, to August 31, 2024. Individuals who have received care through Substance Use Disorder Integrated Services Los Angeles, a nonprofit agency providing care to people experiencing homelessness in LA County, during the defined time period will be included. The primary outcome is hospitalizations. Using data from the county public safety net health system (Los Angeles County Department of Health Services), acute care utilization during the study time for patients will be reviewed. Secondary outcomes include mortality, adherence, substance use, housing status, and global functioning and will be obtained by retrospective chart review. Mortality data is identified through the Los Angeles County Coroner's Office and cross-referenced to the electronic health record. This study has been approved by the institutional review board. **Results:** Data collection is currently in progress.

Community Pharmacy–Based Long-Acting Injectable (LAI) Service Reimbursement

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Type: Work in progress. **Background:** Our state's pharmacy association obtained a grant from one of the state's regional Medicaid behavioral health tailored health plans. The grant's goal was to enhance access to and further develop community pharmacy services that improve health outcomes of members with serious and persistent mental illness and/or substance use disorder within the plan's 7-county coverage area. The first community pharmacy service studied was improving access to LAI psychotropics, including antipsychotics and medications for opioid use disorder, which are currently underused but improve outcomes. Our state Medicaid program reimburses pharmacies for LAI products and allows a $17.36 injection administration fee. Few pharmacies offer LAI administration. A recent statewide community pharmacist survey identified reimbursement as the largest barrier to this service offering. **Objectives:** The primary objective is to devise (and share with payors) a scalable, equitable, and sustainable payment model for the community pharmacy–based administration of LAIs prescribed by a psychiatric provider. Additional objectives include building LAI treatment capacity, preventing and reducing LAI waste, and identifying potential LAI candidates based on oral antipsychotic adherence concerns. **Methods:** The payment model will be informed by the identification of specific pharmacy support services, personnel type, and time required. Nine pharmacy partners were selected based on claims data and project team interviews. After a live training webinar, participating pharmacies accessed an online clinical documentation and reporting system to track time spent on service components and quality assurance functions. Service components included obtaining informed consent, gathering supplies and injection preparation, assessing for clinical appropriateness, product administration, and provider communication (including for no-shows). **Outcomes:** Data collection (June 1, 2024, to September 30, 2024) surpassed the goal of at least 500 data points of pharmacy-administered injections (n = 614). Data compilation and microcosting analysis will be utilized to develop a cost model to render the service. The psychiatrist member of the grant team leads the academic detailing functions with key stakeholders, promoting the potential for collaboration between community pharmacists and community psychiatrists to increase the appropriate use of LAIs in populations already comanaged, particularly with the rise of telepsychiatry practices.

Comparison of High-Dose Olanzapine and Standard-Dose Olanzapine in Adult Patients at a County Psychiatric Hospital (A Continuation Study)

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Type: Work in progress. **Background:** An initial quality improvement study was completed, looking at high-dose olanzapine (40 mg/day or above) compared with standard-dose olanzapine (30 mg/day or less) in adults admitted to an inpatient psychiatric hospital. Olanzapine is typically dosed 5 to 20 mg/day in adults but has reported use of off-label doses exceeding 30 mg/day, most commonly in the clinical context of treatment-resistant schizophrenia or schizoaffective disorder. A few open-label trials have compared doses of olanzapine in these settings. Available randomized controlled trials evaluate the comparative efficacy of these agents (or another comparator agent) mainly by clinical scoring scales. Current evidence is complicated by variable dosing of olanzapine between trials, the heterogeneity of diagnoses, and the absence of further exploration of patient risk factors and other outcomes. **Objectives:** This continuation study will seek to provide additional variables and characteristics of this patient population that might further elucidate concerns for safety of high-dose olanzapine use (eg, sedation, extrapyramidal symptom incidence) and the influence of smoking status on prescribed doses. Primarily, this study will compare patient characteristics and outcomes between patients treated with high-dose olanzapine and standard-dose olanzapine to identify potential risk factors for readmission and any safety concerns. **Methods:** This retrospective review involved data collection from an electronic medical record review of adult patients admitted to a single county psychiatric hospital site January 1, 2019, to June 31, 2023, who received at least 5 days of scheduled olanzapine and that were being treated for psychosis or psychotic symptoms (eg, *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition, schizophrenia, schizoaffective disorder, bipolar disorder I with psychotic symptoms, etc). **Outcomes:** The primary outcome is the comparison of all-cause 30-day readmission rates in patients that received at least 5 days of high-dose olanzapine to patients that received standard-dose olanzapine during an inpatient psychiatric hospital admission. Secondary outcomes will identify any potential common characteristics among readmitted patients, post-olanzapine intervention discharge outcomes (time to readmission, length of stay, etc), or different characteristics (history of long-acting injectable use, discharge disposition, number of antipsychotics prescribed at discharged, etc).

Continuing Professional Development Self-Reporting by Board-Certified Psychiatric Pharmacists

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Board of Pharmacy Specialties, Washington, DC

Type: Work in progress. **Background:** Continuing professional development (CPD) can be defined as a commitment

to lifelong learning through a process of intentional reflection, planning, learning, evaluation, and application while recording and reviewing throughout the process. Among pharmacists outside of the United States and other health care professionals globally, CPD is employed for maintaining and/or enhancing professional competencies. In January 2024, the board of pharmacy specialties (BPS) began integration of CPD into the recertification framework for board-certified pharmacists. **Objective:** Monitor the uptake of CPD by comparing the number of self-reported entries for board-certified psychiatric pharmacist (BCPP) certifications to the number of self-reported entries for all eligible specialty certifications. **Methods:** Through the MyBPS platform, board-certified pharmacists with certifications eligible for the CPD-recertification framework self-report annual reflection/plan entries and CPD activities from various categories, including continuing pharmacy education and CPD portfolios; academic, professional, and interprofessional study; teaching and precepting learners; scholarly activities; workplace activities; and leadership and professional service. The sample will include activities self-reported January 1, 2024, through December 31, 2024, for query and comparison. The number of entries per eligible certification will be reported. **Preliminary Results:** As of September 30, 2024, 8592 certifications across the 14 BPS specialty certification programs were eligible for the CPD-recertification framework, 178 of which were BCPP certifications. Across all specialties, 4613 entries were self-reported between January 1, 2024, and September 30, 2024, including 3153 CPD activities and 1460 annual reflection/plan entries. One hundred thirty-one total entries were self-reported for BCPP certifications for the same period, including 100 CPD activities and 31 annual reflection/plan entries; 0.74 self-reported entries were made per eligible BCPP certification compared with 0.54 self-reported entries per eligible certification across all specialty certifications. **Outcomes:** As of September 30, 2024, the number of self-reported entries per eligible BCPP credential was higher than the number of entries per all eligible specialty certifications. Preliminary findings indicate that BCPPs are well-positioned to make recertification progress within the updated CPD-recertification framework. Findings for January 1, 2024, through December 31, 2024, will be reported for final results.

Describing Intravenous Ketamine Response for Treatment-Resistant Depression or Major Depressive Disorder With Suicidal Ideation in Intranasal Esketamine Nonresponders

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Type: Work in progress. **Background:** Racemic ketamine and its S-enantiomer esketamine have been studied as novel alternatives for treatment-resistant depression (TRD) given their ability to elicit a rapid antidepressant response. However, there is a lack of literature directly comparing the efficacy of intranasal (IN) esketamine and intravenous (IV) ketamine for TRD. Per the local Ketamine Clinic protocol, patients meeting the criteria for use with at least 1 functioning nostril will first be initiated on IN esketamine. However, patients may be converted to IV ketamine if they do not experience an adequate response to IN esketamine at or after 4 weeks of treatment. To optimize treatment, it is crucial to determine if any efficacy differences exist between the 2 agents. **Objective:** Describe the IV ketamine response for MDD with TRD or suicidal ideation among IN esketamine nonresponders **Methods:** This single-center, retrospective electronic chart review will include patients at a large, urban veteran's health facility who were transitioned from IN esketamine to IV ketamine at or after 4 weeks of initiation of IN esketamine due to nonresponse from March 17, 2021, to September 30, 2024. Those who have not completed at least 6 weeks of IV ketamine treatment will be excluded. Baseline characteristics and active antidepressant or augmentation prescriptions will be collected. Patient Health Questionnaire-9 (PHQ-9) scores and Columbia Suicide Severity Rating Scale (C-SSRS) results will be pulled via Mental Health Assistant. Clinician-Administered Dissociative States Scale-6 (CADSS-6) scores and Brief Confusion Assessment Method (bCAM) results will be obtained via manual chart review. Descriptive statistics will be used to analyze baseline characteristics as well as all outcome measures. **Outcomes:** The primary outcome will be the change in PHQ-9 score from baseline to week 6 of IV ketamine treatment. Secondary outcomes include the weekly change in PHQ-9 scores from week 1 to week 6, rate of response, rate of remission, average CADSS-6 scores, and incidence of positive C-SSRS and/or bCAM results.

Determining the Average Anticholinergic Burden in Inpatient Psychiatric Patients Across Various Age Groups

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Type: Work in progress. **Purpose:** Anticholinergic medications are essential in managing the extra pyramidal symptoms associated with antipsychotics. These medications are also contributing to their own unique set of effects which may negatively impact patient outcomes, especially in older adults. Utilizing an Anticholinergic Burden (ACB) calculator

a total anticholinergic burden score will be calculated to assign a quantitative value for the anticholinergic medications a patient is receiving. There is currently no literature which quantifies the average anticholinergic burden of patients in an inpatient psychiatric facility. We aim to identify the baseline anticholinergic burden and compare these averages amongst a variety of age groups. **Methods:** Data will be analyzed using patient records as a snapshot from the month of March 2025. This will serve as the most objective benchmark for current anticholinergic burden. Patients will be included in the study if they are taking an antipsychotic medication and at least one medication with anticholinergic properties as defined by the ACB calculator. Data collected will include patient demographics (including age, race and gender), length of stay, medications prescribed and number of psychotropics prescribed. The primary outcome will compare the average anticholinergic burden scale across three age groups, 18 to 35, 36 to 64 and greater than or equal to 65 years of age. Secondary outcomes are the comparisons of anticholinergic burden based on different demographic groups, such as gender, race, diagnosis, and number of psychiatric medications. The hypothesis is that an increase in age will be related to an increase in the anticholinergic burden score based on a greater period of antipsychotic therapy and adverse reactions management. The findings may identify age groups which may require additional monitoring to decrease the unwanted adverse effects that are attributed to anticholinergic medications.

Development of a Pharmacist-Led Pediatric Long-Acting Injectable Antipsychotic (LAI-A) Treatment Program

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Type: Work in progress. **Background:** Antipsychotic medications are utilized in the management of multiple mental health conditions. LAI-As are increasingly utilized to address medication nonadherence. Recent literature supports additional benefits, including increased time to first hospitalization, delayed time to treatment failure, decreased rates of hospital readmission, psychiatric-related emergency department (ED) visits, suicidality, and health care costs compared with oral antipsychotic medications. Surveys evaluating patient satisfaction with pharmacist-led LAI-A clinics show high levels of patient comfortability receiving LAI-As from pharmacists and increased medication adherence. The development of a pharmacist-led pediatric LAI-A program could lead to increased treatment adherence, increased access to LAI-As, and improved patient outcomes. To justify program development, a needs assessment will be performed to evaluate current prescribing and coverage trends of antipsychotic medications for the pediatric behavioral health service line. **Objectives:** (1) Analyze prescribing trends and health care utilization of a pediatric population receiving antipsychotics. (2) Identify potential cost savings associated with a transition from oral antipsychotics to LAI-As. **Methods:** This institutional review board exempt quality improvement project includes pediatric and adolescent patients participating in outpatient mental health care throughout a pediatric health system who received an antipsychotic for a diagnosis of a serious mental health condition from January 1, 2018, through September 30, 2024. Patients receiving an antipsychotic on an as-needed basis or patients with a diagnosis of autism spectrum disorder, substance-induced psychosis, or substance use disorder will be excluded. Demographic information (age, sex, height and weight, race/ethnicity) will be collected. Other data to be collected include (1) diagnosis; (2) antipsychotic utilized; (3) insurance payer; (4) number of ED visits for a psychiatric chief complaint; (5) number and duration of psychiatric hospitalizations, partial hospital program admissions, or day treatment program admissions; (6) Columbia–Suicide Severity Rating Scale risk level at time of antipsychotic initiation; and (7) number of mobile crisis team utilizations and crisis center utilizations. **Outcomes:** The antipsychotic utilized, diagnosis, primary insurance payer, rates of ED visits, crisis team utilization, hospitalization, severity of suicidality, and potential cost savings with LAI-A use will be reported. Following data analysis, a program development plan will be created to allow for implementation.

Development of a Scoring Tool to Identify High-Risk Discharges in Psychiatric Transitions of Care

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Type: Work in progress. **Background:** Care transitions are associated with medication errors, adverse drug events, and readmissions. Currently, there is limited data regarding safe transitions of care from psychiatric inpatient to outpatient settings. The high risk of transitions for this patient population is further increased due to prescribing of psychotropic medications, risk of suicide, and nonadherence to treatment. It is important to identify patients that may be considered high risk for psychiatric readmission and

medication errors. A standardized discharge medication reconciliation process should be established to ensure medications are prescribed appropriately and necessary monitoring is initiated upon discharge. The current pharmacist-to-patient ratio along with daily responsibilities of the psychiatric pharmacists does not allow for timely review of all discharge orders. This further emphasizes the need for a tool to identify high-risk patients to prioritize with limited pharmacist resources. **Objectives:** Develop a scoring tool within the electronic medical record (EMR) to identify high-risk discharges from psychiatric inpatient units and embed a discharge medication reconciliation process into pharmacist workflow. **Methods:** A literature review was performed to identify common risk factors associated with increased psychiatric readmission rates. These include previous psychiatric hospitalizations, previous suicide attempts, a primary diagnosis of schizophrenia or schizoaffective disorder, being on 2 or more scheduled antipsychotics, lack of health insurance, preferred language other than English, and patients on high-risk medications. High-risk medications include long-acting injectable forms of psychotropic medications, lithium, clozapine, valproic acid derivatives, lamotrigine, methadone, buprenorphine products, and scheduled benzodiazepines. The psychiatric pharmacy team discussed these risk factors and their impact on psychiatric readmission and, thus, determined the numerical value assigned to each risk factor. These numerical values will be assigned and automatically calculated via the discharge scoring tool within our EMR. A higher number will correspond to higher urgency in completing a given patient's discharge medication reconciliation. EMR analysts are working to implement this tool into the pharmacist workflow screen. Once the tool is implemented, data regarding interventions made will be collected. **Outcomes:** We will report on the process of implementing this scoring tool and embedding its use into the psychiatric pharmacist workflow.

Effect of Antipsychotic Initiation on Psychotic Symptoms in Patients Using Stimulants: A Retrospective Chart Review

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Type: Work in progress. **Purpose:** Chronic stimulant use, particularly with substances such as amphetamines, is linked to a range of adverse outcomes, including the onset of stimulant-induced psychosis. There are limited evidence-based pharmacological treatments proven effective for stimulant use disorder though antipsychotics are commonly used to manage psychosis symptoms. This retrospective chart review aims to evaluate the effect of antipsychotic initiation on the resolution of severe psychotic symptoms in patients with a history of stimulant use. The study will also investigate prescribing patterns of antipsychotics for patients presenting to the emergency department and receiving a diagnosis of a psychotic disorder. The primary research questions guiding this study focus on the prescribing patterns for patients with psychotic disorders in the emergency department, how these patterns differ for patients with positive urine toxicology results for stimulants, and the effectiveness of antipsychotics in managing stimulant-induced psychosis. **Methods:** This study will be conducted at the Los Angeles General Medical Center Emergency Department, examining patient records from the past year for those diagnosed with a psychotic disorder. Data collection will include demographics, co-occurring medical and mental health diagnoses, housing and employment status, urine toxicology results, antipsychotic prescriptions initiated in the emergency department, and patient outcomes following discharge. Descriptive statistics will be used to summarize demographic and clinical characteristics as well as to compare treatment approaches based on urine toxicology results. **Significance:** This research seeks to shed light on the clinical decision-making process in treating psychosis among individuals using stimulants and evaluate the effectiveness of current antipsychotic treatments, potentially informing future guidelines for the management of stimulant-induced psychosis.

Effects of Injectable Calcitonin Gene–Related Peptide-Antagonists on Migraine-Associated Cost Burden

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Type: Work in progress. **Background:** Migraine and headache disorders are associated with a significant economic burden and increased health care resource use and result in indirect costs such as lost work productivity. Several medications designed specifically to prevent migraine are available although they remain underused in clinical practice. Injectable calcitonin gene–related peptide (CGRP) antagonists are long-acting medications designed to target the CGRP receptor or peptide. To date, 3 subcutaneous injections have been approved: erenumab-aooe, fremanezumab-vfrm, and galcanezumab-gnlm. Despite their high cost, the 2024 American Headache Society position statement update recommends these agents as first line for migraine prevention. **Objective:** The primary objective is to evaluate whether prescribing of injectable CGRP antagonists reduces the mean monthly cost of migraine management for veterans in an outpatient neurology clinic. Secondary objectives include assessing changes in the rates of walk-in visits or calls to the neurology clinic, sick call visits, or care-in-the-community emergency department (CITC ED)

visits; refills for migraine abortive medications; and the number of patient-reported migraine or headache days. **Methods:** Patients at a veterans affairs medical center with an active prescription for any injectable CGRP antagonist between January 1, 2020, and December 1, 2023, were identified through the computerized patient record system (CPRS) and considered eligible for inclusion. Patients prescribed injectable CGRP antagonists for indications other than chronic or episodic migraine (eg, cluster headache) or who received an injectable CGRP antagonist for less than 9 months were excluded. In September 2024, a review of the electronic health record was conducted to assess changes in the rates of walk-in visits or calls to the neurology clinic, sick call visits, or CITC ED visits; refills for migraine abortive medications; and the number of patient-reported migraine or headache days. In January 2025, a cost analysis was performed to determine the changes in mean monthly migraine-related costs. **Results:** The study included 94 patients receiving injectable CGRP antagonists. Results for secondary objectives are available. The interim cost analysis for the primary endpoint is ongoing. **Conclusions:** Prior to January 2025, all necessary data were compiled. The cost analysis is expected to be complete in February 2025.

Efficacy of Mirtazapine Versus Clonidine for Resistant Posttraumatic Stress Disorder Nightmares in Veterans: An Observational Study

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Type: Work in progress. **Background:** Posttraumatic stress disorder (PTSD) is a condition that is more prevalent in the veteran population compared with the civilian population. One common symptom of PTSD is disruptive trauma-related nightmares. Effectiveness of pharmacotherapy for PTSD nightmares is limited. Prazosin is one of the few medications that has been recommended in guidelines specifically for PTSD nightmares. Other medications proposed for management of PTSD nightmares include clonidine and mirtazapine, both with limited evidence. As mirtazapine and clonidine have opposing effects on alpha 2 adrenergic receptors, this study investigates whether the medications result in different treatment responses. Clonidine's similar physiological mechanism to prazosin suggests that clonidine may yield greater benefit compared with mirtazapine. Findings from this study may inform clinicians in treatment planning for patients who have failed prazosin as there is limited guidance for selecting second-line agents. **Objective:** Compare the effectiveness of clonidine versus mirtazapine in prazosin-resistant patients with nightmares associated with PTSD. **Methods:** We are conducting a retrospective cohort study of veterans diagnosed with PTSD who were initiated on clonidine or mirtazapine following an ineffective trial of prazosin. Subjects who received prazosin for a duration not exceeding 6 months who were subsequently initiated on clonidine or mirtazapine within 90 days of prazosin discontinuation will be analyzed. Veterans initiated simultaneously on mirtazapine and clonidine, if they were previously exposed to either medication, or if they a history of a comorbid severe mental illness such as a psychotic disorder, will be excluded. Treatment response will be assessed by subjectively reported change in nightmare frequency or intensity following initiation of clonidine or mirtazapine. Relevant demographic, clinical, medication usage, and other information will be collected for each subject from the date of prazosin discontinuation and a maximum of 180 days from the start of clonidine or mirtazapine. We will employ inferential statistics to detect group differences if they exist. **Outcomes:** Length of treatment with clonidine or mirtazapine following a switch from prazosin, medication doses prescribed, and an assessment of nightmares (frequency and intensity) will be summarized.

Enhancing Clinical Vigilance: Utilizing the Simpson-Angus Scale in Provider Trainings for Detection of Parkinsonian Symptoms in Antipsychotic Treatment in Outpatient Mental Health Settings

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Type: Work in progress. **Background:** The Simpson-Angus Scale (SAS) is a performance scale that measures drug-induced parkinsonism symptoms caused by classic, dopamine-blocking antipsychotics. It is widely used in both clinical trials and practice to monitor and manage extrapyramidal symptoms. Through objectification of Parkinsonian symptoms, health care providers can make well-informed clinical decisions by correlating subjective patient reports with SAS scores, potentially leading to a reduction in symptoms. This quality improvement study seeks to advance the identification of Parkinsonian symptoms through focused education on the SAS. Implementing a structured educational guide will improve health care providers' knowledge and skills in detecting these symptoms. By enhancing their understanding of the scale, providers may become more proficient in recognizing nuances of extrapyramidal symptoms, leading to improved tolerability of antipsychotic medications. **Objectives:** (1) Identify the prevalence of Parkinsonian symptoms in patients receiving antipsychotic treatment. (2) Assess for adjustments to current psychotropic medication treatment plan in patients identified as symptomatic on the SAS and improvements in

SAS scores following any intervention. **Methods:** Patients were evaluated using a database reporting portal and were included if they were on an oral antipsychotic for more than 1 month. Exclusion criteria include diagnosis of Parkinson disease and patients taking long-acting injectable antipsychotics. An educational intervention was provided to outpatient Mental Health Clinical Pharmacist Practitioners in December 2024 on the use of the SAS. For objective 1, a retrospective chart review will be conducted to identify the study population. For objective 2, a retrospective chart review will be conducted to assess any adjustments to current psychotropic medication and any improvements in SAS scores from baseline. Demographic data including age, gender, ethnicity, and mental health diagnosis will be obtained via retrospective chart review. **Outcomes:** For the primary outcome, we will report the prevalence of veterans with reported Parkinsonian symptoms who are on antipsychotic treatment as evaluated by the SAS. Secondary outcomes include the incidence of initiation of adjunctive treatments for Parkinsonian symptoms, the incidence of antipsychotic dose reduction for Parkinsonian symptoms, and the mean difference in SAS scores from baseline following adjunctive treatment initiation and/or antipsychotic dose reductions.

Enhancing Naloxone Distribution and Education to At-Risk Veterans Through Use of AudioCARE Technology

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Type: Work in progress. **Background:** Opioid overdoses are a national health crisis. Providing naloxone to patients with stimulant use disorder (StimUD) is becoming progressively acknowledged as an effective strategy in addressing the overlapping opioid and stimulant overdose epidemics. This project aims to increase naloxone distribution and education to veterans with StimUD and/or opioid use disorder (OUD) through an automated outreach program called AudioCARE, a platform that enhances communication between health care providers and patients through telephone, web services, and text messages. **Objectives:** (1) Assess number of veterans with StimUD prescribed intranasal naloxone following an AudioCARE telephone call. (2) Assess number of veterans with OUD prescribed intranasal naloxone following an AudioCARE telephone call. (3) Determine difference in characteristics of patients who accepted intranasal naloxone versus declined. (4) Evaluate if additional outreach attempts are effective in reaching initial nonresponders. **Methods:** This quality improvement project utilizes the Veterans Affairs Opioid Overdose and Naloxone Distribution population management tool to identify veterans with StimUD and/or OUD who have not been prescribed naloxone in the past 12 months. Veterans enrolled in hospice care, missing a contact telephone number, or lacking StimUD/OUD diagnoses will be excluded. Eligible patient information will be sent to the AudioCARE coordinator for outreach. Weekly AudioCARE calls offering naloxone and education will be made in batches over 16 weeks. Veterans who consent to naloxone will be mailed a prescription, and patients requesting education will be contacted by phone or letter within 1 week. A note will be generated in the medical record for all patients who accept or decline naloxone. Demographic information, comorbid diagnoses, overdose history, homelessness, opioid prescription history, and medications to treat OUD will be collected. A McNemar test will be used to compare veterans prescribed naloxone pre- and post-intervention. Descriptive statistics will be used to evaluate patient characteristics. χ^2 tests and t tests will be used to evaluate differences between groups. **Outcomes:** The impact of implementing a targeted outreach program via AudioCARE offering naloxone to at-risk veterans will be evaluated.

Establishing and Evaluating a Clinical Pharmacist's Role in an Outpatient Geropsychiatry Clinic

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Type: Work in progress. **Background:** Geropsychiatry, the branch of psychiatry focusing on the mental health of older adults, presents unique challenges due to the complex interplay of aging, comorbidities, and polypharmacy. Pharmacists play a crucial role in optimizing medication management and improving patient outcomes in this population. Historically, the pharmacy resident has worked in the outpatient geropsychiatry clinic but the resident's role within this clinic has not been well-established. **Objectives:** (1) To establish and structure a clinical pharmacist's role in an outpatient geropsychiatry clinic. (2) To measure the success of pharmacy impact based on interdisciplinary team feedback. **Methods:** This is a prospective, interventional study to be conducted over a 6-month period from January 14, 2025, through June 24, 2025, in a geropsychiatric outpatient clinic. A structured role for the pharmacy resident will be created based on interdisciplinary team needs. The pharmacy resident will conduct comprehensive medication reviews, perform medication reconciliations, create a standardized note template, provide education to patients and health care providers, and implement evidence-based interventions. Data collected will include quantity of pharmacist interventions, including chart reviews, educational sessions, and evidence-based medication interventions. Outcomes measured will include a pre- and post-survey to the interdisciplinary team to measure the impact of the pharmacy resident involvement. The survey will assess the pharmacy resident's contributions to medication safety, clinical decision making, patient education, and interprofessional

collaboration. Responses will be analyzed using descriptive statistics. **Outcomes:** The goal of this quality improvement project is to create successful integration of a clinical pharmacist into the outpatient geropsychiatry clinic with clear roles and responsibilities. This will establish a structured pharmacy resident rotation for future trainees and will improve interdisciplinary collaboration and patient care as demonstrated by feedback from the health care team.

Evaluating a Pharmacist-Driven Clozapine Best Practices Standardization in Inpatient Psychiatry Units

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Type: Work in progress. **Background:** In the United States, 1 in 300 people are diagnosed with schizophrenia, which increases mortality risk 2- to 4-fold. Only 1 in 3 schizophrenia patients will go into remission, and there is currently no cure. Patients trial antipsychotics that can help with symptom management, but not all patients will stabilize on their initial treatments. After at least 2 adequate treatment trials, treatment resistance is identified. Clozapine is indicated for treatment-resistant schizophrenia and shows a mortality and suicidality benefit; however, there can be serious side effects associated with its use. A REMS program is in place to monitor for agranulocytosis, but other distressing side effects are possible. The American Academy of Psychiatric Pharmacists (AAPP) has literature to support a clozapine best practices toolkit for dosing and monitoring to ensure a standardized approach for pharmacists to aid in ensuring positive patient outcomes. **Objectives:** (1) Analyze a pharmacist-driven clozapine monitoring service modeling AAPP's best practices tool kit. (2) Identify differences in clozapine best practices completed prior to and after clozapine monitoring service implementation. **Methods:** This institutional review board–approved single-center chart review will include patients 18 years or older receiving clozapine admitted to St. Vincent's inpatient psychiatry units. The clozapine monitoring service group will include patients reviewed from November 1, 2024, and March 31, 2025. The control group will include patients retrospectively reviewed between October 1, 2023, and February 29, 2024. Demographics such as name, age, sex, and race will be collected. Clinical demographics such as initiation or continuation of clozapine, pertinent labs or imaging, past antipsychotic trials if pertinent, medications added due to adverse effects, and concomitant scheduled antipsychotics will be collected. Descriptive statistics will be used to evaluate and assess primary and secondary outcomes. **Outcomes:** The primary outcome we will look at is the percentage of clozapine best practices indicated and completed (both to be met; clozapine best practice parameters stated in final research document). We will also report several secondary outcomes, such as total number of interventions accepted or rejected; types of interventions; and percentage of patients with neutropenia, cardiomyopathy, and appropriate metabolic monitoring.

Evaluating Concurrent Benzodiazepine and Opioid Use After an Educational Intervention in Eligible Veterans at a Veterans Affairs Outpatient Health Care System

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Type: Work in progress. **Background:** By depressing the central nervous system via the inhibitory neurotransmitter GABA, benzodiazepines cause sedation, respiratory depression, cognitive impairment, drowsiness, light-headedness, ataxia, and impaired driving ability, leading to injurious falls and road accidents. Opioids have analgesic properties and have a similar side effect profile. Studies in general health care settings show an increased risk for adverse events, emergency department visits, hospitalization, and mortality with chronic, high-dose use of opioids and concomitant use of benzodiazepines. Despite this, the percentage of opioid users also consuming benzodiazepines rose from 9% in 2001 to 17% in 2013. Reducing these preventable adverse outcomes related to the concurrent use of benzodiazepine and opioids is important to public health as unintentional injury is a major cause of morbidity and mortality. **Objectives:** (1) Provide education to veterans and providers on the risks of concurrent benzodiazepine-opiate use. (2) Reduce the number of veterans receiving dual benzodiazepine-opioid therapy 90 days post-intervention. (3) Provide naloxone when indicated. **Methods:** This study will begin with a retrospective chart review of veterans on concurrent opioid and benzodiazepine therapy from December 20, 2024, to January 31, 2025. Additionally, during this time, patients will be called and educated on risks versus benefits and issued naloxone if not already prescribed, and the mental health provider and/or primary care provider will be alerted of the information discussed. Phase II will assess and evaluate any changes in concurrent benzodiazepine-opioid prescriptions. This phase will also analyze active naloxone prescriptions and adverse effects related to opioids and/or benzodiazepines (opioid-related accidents and overdoses, self-inflicted injuries, violence-related injuries, wounds/injuries overall, and death). Phase II will begin on February 3, 2025, and end on April 30, 2025. **Outcomes:** We will compare the change in dual benzodiazepine-opioid therapy 90 days post-intervention as well as active or pending naloxone prescriptions at post-

intervention review versus pre-intervention and any adverse effects experienced associated with dual benzodiazepine-opioid use (opioid-related accidents and overdoses, self-inflicted injuries, violence-related injuries, wounds/injuries overall, and death). Additionally, descriptive statistics will be used to summarize patient demographic data.

Evaluating the Effectiveness and Safety of Cariprazine on Inpatient Psychiatry: A Medication Use Review

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Type: Work in progress. **Background:** Cariprazine, a newer atypical antipsychotic targeting dopamine D2 and D3 receptors, is indicated to treat schizophrenia and bipolar disorder and as an adjunctive treatment for major depressive disorder. Cariprazine is considered more metabolically friendly; however, akathisia, a common adverse effect, was reported in up to 14% of patients in schizophrenia trials and 21% in bipolar patients. Proper use is critical to maximize therapeutic benefits while minimizing adverse effects, including recognizing drug interactions with CYP3A4 modifiers. **Objective:** To assess the appropriate use of cariprazine on inpatient psychiatric floors following its addition to the formulary in March 2023 at an academic medical center. The project aims to evaluate prescribing practices, monitor side effects, and identify strategies to optimize therapy and patient safety. **Methods and Data Collection:** This quality improvement project is a retrospective medication use evaluation that will evaluate the appropriate use of cariprazine on inpatient psychiatry. All inpatient psychiatric patients aged 18 years or older who received cariprazine between April 1, 2023, and October 31, 2024, will be included. The primary outcome is to characterize the indication for use. Secondary outcomes include evaluating the number of prior antipsychotic treatments, presence of drug interactions (eg, CYP3A4 modifiers), appropriate starting doses, dose adjustments, and side effects (eg, akathisia, weight gain, and sedation). Data will also capture cariprazine continuation post-discharge and patterns of antipsychotic polypharmacy, including cross-titration or augmentation with clozapine. **Outcomes:** Prescribing patterns, frequency of drug interactions, and the appropriateness of starting doses and dose adjustments based on indication, clinical response, and patient tolerance will be reported. Results will include data on side effects, such as akathisia, sedation, and weight changes as well as patterns of antipsychotic polypharmacy and metabolic effects. Results will be presented as part of a medication use evaluation and will inform future prescribing recommendations. **Impact:** This project aims to enhance prescribing practices for cariprazine use in complex psychiatric conditions, minimizing adverse effects and optimizing treatment outcomes in the inpatient setting. Improved monitoring and prescribing guidelines will enhance patient safety and support evidence-based care.

Evaluating the Effects of Glucagon-Like Peptide-1 (GLP-1) Receptor Agonists on Substance Use Disorders

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Type: Work in progress. **Background:** Glucagon-like peptide-1 (GLP-1) receptor agonists were originally developed for treating type 2 diabetes mellitus, and many are also FDA approved for weight loss. Studies suggest that GLP-1 receptor agonists reduce rewarding properties of cocaine, amphetamine, and nicotine. They have been found to decrease cocaine self-administration in mice, and GLP-1 receptors may be a potential treatment target for alcohol use disorder. Because preclinical and clinical evidence suggests that they may affect reward-related behaviors, GLP-1 receptor agonists may be useful in the treatment of substance use disorders (SUDs). **Objectives:** This study aims to review the effects of GLP-1 receptor agonists on SUDs through analysis of clinical trials. **Methods:** A literature search was conducted through PubMed, using the terms "glp-1" and "substance use disorder." Only clinical trials and randomized control trials were included. Studies that did not utilize GLP-1 receptor agonists for treatment groups were excluded. The search term yielded 99 results with 7 results matching filtering criteria. After title and abstract screening by 2 reviewers, only 4 articles fulfilled inclusion criteria. One article was published as a study protocol, and the completed study was obtained through an additional PubMed search. A total of 375 participants were studied in placebo-controlled trials with dulaglutide (n = 1) and exenatide (n = 3) used as GLP-1 RAs. **Outcomes:** The primary outcome that will be assessed is the effect of GLP-1 receptor agonists on the consumption and/or craving of the drug associated with the SUD (dulaglutide for alcohol; exenatide for nicotine, cocaine, and alcohol). The secondary outcomes will be GLP-1 receptor agonist's effects on serious adverse events and withdrawal symptoms. Trial duration and patient body mass index range, race, gender, and dosage regimen will also be collected. The results of the study will help elucidate the role of GLP-1 receptor agonists on SUD.

Evaluating the Perceived Value of Psychiatric Clinical Pharmacist Specialist Services

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Type: Work in progress. **Background:** Clinical pharmacists play a critical role in multidisciplinary medical teams, particularly psychiatry, in which complex medication management is vital for patient care. Previous studies show that pharmacists contribute to improved medication management, reduced adverse drug events, and improved patient outcomes. However, the literature lacks sufficient data on the cost savings of clinical pharmacy interventions in psychiatric settings. Moreover, there is limited exploration of health care team members' perceptions regarding the value of psychiatric pharmacists, underscoring the need for a deeper understanding of their role in improving patient care and reducing health care costs. **Objectives:** This study aims to achieve 2 primary objectives. The first is to investigate physicians', nurses', social workers', and technicians' perceptions of psychiatric pharmacists' role and value within interprofessional health care teams. The second objective is to assess the impact of psychiatric pharmacist interventions on patient outcomes and associated cost avoidance, specifically within inpatient psychiatric settings. **Methods:** This research will be a single health system retrospective review of psychiatric pharmacist interventions (i-vents) from January 1, 2023, through June 30, 2024. In addition, a prospective survey will be conducted to evaluate health care providers' perceptions. The study will include health care professionals from the Community Health Network for the behavioral health pavilion with data collected from the Epic electronic medical record system. Descriptive statistics will be used to analyze interventions' types, significance, and outcomes, whereas a χ^2 analysis will assess differences in perceptions across various health care provider groups. The survey will gauge attitudes toward the value of psychiatric pharmacists, and cost avoidance values will be derived from peer-reviewed literature. **Outcomes:** The study will provide insights into the perceived value of psychiatric pharmacists within multidisciplinary teams and quantify the clinical and cost-related outcomes of their interventions. By evaluating both qualitative perceptions and quantitative outcomes, this research will highlight the importance of psychiatric pharmacists in improving patient outcomes and optimizing health care resource utilization. The findings will contribute to a broader understanding of their role and support further integration of clinical pharmacy services in psychiatric care.

Evaluating the Transition From Full Agonist Opioid to Buprenorphine for Management of Veterans on Long-Term Opioid Therapy for Chronic Pain

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Type: Work in progress. **Purpose:** The potential adverse events associated with opioid use, including respiratory depression and overdose, remain a prevalent public health concern. Due to lower risk for these events and evidence of similar efficacy, buprenorphine has emerged as the first-line option when opioids are used for chronic pain per recent changes to the Veterans Affairs (VA)/Department of Defense Clinical Practice Guideline. The purpose of this study is to determine the extent to which patients with chronic pain previously controlled with a full opioid agonist have been successfully transitioned to buprenorphine within a local VA medical center. **Objectives:** (1) Determine what proportion of patients that are transitioned to buprenorphine from a full opioid agonist for use of long-term opioid therapy in chronic pain remain stable on and continue treatment with buprenorphine. (2) In patients that transition back to full agonist opioid therapy from buprenorphine, assess average duration of buprenorphine therapy and compare reported reasoning for transition back to full agonist opioid. **Methods:** This single-site, retrospective study seeks to evaluate buprenorphine use among patients with chronic pain (without history of opioid misuse) between May 1, 2022, and September 30, 2024. Data including opioid fill history and International Classification of Diseases, 10th Revision (ICD-10) codes will be collected to evaluate start/stop dates of buprenorphine and opioid full agonist prescriptions as well as associated indication for chronic pain condition(s). Chart review will also be conducted to determine reason(s) for buprenorphine discontinuation as applicable. **Outcomes:** Fill dates of buprenorphine and full opioid agonists will be collected to assess approximate duration of therapy. Other information to be collected will include opioid formulations, quantities, doses, prescribers, prescriber types, and associated indications of each prescription. ICD-10 codes will also be collected to validate indications for chronic pain conditions.

Evaluating the Utility of a Retrospective, Pharmacy-Initiated Medication Reconciliation Process

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Type: Work in progress. **Background:** On discharge, it is reported that 40% of patients will have a discrepancy in their medication list. Discrepancies at discharge were associated with increased rates of adverse events but also increased health care utilization and hospital readmissions. Hampton et al found nearly 90 000 emergency department visits annually are due to adverse events associated with psychotropic medication. These findings underscore the importance of allocating resources to ensure appropriate transitions of care within this vulnerable patient population. Pharmacist-led discharge medication reconciliation services are shown to reduce the number of medication discrepancies at discharge. **Objective:** Following implementation of pharmacy-led medication reconciliation at an acute psychiatric hospital, we aimed to evaluate (1) the rate and timing of discharge medication reconciliations completed by a pharmacist or trained pharmacy technician; (2) the number and types of discrepancies identified during medication reconciliation process including missing medications, incorrect agent, or wrong dosage; and (3) the effectiveness of interventions to increase pharmacy documentation within the medication reconciliation process. **Methods:** A retrospective chart review was completed that included all patients discharged from a large, academic psychiatric hospital from October 1, 2023, to September 30, 2024. Completed medication reconciliations were documented in a secure Microsoft form and included patient identifiers (gender, date of birth, primary diagnosis) and documented pharmacy interventions. Targeted interventions including reeducation for pharmacy staff and quarterly intervention reports for unit-based pharmacists were utilized to improve documentation. Descriptive statistics will be used to assess efficacy of interventions. **Outcomes:** This study aims to evaluate the effectiveness and utility of a retrospective, pharmacy-initiated medication reconciliation process. Preliminary data from our inpatient psychiatric hospital found pharmacy staff completed medication reconciliations for 89.6% of the 4931 patients discharged over the 12-month study period. During this time, a total of 374 pharmacy interventions were documented in 296 unique patient encounters. The impact of interventions to increase documentation, such as reeducation sessions and quarterly feedback reports, will be assessed. These findings may provide evidence to support further integration of pharmacy-led medication reconciliation as a standard of inpatient psychiatric care.

Evaluation and Optimization of Medication Management to Prevent Restraint Episodes in Adult Patients Admitted to an Inpatient Psychiatric Facility

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Type: Work in progress. **Background:** Physical restraint is an intervention used mainly for the management of disruptive and violent behaviors. Restraint typically involves the use of devices designed to confine a patient's bodily movements and can include, but are not limited to, limb holds, safety vests, and bandages. The primary use of physical restraint is to prevent injury (to self and others) and reduce agitated or violent behaviors. Unfortunately, physical restraint can have deleterious physical and psychological effects on both patients and staff. For these reasons, it is imperative that all preventative measures be taken before restraints are implemented. **Objective:** This study aims to identify gaps in medication management in patients who required physical restraint to determine areas to optimize medication use and reduce instances of restraint. **Methods:** This is an institutional review board approved retrospective chart review and process improvement study at an inpatient psychiatric facility in a community medical center. The health system's electronic health record will be used to identify patients in the voluntary or involuntary short-term psychiatric facility between January 1, 2024, and August 26, 2024, who are $\geq$ 18 years of age and placed into a therapeutic hold or 4-point restraints. Patients who were restrained in the psychiatric emergency services unit or placed into seclusion were excluded. Demographic information (age, gender, race, ethnicity, height, weight, body mass index) will be collected. Other pertinent data to be collected include psychiatric medications administered within 24 hours of a restraint episode, nursing and mental health associate documentation, and reason for restraint. Descriptive statistics will be used for the first phase of the study to examine the potential gaps in medication management that could have contributed to the restraint episode. **Outcomes:** The primary outcome is the composite of opportunities missed to optimize medication management prior to restraint, including subtherapeutic antipsychotic, valproic acid, or lithium dose; inappropriate selection of as-needed medications for agitation; or missed opportunity for the use of as-needed medications based on nursing documentation. The secondary outcomes include each component endpoint of the primary outcome and the number of restraint episodes.

Evaluation and Reduction of Pill Burden in the Inpatient Psychiatric Setting

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Type: Work in progress. **Background:** Pill burden plays a significant role in medication adherence. This can also lead to an increase in medication refusals, longer medication procurement time for nursing staff, increased restocking frequency for pharmacy technician staff, and higher drug costs. This project aims to optimize the inventory of the automated dispensing cabinets (ADC) located within adult inpatient psychiatric units to decrease rates of multiunit dose administrations. **Objectives:** The objective will be to (1) analyze the frequency of multiunit orders dispensed and (2) compare costs of multiunit administrations versus single dosage form administrations before and after implementation of a multiunit reducing protocol. **Methods:** This quality improvement project will review ADC dispense reports for a machine located within a selected inpatient psychiatric unit. These reports will pull all occurrences in which multiple tablets or capsules were administered for 1 medication order occurring between June 1, 2024, and December 31, 2024. Using this dispense report, psychotropic medications in which multiple tablets or capsules were dispensed per medication order will be analyzed. This evaluated data will then be used to identify the top 10 psychotropic medications in which the dispensed medication was commercially available in a single dosage form, the wholesale cost of what was administered, and the potential cost of using the single-dose product. This information will be reviewed using descriptive statistics and then utilized to create a more efficient and cost-effective ADC inventory plan. The frequency of multi-unit dispenses 6 months after implementation of this inventory plan will then be reevaluated using the same process. **Outcomes:** Using the data collected, a more efficient inventory will be created, and after 6 months of implementation, the frequency of multiunit dispenses will be reevaluated. The before and after data sets will be compared to determine if there was a reduction in the frequency of multi-unit dose administrations and any associated cost savings.

Evaluation of Midazolam Efficacy as an Alternative for Lorazepam for Management of Acute Agitation in Behavioral Health Patients

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Type: Work in progress. **Background:** In the recent past, increased demand and manufacturing delays resulted in a shortage of lorazepam injection. Due to this shortage, providers and institutions sought to use alternative medications to prevent a negative impact on patient care, including using midazolam injection for the management of acute agitation. Although lorazepam and midazolam are both benzodiazepines, they differ in a few ways. Compared with lorazepam, midazolam has a faster onset of action and shorter duration of action. These characteristics may not be desirable when used as a replacement for lorazepam, especially in the management of acute agitation. There is a lack of a standardized dosing conversion between lorazepam and midazolam among different guidelines as well as between different institutions. There is also limited literature addressing the use of midazolam for acute agitation in hospitalized patients. In response to the shortage of lorazepam injection, the hospital expanded the criteria for midazolam use, which included adding midazolam to order sets for management of severe agitation. **Objectives:** The purpose of this project is to assess the efficacy and safety of midazolam for the management of acute agitation in behavioral health patients admitted to the inpatient psychiatry unit of a county hospital. **Methods:** This study is an institutional review board–approved retrospective chart review of patients admitted from July 1, 2022, to July 31, 2024, and treated for acute, severe agitation (as defined by receiving medications from the psychiatry agitation order set, severe agitation panel). Patients will be randomly selected from a report of eligible patients and placed in 2 groups (n = 100): patients who received midazolam and patients who received standard of care (antipsychotics, benzodiazepines, or diphenhydramine) from the agitation order set. Demographic information including age, legal sex, race, and ethnicity will be documented. Safety parameters, including vitals; common adverse events (including sedation); and use of the reversal agent, flumazenil, will also be documented. **Outcomes:** The primary outcome is improvement in agitation (defined as clinical documentation or no additional medication administration for agitation within 4 hours of initial medication). Secondary outcomes are average dosing of medications and whether additional medication administrations were given.

Evaluation of Pharmacy Means Reduction for Veterans Enrolled in the High Risk for Suicide Program

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Type: Work in progress. **Background:** Suicide in the veteran population continues to be significantly higher than that of the nonveteran population with firearms or hanging being the leading causes of mortality, whereas poisoning (which includes medication overdose) is the leading method of suicide attempts. Currently, the 2021 Veterans Health Administration Directive 1160.07 has established policies regarding the Suicide Prevention Program, such as

a mandatory, 90-day, high risk for suicide (HRS) program enrollment for veterans who are deemed high risk for suicide. This program implements 2 distinct mechanisms: a provider-based system and a pharmacy-based system. The former is focused on closer follow-up with mental health providers and a designated suicide prevention coordinator. At the Veterans Affairs Northeast Ohio Healthcare System (VANEOHS), the pharmacy-based system focuses on limiting medication supplies as a form of means reduction. Prior to June 2024, VANEOHS limited the dispensing of most medications to a 7-day supply for those enrolled in the HRS program. However, this has changed to a 14-day supply given limited national guidance and minimal literature available to support the more intensified program of 7-day supplies. **Objectives:** Primary outcome is to detect a difference in the number of suicide completions between the 7-day and 14-day supply cohorts. Secondary outcomes include describing suicide attempt methods and, for those that involve medication overdose, the specific medications and drug classes. **Methods:** The quality improvement project will include all veterans enrolled in the HRS program at the VANEOHS from July 8, 2023, to January 8, 2024 (Cohort 1; 7-day supply of medications) and July 8, 2024, to January 8, 2025 (Cohort 2; 14-day supply of medications). Data will be collected through the computerized patient record system. Suicide attempts will be identified through documentation of the Suicide Behavior & Overdose Report and/or Comprehensive Suicide Risk Evaluation. **Outcomes:** The results from both cohorts and the analysis of the primary/secondary outcomes will be presented. Demographic data will also be shared including factors such as age, birth sex, and duration of time enrolled in the HRS program.

Evaluation of the Appropriateness of Haloperidol Decanoate Dosing in Inpatients With Serious Mental Illness

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Type: Work in progress. **Background:** Converting patients from oral haloperidol to the long-acting injectable haloperidol decanoate is a common practice in managing the symptoms of schizophrenia due to improved adherence rates and reduced symptomatic exacerbations during maintenance. Though manufacturers advise an initial dosing of 10 to 20 times the oral daily dose, inconsistent prescriber dosing practices may lead to variability in therapeutic outcomes. Therefore, it is essential to assess the appropriateness of current initial dosing practices of haloperidol decanoate. **Objectives:** (1) Assess the appropriateness of dosing practices against the recommended initial dosing of 10 to 20 times the oral daily dose of haloperidol for patients transitioning to haloperidol decanoate. (2) Analyze associated consequences of overdosage and underdosage of haloperidol decanoate. **Methods:** This retrospective chart review will use data from the University of California Health Data Warehouse from June 1, 2014, to June 1, 2024, which provides deidentified data not requiring institutional board review. Inclusion criteria will be inpatients diagnosed with schizophrenia or schizoaffective disorder aged 18 years or above receiving an initial dose of haloperidol decanoate with or without oral haloperidol supplementation. Exclusion criteria are patients on dual antipsychotics, those already maintained on haloperidol decanoate, or those who did not receive at least 1 oral dose prior to haloperidol decanoate administration. Baseline demographics such as age, gender, ethnicity, and number of previous hospitalizations will also be included and characterized using descriptive statistics. The appropriateness of haloperidol decanoate dosing will be assessed by the proportion of patients within the recommended range and compared using a χ^2 test. **Outcomes:** The primary outcome will be reported as the proportion of patients who are on appropriate initial dosing of haloperidol decanoate. Secondary outcomes will include the proportion of patients prescribed with and without oral overlap, the proportion of patients who received anticholinergic medications within 30 days of receiving a haloperidol decanoate injection, readmission within 30 days of receiving initial haloperidol decanoate injection, and the incidence of extrapyramidal symptoms.

Evaluation of the Distribution of Naloxone Kits in Patients Diagnosed With Opioid Use Disorder

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Type: Work in progress. **Background:** US military veterans have been significantly affected by the opioid overdose crisis with drug overdose mortality rates rising by more than 50% between 2010 and 2019. Although opioid prescribing significantly declined between 2010 and 2016, overdose trends still reflect those seen in the nonveteran US population. One approach to reducing overdose risk is to focus on understanding high-risk subpopulations in order to decrease mortality and instill harm-reduction measures. The purpose of this project is to assess the distribution of naloxone kits to veterans with diagnosed opioid use disorder. **Objectives:** The proposed project goal is to assess the distribution of naloxone kits to veterans diagnosed with opioid use disorder (OUD) and use this information to identify those who would benefit from receiving a naloxone kit. **Methods:** This institutional review board–approved retrospective chart review was performed using the computerized patient record system and the Opioid Overdose Education and Naloxone Distribution dashboard

for all patients identified having a diagnosis of OUD. Patients identified as having OUD were reviewed to determine the need for a naloxone kit. Patients identified as in need of a naloxone kit were contacted to receive counseling on naloxone's role in overdose prevention. Patients were asked for consent to receive a naloxone kit in the mail. Those who consented had a naloxone order placed and documentation made in their chart. Patient data was collected and analyzed. **Results:** The study reviewed 88 patients diagnosed with OUD to assess the distribution and acceptance of naloxone kits as part of a harm-reduction strategy. Twenty-nine patients were successfully contacted; 6 accepted the offer to receive a naloxone kit and 23 declined. Forty-seven patients were not able to be reached. The remaining 12 patients are pending chart review. **Conclusions:** The preliminary findings of this study suggest that engaging veterans in naloxone distribution efforts presents significant challenges with a notable portion of patients either declining to receive a naloxone kit or unable to be reached.

Evaluation of the Feasibility and Potential Impact of Providing Ambulatory Alcohol Withdrawal Management Within a Veterans Affairs Medical Center

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Type: Work in progress. **Purpose:** Alcohol misuse is prevalent in the veteran population. Alcohol-related morbidity and associated health care needs are projected to increase substantially in the near future. Veterans Affairs Providence Healthcare System (VAPHS) faces mounting challenges caring for this growing patient population due to limited psychiatric bed availability and recent policy changes preventing hospital diversion in the state. Currently, VAPHS only offers inpatient alcohol withdrawal syndrome (AWS) management. Evidence suggests patients at low risk of complicated withdrawal with mild-to-moderate AWS may be treated safely in the outpatient setting. This study evaluates the feasibility and potential impact of establishing an ambulatory AWS clinic at VAPHS to reduce unnecessary inpatient psychiatric admissions, assess the safety of ambulatory AWS management, and identify gaps in alcohol use disorder (AUD) treatment. **Methods:** This is a retrospective quality-improvement project assessing patients admitted to VAPHS for AWS management between October 1, 2024, and December 30, 2024. A screening tool for ambulatory AWS management will be utilized to determine if patients would be eligible for ambulatory AWS management. Data will include patient demographics, AWS symptom assessment, alcohol use history, psychiatric and medical comorbidities, alcohol-related complications, and AUD treatment patterns. Data will be analyzed to determine the number of preventable admissions, the frequency of AWS complications in this veteran population, and current prescribing trends for AUD at VAPHS. **Results:** The results of this study will quantify the potential benefits of AWS management and may guide recommendations for implementation of ambulatory AWS management services at VAPHS. Findings may indicate an opportunity to revise the current AWS protocol to include ambulatory AWS management.

Evaluation of the Utilization of Pharmacologic Treatment for Alcohol Use Disorder in an At-Risk Outpatient Veteran Population

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Type: Work in progress. **Background:** Alcohol use disorder (AUD) is the most common substance use disorder, and rates of alcohol-related deaths are increasing despite alcohol use being a modifiable risk factor for many health conditions. Given the prevalence of alcohol use, routine screening for alcohol misuse should be standard in practice. Veterans Affairs (VA) uses the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) as an annual screening for all patients. The AUDIT-C tool screens for hazardous alcohol use or an AUD based on reported use in the past year. It contains 3 questions and can be administered as a self-report measure or an interview. According to VA guidance, all patients with an AUDIT-C of 8 to 9 should be offered pharmacotherapy with or without psychosocial interventions, whereas an AUDIT-C of 10 to 12 should be referred for specialty care management. In fiscal year 2022 at this VA medical center (VAMC), the percentage of patients with AUD receiving any AUD medication was 7.35% compared with 11.24% at the VA national level. **Objectives:** (1) For patients at high risk for AUD, quantify prescribing of medications for AUD (MAUD) and identify specific areas where treatment is not offered. (2) Assess clinician **adherence** with guideline-based monitoring parameters for MAUD and identify adverse drug events. (3) Quantify medication adherence to MAUD and identify improved alcohol use outcomes for patients. **Methods:** This medication use evaluation will include patients with an AUDIT-C $\geq$ 8 between January 1, 2023, and June 30, 2023. The following data will be collected: patient demographics, goals of treatment, AUDIT-C score, medication prescribed, provider type, medication possession ratios, reason if MAUD was not started, past trials of MAUD, hospitalization and/or emergency department visit related to AUD during the 6-month period after the first fill of an AUD medication, AUDIT-C score at next follow-up, and adverse drug events related to MAUD. **Outcomes:** The results will help determine if further provider training could be developed to improve MAUD utilization. The

data of this medication use evaluation is expected to quantify safety and efficacy outcomes of MAUD in a manner that may encourage increased utilization at the VAMC.

Exploring Mental Health Service Utilization and Challenges Among Graduate Students in Health Care Programs: A Cross-Sectional Study

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University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences, Aurora, CO

Type: Work in progress. **Background:** Mental health among graduate students in health care programs is often overlooked with the primary focus centered on preparing them for clinical practice. However, escalating academic workloads and responsibilities can make balancing school, work, and personal life increasingly challenging, contributing to elevated levels of depression, anxiety, and burnout and frequently driving students to leave academia. Recent studies evaluating mental health in this population reveal significant concerns, underscoring the need for targeted interventions. This study addresses those needs by first examining mental health service utilization at a premier academic medical campus, aiming to inform strategies for better student support and well-being. **Objectives:** This study aims to examine the prevalence of mental health service utilization among graduate students in health care programs at any point during their enrollment while also identifying factors—such as stigma, awareness, and mental health challenges—that may influence their well-being and access to support services. **Methods:** This cross-sectional study will survey students in health care programs across all years between January 1, 2025, and April 30, 2025. An anonymous 20-question Qualtrics survey will be administered to collect data from participants. Recruitment will be facilitated through a flyer containing a QR code linked to the survey, distributed campus-wide to reach students enrolled in pharmacy, dental, medical, physician assistant, and physical therapy graduate programs. The sample size will include 50 students with 10 students from each program. Demographic data collected will include age group, gender identity, and race/ethnicity. Participation is voluntary, and all students who complete the survey will be included in the analysis. Descriptive statistical methods will calculate the prevalence of mental health challenges and resource utilization while thematic analysis will be applied to open-ended responses. χ^2 tests will be performed to examine associations within the data. **Outcomes:** The primary outcome is the proportion of graduate students in health care programs who report utilizing mental health services provided by their campus. Secondary outcomes include prevalence of mental health challenges, attitudes toward stigma, self-care practices, and perceived support from faculty/staff and available resources.

Factors Associated With Delta-8 Tetrahydrocannabinol Admission to a Behavioral Health Hospital

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Belmont University College of Pharmacy and Health Sciences, Nashville, TN

Type: Work in progress. **Background:** Cannabis contains hundreds of compounds, including cannabinoids, terpenes, and phenols. The compounds that produce the predominant therapeutic and adverse effects include delta 9-tetrahydrocannabinol (THC) and cannabidiol (CBD). Delta-8 THC was first synthesized from CBD in the 1940s but discovered to occur naturally in cannabis at very low concentrations in the 1960s. Delta-8 THC is growing in popularity for recreational use throughout the United States. In the authors' state, which has no medical or recreational cannabis laws, billboards advertise delta-8 THC at dispensaries, and it is available for purchase at convenience stores. The Food and Drug Administration has received adverse event reports involving delta-8 THC products. In addition, several case reports and case series have been published regarding adverse effects related to delta-8 THC use. This study sought to identify factors present in individuals admitted to an inpatient behavioral health facility with a reported history of delta-8 THC use. **Methods:** The project will be a retrospective chart review of factors present in individuals admitted to an inpatient behavioral health facility with a reported history of delta-8 THC use. A report will be generated from the electronic medical record identifying patients who have *delta-8* noted in the medical record since January 1, 2020. Medical records for 100 patients will be reviewed for a variety of demographic factors. **Results:** The authors will report demographic factors for the participants, including age, sex, and weight. Additionally, they will provide data on the frequency of mental health diagnoses, including psychosis, mania, suicidal ideation, depression, and anxiety. Information on participants' history of psychiatric disorders, family history of psychiatric disorders, prior psychiatric medications, and any previous admissions to behavioral health facilities will also be detailed. The presence of catatonia and benzodiazepine use will be included in the report as well. **Conclusions:** The authors will report the factors present in individuals with a history of delta-8 THC use who were admitted to an inpatient behavioral health facility.

Factors Influencing Hospital Length of Stay in Patients Receiving New Lithium Therapy for Acute Bipolar Illness at an Inpatient Psychiatric Facility

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Type: Work in progress. **Background:** Current guidelines recommend lithium for acute mania and depression associated with bipolar disorder. Data are limited on the effects of individual patient and prescribing factors associated with lithium therapy and their effects on hospital length of stay (LOS) in patients admitted with acute mood episodes of bipolar or schizoaffective disorders. Previous research focuses specifically on rapid titration strategies of lithium and their effects on hospital LOS rather than investigating other factors involved in the overall management of these patients. **Objectives:** This study aims to evaluate what factors related to the initiation of lithium for acute mood episodes of bipolar disorder or schizoaffective disorder, bipolar type, are associated with a statistically significant change in hospital LOS. **Methods:** This study is a retrospective chart review that will include patients 18 years and older admitted to an academic psychiatric facility with an acute mood episode of bipolar disorder or schizoaffective disorder, bipolar type, between January 1, 2020, and July 1, 2024. Patients will be included if they are newly initiated on lithium and have a serum lithium concentration checked during admission. Patients on lithium for depression without a history of bipolar illness will be excluded. A regression analysis will be done to identify factors related to lithium initiation that are associated with hospital LOS. Factors to be evaluated include patient demographics (sex, age, race, etc.), phase of illness (mania versus depression), timing of lithium initiation from hospital admission (within or beyond 72 hours), aggressive dosing of lithium ($>$ 15 mg/kg), and concomitant use of antipsychotics. **Outcomes:** This study will identify factors related to lithium initiation that are associated with hospital LOS as an indirect marker for time to stabilization in patients admitted with acute mood episodes of bipolar disorder or schizoaffective disorder, bipolar type. The results of this study will inform potential optimizations of prescribing practices.

Impact of a Text Message Intervention on Naloxone Prescriptions for Individuals With Stimulant Use Disorder

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Type: Work in progress. **Background:** Stimulant use disorder (StimUD) is a significant public health concern, further complicated by the widespread presence of fentanyl in nonprescribed stimulants such as methamphetamine and cocaine. Whereas naloxone is a vital tool in preventing opioid overdose deaths, traditional approaches to providing naloxone education and prescriptions during health care interactions may not reach all individuals at risk. Text message interventions may increase access to overdose education and naloxone distribution. This study aims to bridge gaps in naloxone education and access, enabling more equitable and impactful harm reduction initiatives. **Objectives:** (1) Measure the effectiveness of a text message intervention to increase naloxone prescriptions among patients with StimUD compared with usual care. (2) Investigate demographic, clinical, and other characteristics associated with naloxone prescription acceptance. **Methods:** This will be a retrospective chart review of patients diagnosed with StimUD at a single health care institution. We will evaluate the rate of naloxone prescriptions before and after implementation of a text message outreach versus standard care. Data will be collected on patient demographics, including age, sex, and race. Acceptance rates will be defined as patients with a naloxone order that was released during the determined time frame based on patients who were offered naloxone. All statistical analyses will be conducted using IBM SPSS Statistics.

Impact of Esketamine Therapy Discontinuation on Depression Stability in Veterans With Treatment-Resistant Depression

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Type: Work in progress. **Background:** The lifetime prevalence of depression in veterans is about 20%. More than half of US adults with a major depressive episode in 2023 were treated with a prescription medication. However, not all patients respond to the initial medication, and multiple medication trials are often required. Patients who experience multiple treatment failures are considered to have treatment-resistant depression (TRD), which affects an estimated 30.7% of patients with MDD. One treatment option for TRD is esketamine. It is the s-enantiomer of racemic ketamine and is an N-methyl-D-aspartate receptor antagonist. Patients treated with esketamine plus an antidepressant are more likely to achieve remission. However, there is limited information about outcomes following discontinuation of esketamine and no recommendations for duration of treatment. **Objective:** Change in Patient Health Questionnaire-9 (PHQ-9) and Columbia-Suicide Severity Rating Scale (C-SSRS) following discontinuation of esketamine. **Methods:** This is a

single-center retrospective quality improvement study analyzing patient outcomes for patients who discontinued esketamine between January 1, 2020, and September 30, 2024. Eligible patients will be those 18 or older treated in the site's pharmacist-led esketamine clinic. Patients will be excluded if they were in treatment for less than 4 weeks or discontinued esketamine due to being lost to follow-up. The site's electronic medical record will be used for chart review. Collected data will include patient age, gender, race, mental health diagnoses, PHQ-9 scores, C-SSRS results, concurrent oral antidepressant therapy before and after discontinuing esketamine, psychiatric hospitalizations, and suicide attempts. **Outcomes:** Descriptive statistics will be utilized to analyze collected data. The primary outcome is change in PHQ-9 score following discontinuation of esketamine therapy. Secondary outcomes include results of suicide screens following discontinuation, depression relapse for patients previously with remission, hospitalization rates, and suicide attempts.

Impact of Patient Demographics on Prescribing Practices on an Inpatient Child and Adolescent Psychiatric Unit

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Type: Work in progress. **Background:** In child and adolescent psychiatry, it is especially important to use the lowest risk and fewest number of medications necessary to effectively treat disorders in order to minimize the potential long-term effects of psychiatric medications. One way to ensure optimal care is to analyze prescribing trends at the time of discharge. By observing prescribing trends as they relate to patient demographic factors, pharmacotherapy can be better optimized on an individual-patient basis. Variations in prescribing can result in deviations from standard treatments, which is what this project aims to examine. **Objectives:** (1) Determine the impact of patient demographics on medication prescribing at discharge in patients with attention deficit-hyperactivity (ADHD), conduct disorder (CD), oppositional defiant disorder (ODD), or autism spectrum disorder (ASD). (2) For the listed diagnoses, compare frequency of pharmacotherapy classes prescribed at discharge across other categories of demographic factors including age, sex, height, weight, gender status, and insurance coverage. **Methods:** This retrospective chart review will include patients less than 18 years of age discharged from the inpatient child and adolescent psychiatric unit at our institution between July 1, 2023, and June 30, 2024, with a diagnosis of ADHD, CD, ODD, and/or ASD. Patients will be identified by International Classification of Diseases (ICD-10) codes documented at hospital discharge. Only patients prescribed at least 1 of the prespecified medications at discharge will be included in analysis. Demographic information (race, ethnicity, weight, height, age, gender identity, legal sex, insurance status, ICD-10 diagnosis code) will be collected in addition to discharge prescription information (generic medication name, medication class). Descriptive statistics and inferential analysis will be performed to examine demographic factors, such as race, associated with the frequency of prescribing at discharge. **Outcomes:** Demographic information will be reported and used to assess broader prescribing trends, including frequency of medication classes prescribed across demographic groups.

Impact of Patient Variables and Time of Day on Clozapine Serum Concentrations Using a Novel Immunoassay Platform

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Type: Work in progress. **Background:** Clozapine is a notably effective antipsychotic and the only FDA-approved treatment for treatment-resistant schizophrenia as it has been shown to be especially effective in patients who do not respond to other antipsychotics. Its use does involve therapeutic drug monitoring as monitoring plasma concentrations has been shown to be beneficial in assessing efficacy and risk of adverse effects. Studies have yet to show a clinically useful relationship between dose and plasma concentration, and target doses can differ considerably between individuals. Data suggests that biological sex, body mass index, and smoking status can account for a considerable proportion of the variability in plasma concentrations of clozapine, but it is still unclear to what extent these factors have an effect. **Objective:** Analyze the effect of various factors (demographic data, comprehensive metabolic panel, time of blood draw, dose and dosing schedule) on the dose-to-clozapine level relationship. **Methods:** We conducted a prospective cohort study to examine the relationship between venous blood draw and fingerstick capillary whole blood draw using the MyCare Psychiatry Clozapine Assay Kit. Here, we present data only on the serum for $N = 10$ people (30 serum concentrations). Participants enrolled were taking clozapine ≥ 3 months with uninterrupted use; were between the ages of 18 and 69 years; had a *Diagnostic and Statistical Manual of Mental Disorders*, 4th or 5th edition; diagnoses of schizophrenia or schizoaffective disorder; and were able to consent and pass the capacity to consent process. We collected demographic information, smoking status, height and weight, and a comprehensive metabolic panel on participants. All participants included in this

analysis were taking clozapine once or twice daily (am and pm) and consented up to 5 paired blood draws separated by at least 1 week. We compared the dose-to-blood concentration relationship and examined the impact of age, sex, body mass index, smoking status and albumin concentrations on the serum concentration and dose-to–serum concentration relationship. **Outcomes:** Our study team, including a statistician, will examine the relationship between the morning serum concentration and total daily dose and examine the impact of age, race, sex, albumin, and smoking status on the impact of this relationship and anticipated serum concentrations.

Impact of Pharmacist Clinical Monitoring of Lithium in an Inpatient Psychiatric Setting

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Type: Work in progress. **Background:** Lithium remains one of the first-line agents for treating bipolar disorder despite the decrease in its prescribing over the past 2 decades, likely due to its narrow therapeutic index and monitoring requirements. Pharmacists are trained in promoting medication safety, and literature has shown clinical benefit when pharmacy services participate in therapeutic monitoring programs. Although advantages of pharmacist-led monitoring programs have been widely studied for various medications, the research regarding benefits in pharmacist lithium monitoring is limited. As of February 2023 and January 2024, respectively, 2 inpatient psychiatric institutions in our hospital enterprise have implemented pharmacist daily clinical review of patients on lithium, including indication, dosing, renal function, level, and drug-drug interactions. This study hopes to address the impact on patient safety associated with the implementation of these efforts at these 2 facilities. **Methods:** This institutional review board–approved, retrospective, observational study includes adult patients admitted at our 2 inpatient psychiatric institutions who were initiated on lithium and received at least 5 days of consecutive therapy inpatient or patients whose home lithium was continued during their admission. Data from hospital 1 and hospital 2 from February 1, 2022, to August 1, 2024, and January 1, 2023, to August 1, 2024, respectively, will be reviewed to compare safety outcomes before and after the implementation of the pharmacist daily clinical review of patients on lithium. The primary outcome is the percentage of patients who had at least 1 supratherapeutic lithium concentration or experienced an adverse event before discharge. Secondary outcomes include the number of recorded pharmacist interventions, drug-drug interactions, pharmacist discharge counseling, and readmissions within 30 and 90 days.

Impact of the Integration of a Clinical Pharmacy Specialist Into a Ketamine Infusion Clinic for Treatment-Resistant Depression

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Type: Work in progress. **Purpose:** Ketamine is an emerging medication therapy for the management of treatment-resistant depression, that is, depression that has failed to achieve a full response to adequate therapeutic trials of antidepressants with or without augmentation. The Battle Creek Veterans Affairs Medical Center provides a variety of psychiatric treatment options, including an inpatient mental health unit, residential rehabilitation treatment programs, and an outpatient mental health clinic onsite. Recently, to better meet the needs of veterans in the southwest Michigan region, a ketamine clinic for the management of treatment-resistant depression was established. The ketamine clinical team includes psychiatrists, physicians, nurses, and a mental health clinical pharmacy specialist (MH CPS). This quality improvement project will evaluate the impact of the integration of an MH CPS into a ketamine infusion clinic. **Methods:** Veterans with a ketamine clinic consult will be included in this quality improvement project. Consults will be reviewed by the MH CPS to determine appropriateness of ketamine infusion for treatment-resistant depression based on previous antidepressant medication trials. Veterans will be recommended for consideration if they have failed to achieve a full response to 4 adequate therapeutic trials. Veterans with severe depression at high risk for suicide may additionally be considered. The MH CPS will evaluate and include recommendations regarding the safety of ketamine infusion. Recommendations regarding safety and appropriateness of ketamine infusion will be documented in the veteran's chart for the clinical team's review. The interdisciplinary ketamine clinic team, including the MH CPS, will discuss and ultimately determine the veteran's eligibility for ketamine treatment. **Results:** Data will be extracted via chart review. The primary outcome will be the time spent by the MH CPS on chart reviews. Secondary outcomes will include the number of charts reviewed, number of recommendations made, and number of recommendations taken by the interdisciplinary team.

Implementation and Evaluation of Pharmacist-Led Pharmacogenomic Testing for Antidepressant Therapy in Patients With Treatment-Resistant Depression at a Single-Center Veteran Affairs Hospital

Stephen Duncan, PharmD; Tanvi Patil, PharmD, BCPS, DLPA; Michelle Radtke, PharmD, BCPP; Alamdeep Kaur, PharmD, BCPS; Emily Halsey, PharmD, BCPP; Holly Dobbins, PharmD, BCPP

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Type: Work in progress. **Background:** The prevalence of depression is estimated to be 8.3% in the United States with higher rates in the veteran population. Pharmacogenomic (PGx) testing may be useful in patients with inadequate treatment or treatment-resistant depression who are at increased risks of relapse, mortality, and suicide. Initial treatment response to antidepressants is 20% to 33% with decreasing likelihood of remission and treatment engagement for each mediation trial. Previous studies have demonstrated some benefit in treatment response, remission, and symptom improvement; but gaps in research on where PGx testing is most effective still remain in this population. **Objectives:** This quality improvement project's purpose was to implement and evaluate pharmacist-led, panel-based PGx testing at a single-center Veteran Affairs (VA) hospital. **Methods:** This prospective quality improvement project included veterans from October 1, 2024, through November 1, 2024, who had an assigned mental health provider at the Salem VA Health Care System main facility and were identified by a past psychiatric history of treatment-resistant depression, defined as $\geq$ 2 previous failed trials of antidepressant therapy, using a National Academic Detailing depression dashboard. Patients without an assigned mental health or primary care provider; an upcoming appointment; or those with a past psychiatric history significant for schizophrenia, bipolar disorder, or dementia were excluded. This project will be conducted in 2 phases, in which the ongoing initial phase will include telephone outreach to veterans to offer PGx testing and a second phase will evaluate PGx test results. **Outcomes:** Primary outcomes for this project included the proportion of patients who were agreeable to PGx testing and those who completed PGx testing. Secondary outcomes included proportion of patients with actionable gene interactions and drug therapy changes, prevalence of CYP phenotypes, barriers, interventions to address adherence, and completion of additional behavioral and substance use screening tools.

Implementation of a Pharmacist-Led Clinic in Outpatient Mental Health

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Type: Work in progress. **Background:** Pharmacists are highly trained health care professionals with expertise in medication management. In mental health, the inclusion of pharmacists has been shown to have a positive impact. Patients living with mental health conditions have a higher incidence of morbidity and mortality often related to medication adverse effects and poorly controlled mental health conditions. At this organization, pharmacists have successfully developed and implemented a practice model for buprenorphine management, established a pharmacist-led metabolic syndrome monitoring clinic, and made significant contributions to improving mental health disorders through participation in the primary care mental health integration team. The demand for mental health care has steadily increased with the Healthcare Research and Services Administration predicting a 32% shortfall in psychiatrists by 2030, alongside a growing demand for mental health services. Currently, the mental health pharmacists at this institution do not have clinical service time allocated to outpatient mental health and are available on a consultative basis only. Further integrating a pharmacist into outpatient mental health care can help meet this demand by expanding services available to patients. **Objectives:** (1) Analyze types of interventions recommended and applied to patients consulted to pharmacy mental health service. (2) Evaluate the utility of an outpatient mental health pharmacist at our facility. **Methods:** This project will include all patients consulted to the pharmacy mental health team from October 1, 2024, to February 28, 2025. Pharmacist consultations may be requested for medication evaluation, drug information questions, or medication monitoring. Data collection will include demographic information (age, gender, race), date and reason for consult, primary diagnosis, recommendations made, acceptance rate of recommendations, interventions performed, type of visit, and number of visits. Descriptive statistics will be used to analyze and summarize the data. **Outcomes:** This project will report on pharmacist recommendations and their implementation rates, along with patient demographics, diagnoses, and frequency of pharmacist visits. Findings will help assess the value of integrating a pharmacist into outpatient mental health care and guide future service expansions.

Implementation of a Syringe Services Program (SSP) at a Rural Veterans Affairs Medical Center and Outpatient Clinics: A Harm Reduction Project

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Chillicothe VAMC, Chillicothe, OH

Type: Work in progress. **Purpose:** The purpose of this prospective quality improvement project is to implement a syringe services program (SSP) at a rural medical facility and its associated community-based outpatient clinics (CBOCs) located throughout Southern Ohio. In 2023, Ohio reported 4452 unintentional drug overdose deaths. Scioto County, which is within the catchment area of this facility, was number one in the state with 130.1 deaths per 100 000 people. SSPs are community-based prevention programs that have been proven effective in reducing rates of endocarditis as well as in the transmission of human immunodeficiency virus (HIV) and hepatitis C virus

(HCV). These programs provide a variety of services such as vaccinations, substance use disorder treatment, infectious disease care, access to sterile syringes, and disposal of used injection equipment. **Methods:** A standardized operating procedure (SOP) was developed for the implementation of this program. The pathway of distribution has been established through logistics stock. Kits containing three different syringe gauge sizes (27 g, 29 g, 30 g) and lengths (6 mm, 8 mm, and 12.7 mm) are available to order. Each kit contains 100 syringes, an educational brochure, alcohol pads, cotton swabs, and a sharps container. The following clinics and inpatient units have kits available for distribution: primary care, urgent care, acute inpatient psychiatry, and substance use disorder clinic. Pharmacy residents provided education to each clinic and inpatient unit listed above to orient staff on the implementation of this program. Patients participating in this program receive education and counseling to reduce injection and overdose risks. Kits were placed in each clinic and inpatient unit by November 1, 2024. At this time, pharmacy residents started to monitor the number of kits being distributed. Data collection concluded on February 1, 2025. Pharmacy residents will analyze the data collected and make adjustments accordingly for further improvement.

Implementing Esketamine: A Pilot Study for Enhancing Treatment-Resistant Depression Care in a Health System

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Type: Work in progress. **Background:** Though more than 50% of individuals with major depressive disorder receive treatment, at least one third of these individuals fail to adequately respond to conventional methods and are thereby deemed treatment resistant. Whereas there is no guideline-based definition of treatment-resistant depression (TRD), most insurance companies define this as 2 to 3 failed medication trials. Esketamine is a dissociative anesthetic with antidepressant properties. Depression improvement can be seen sooner compared with conventional antidepressant treatments. Esketamine, however, remains highly underused due to REMS restrictions and payer coverage. **Objectives:** (1) Evaluate establishment and cost-effectiveness of an esketamine clinic in a health system. (2) Confirm the efficacy and safety of esketamine in adults with TRD. **Methods:** This pilot program will occur in an outpatient ambulatory setting. Participants with TRD (based on patient-specific insurance definition) will be recruited on a rolling basis through direct referrals from providers within an affiliated outpatient psychiatric clinic. Each participant will be screened for appropriateness by a provider and scheduled for esketamine induction based on dosing from the package insert. Successful induction will result in maintenance therapy based on patient response. Data at enrollment will primarily be descriptive, including demographics, medical history, and current and past medication trials. Patients will complete a Patient Health Questionnaire (PHQ-9) and be screened for adverse effects during each visit. Prior authorizations, rejections, and reimbursement will be tracked by pharmacy staff to evaluate overall effectiveness of the clinic. **Outcomes:** Descriptive statistics of participants will be reported. Outcomes will include medication adverse effects, PHQ-9 score, successful versus failed prior authorizations, reimbursement amount per patient, and percentage of patients successfully transitioned to maintenance therapy. Data will be evaluated after 6 months of clinic activity and reported to the health system pharmacy and therapeutics committee.

Improving Access to Naloxone for Patients With Stimulant Use Disorder

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Lebanon Veterans Affairs Medical Center, Lebanon, PA

Type: Work in progress. **Background:** One of the leading causes of injury death in the United States is drug overdoses. This rate continues to rise each year. Drug overdose deaths involving cocaine and other psychostimulants often also involve opioids. In 2019, 75% of drug overdose deaths involving cocaine and 53.5% of drug overdose deaths involving psychostimulants also involved 1 or more opioids. Naloxone is an opioid antagonist indicated for the emergency treatment of known or suspected opioid overdose. Current Veterans Affairs recommendations for use suggest that overdose education and naloxone distribution (OEND) be offered to all patients at risk of an opioid overdose, including patients with stimulant use disorder. The ASAM/AAAP Clinical Practice Guideline on the Management of Stimulant Use Disorder recommends that naloxone be distributed to all patients who use stimulants from nonmedical sources or are socially engaged with others who do. Currently, only 54% of patients at our institution with stimulant use disorder have a prescription for naloxone. This creates a unique opportunity for pharmacy involvement to provide education and resources to providers through academic detailing with the goal of increasing the percentage of patients with stimulant use disorder being offered OEND. **Objective:** Improve access to OEND for patients with stimulant use disorder by providing education and resources to providers that have been identified through the OEND Dashboard as having the greatest potential for intervention. **Methods:** Use the OEND Dashboard and Priority Panel to identify providers with the greatest potential for patient intervention. Provide OEND education and resources to the identified providers and

staff through academic detailing. Providers and staff use the OEND Dashboard to offer OEND to their identified patients. Evaluate the number of patients reached and the number of patients that accepted naloxone after the above interventions. Identify specific patient groups that are frequently declining naloxone as potential targets for future outreach and research. **Outcomes:** Primary: Number of patients who were offered OEND after provider intervention. Secondary: Number of patients that accepted OEND after provider intervention. Demographics of patients frequently declining OEND.

Improving Laboratory Monitoring Adherence in Patients Prescribed Antipsychotics, Lithium, or Divalproex Sodium With Pharmacist-Led Intervention

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Type: Work in progress. **Background:** Routine laboratory monitoring is recommended for antipsychotics to mitigate the risk of metabolic adverse effects and for mood stabilizers, such as lithium and divalproex sodium, to ensure their safety and efficacy. However, research indicates that inadequate laboratory monitoring is a major contributor to preventable adverse drug events. Pharmacists have been shown to play a crucial role in addressing low adherence rates and improving clinical outcomes through targeted interventions. This study aims to evaluate the impact of a pharmacist-driven laboratory monitoring protocol on adherence rates at an outpatient mental health clinic. **Objectives:** (1) Evaluate adherence rates with guideline-recommended laboratory monitoring for patients who are prescribed antipsychotics, lithium, and/or divalproex sodium before and after pharmacist-led interventions. (2) Identify barriers to laboratory monitoring adherence. **Methods:** Retrospective chart review will be performed on adults aged 18 years and older who were prescribed an antipsychotic, lithium, and/or divalproex sodium between November 1, 2023, and October 31, 2024, at a single outpatient mental health clinic. Electronic data pull and chart review will be conducted to obtain baseline demographics and to determine if appropriate laboratory tests have been ordered and completed in accordance with established clinical guidelines. Pharmacist interventions will include notifying providers of missing laboratory orders, ordering laboratory tests on behalf of providers, and providing telephone reminders to patients for outstanding laboratory orders. Participants will be surveyed to identify barriers impacting their adherence to laboratory monitoring. Adherence rates with laboratory monitoring recommendations before and after pharmacist-led interventions will be analyzed using a paired *t* test. Descriptive statistics will be performed to identify common barriers to laboratory monitoring adherence.

Improving SUD Harm-Reduction Efforts in Community Pharmacies via an Asynchronous Education Program

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Type: Work in progress. **Background/Objective:** In the United States, 107 543 overdose deaths occurred in 2023. Yet students in U.S. PharmD programs receive 2.7 mean hours of substance use disorder (SUD) education. One third of Maine pharmacy professionals (PPs, including pharmacists and technicians) surveyed did not feel equipped to adequately serve people who use drugs (PWUD). Further, pharmacy resources are lacking: 18% had visible naloxone available, 2% to 28% had visible naloxone signage and 0% accepted signage when offered, 22.1% had naloxone material, and 25% had SUD referral information in survey research conducted in Maine and Maryland. The objective is to create an overdose prevention and stigma-reduction program for PPs; analyze attitudes, knowledge, and self-efficacy pre-program and post-program (immediate and at 1 year); and identify baseline and 1-year behavioral change in naloxone availability and SUD resource signage. **Procedure:** The virtual program includes 5 asynchronous modules and 4 hours of content. Participants have 90 days to complete the training. Learning objectives include (1) Describe harm-reduction strategies, including naloxone. (2) Identify tools for PP, including scripted conversations, local resources, and non-stigmatizing language. (3) Dispel common myths. (4) Identify perspectives of PWUD. (5) Describe the societal economic benefits of treating opioid use disorder. (6) Implement harm reduction including naloxone and SUD signage in the pharmacy. **Assessment/Outcomes:** Knowledge and attitude change will be analyzed using pre-post survey completion data linked by a generated code. These PP surveys will consist of 16 questions with a 5-point Likert response scale (*strongly agree* to *strongly disagree*). In order to analyze behavior change without PP identification information, pre-post program naloxone availability and SUD signage will be assessed at the pharmacy level. Ten percent of pharmacies in southern Maine were randomly identified for research visits pre-program and post-program 1 year after baseline. These visits will be completed by the primary research team and include assessment of the naloxone availability and naloxone signage. All pharmacy visit data will be reported as aggregate county-level data. Anticipated outcomes include (1) increased SUD knowledge and self-efficacy, (2) recommend and implement harm-reduction strategies including language

and behavior, and (3) reduced agreement with stigmatizing statements.

Increasing Access to Pharmacogenomics Testing to Veterans With Mental Health Disorders

Nancy Tran, PharmD[1,2,3]; Jenna Carmichael, PharmD[1,2,3]; Lisa Bryan, PharmD[1,2,3]; Saba Maghari, PharmD[1,2,3]; Janice Taylor, PharmD, BCPS[1,2,3]; Ramona Shayegani, PharmD[1,2,3]; David Huberman, PhD[2]; Danish Khattak, PharmD[3]; Erica Chang, PharmD[2]; Brianna Crump, CPhT[2]

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Type: Work in progress. **Background:** Patients with mental health disorders have worse physical health and use more health care resources than the general population. Pharmacogenomics (PGx)-guided treatment has been shown to decrease adverse reactions, hospitalizations, hospital readmissions, and treatment costs experienced by patients with schizophrenia, major depressive disorder, and bipolar disorder. Veterans Affairs currently offers PGx testing to veterans at no cost. This project will assess the impact of implementing 1-day pop-up PGx testing events at Veteran Affairs community-based outpatient clinics to improve access to PGx testing to patients with mental health disorders in Veterans Integrated Service Network (VISN) 21. **Objectives:** (1) Assess impact of the 1-day testing events. (2) Develop a PGx testing event framework that can be repeated at other community-based outpatient clinics within VISN 21. **Methods:** Patients with mental health–related diagnoses without previous PGx testing in VISN 21 prior to the PGx testing events will be eligible for inclusion. Patients with prior PGx testing, history of allogeneic bone transplant, or liver transplant will be excluded. Data will be collected from the Veterans Health Administration Corporate Data Warehouse using structured query language queries. Descriptive statistics will be used to analyze patient baseline characteristics. Logistic regression models will be used to estimate the effect of PGx testing results on adverse events, hospitalizations, and emergency department (ED) visits while controlling for the confounding by individual covariates, which may vary by facilities. Covariates of interest will include demographics, and concomitant medications will be evaluated in bivariate models (t tests will be used if the outcomes are continuous, and χ^2 will be used if variables are categorical/dichotomous). For secondary outcomes, a similar analytic approach will be used. **Outcomes:** Facilities holding a 1-day PGx testing event will be compared to facilities not receiving the intervention within the same region (control group). The following will be analyzed for facilities participating in the 1-day testing events: change in average PGx tests ordered/completed on the event days and per month, change in mental health medications after PGx testing, change in inpatient admissions and ED visits, and mental health–related inpatient admissions and ED visits.

Investigating the Trends in Novel Designer Drug Use in Los Angeles County From 2020 to 2023

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USC Mann School of Pharmacy and Pharmaceutical Sciences, Los Angeles, CA

Type: Work in progress. **Background:** In recent years, designer drug use has increased throughout Los Angeles County. Designer drugs, along with counterfeit pills, are manufactured in laboratories that are not regulated for safety, efficacy, or sterility. With unknown dose or content of these drugs, there is a greater risk of accidental overdose, death, and other drug-related harms. **Objectives:** To describe recent street drug trends to inform harm-reduction efforts and better educate patients, health care providers, and the community about the risk of designer drug use. **Methods:** Our study reviews records from the Los Angeles County Coroner's office for all individuals who had an accidental death from 2020 to 2023. Cases will include individuals who had a cause of death related to a novel designer substance, including illicit benzodiazepines, such as bromazolam and flubromazolam; synthetic opioids, such as metonitazene; and herbals such as mitragynine. The death records collected from the LA County Coroner's Office will be compared to electronic health records from Los Angeles General Medical Center (LA General) to determine if the deceased individuals were previously admitted to LA General for a drug-related incident. Data will be analyzed to assess whether individuals who died from a novel designer substance had previous hospitalizations for substance-related diagnoses. **Outcomes:** This is a descriptive study that aims to identify the incidence of deaths related to novel substances within Los Angeles County. In addition to incidence, cases will be described with other drugs that were co-ingested, previous hospitalization history for substance-related diagnosis, and demographic information.

Louisiana Community Pharmacist Knowledge and Attitudes Toward Medication-Assisted Treatment for Opioid Use Disorder: A Qualitative Study

Thomas Maestri, PharmD, BCPP; Rose Vilcin, PharmD; Olivia Giddings, PharmD Candidate; Cheryl

Hayes, PhD, RPh; Vincent Ekenga, PharmD, BCACP, CDCES; Janel Bailey-Wheeler, PharmD, BCACP; Xiao Zhang, PhD

Xavier University of Louisiana, New Orleans, LA

Type: Work in progress. **Background:** Opioid-related deaths continue to pose a significant public health issue in the United States with approximately 81 083 deaths in 2023. In Louisiana, opioid overdose deaths are increasing at a rate 36.71% higher than the national average in 2023. Medication-assisted treatment (MAT) is the most effective option for managing long-term opioid dependence, whereas naloxone is a crucial life-saving tool for reversing opioid overdoses and preventing fatalities. This research seeks to explore Louisiana pharmacists' knowledge and attitudes toward MAT and harm reduction. Findings will help identify gaps and guide efforts to optimize pharmacists' involvement in addressing the opioid crisis. **Objective:** To assess Louisiana pharmacists' knowledge and attitudes toward MAT, naloxone, and harm reduction. **Methods:** This study will utilize a survey to collect data. The survey will be distributed via email using Qualtrics software, and only those who give consent will be allowed to proceed to the survey questions. An extensive literature search will be conducted to determine the appropriate survey questions. Pharmacists will have a 3-month window to complete the survey. Inclusion criteria will be practicing community pharmacists in Louisiana, whereas exclusion criteria will be pharmacists who decline consent or do not complete the full survey. Institutional review board approval will be obtained from the primary institution. The survey will be disseminated to pharmacists from a list provided by the Louisiana Board of Pharmacy and will be open from February 15, 2025, to March 31, 2025. **Outcomes:** The outcomes to be measured will be demographics that will include urban versus rural practice location, independent versus chain pharmacy, age, race, gender, and years of practice. We will look at the overall knowledge and perceptions of pharmacists as it relates to opioid use disorder and explore whether any demographics need to be targeted further. The data points will allow for a comprehensive analysis of findings and help guide future recommendations, including pharmacist education.

Monitoring Pharmacogenomic Interventions in the Mental Health Setting at a Veterans Affairs Hospital

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Veterans Affairs Sierra Nevada Health Care System, Reno, NV

Type: Work in progress. **Background:** Pharmacogenomics (PGx) is the study of utilizing genetic testing to improve medication efficacy and reduce toxicity and adverse drug reactions. These genetic variations often affect pharmacokinetics, such as drug metabolism and absorptions, which can affect plasma drug concentrations. PGx testing tests for genetic variations in drug-metabolizing enzymes, such as cytochrome P450s, which can predict if patients are poor, normal, or ultrarapid metabolizers and may explain variability in drug action. Many psychiatric medications, such as antidepressants are metabolized in the liver and are affected by a patient's genetics. It is possible to use PGx to predict medication efficacy and potential for adverse drug events. Per the PGx dashboard at our Veterans Affairs facility, about 81% of PGx orders were placed by mental health (MH) prescribers since the program started March 20, 2024. **Objectives:** (1) Determine the number of PGx tests ordered by MH providers between March 20, 2024, and September 20, 2024. (2) Identify how many PGx tests were ordered proactively and reactively for the given patient cohort. (3) Assess interventions made by MH providers based on PGx results (ie, change in therapy, utilization of PGx test results, is MH indication controlled or not controlled). **Methods:** This quality improvement project is a retrospective chart review of PGx testing ordered between March 20, 2024, and September 20, 2024. Patients will be followed until April 20, 2025, for potential interventions. Data will be pulled from Veterans Health Information Systems and Technology Architecture (VISTA) and electronic medical records to identify veterans who were ordered PGx testing, identify interventions, identify proactive versus reactive PGx orders, and number of veterans loss of follow up. VISTA imaging will be used to examine PGx test results. **Outcomes:** We will report the number of PGx tests ordered by MH providers, the type of interventions made by MH providers based on PGx results and determine if the PGx tests were ordered proactively versus reactively and MH indication is controlled or not controlled.

Not Just a Weight Loss Drug—Exploring the Potential of GLP-1 Receptor Agonists in Treating Substance Use Disorders

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Nova Southeastern University College of Pharmacy, Fort Lauderdale, FL

Type: Work in progress. **Purpose:** Substance use disorders (SUDs) remain a significant public health challenge with limited effective treatment options. The growing interest in glucagon-like peptide 1 receptor agonists (GLP-1RAs), primarily utilized for managing type 2 diabetes, opens new opportunities for addiction treatments. Preclinical and clinical studies suggest GLP-1RAs can modulate the brain's reward pathways, thereby reducing cravings for substances such as alcohol, nicotine, and opioids. Additionally, these medications may prevent relapse by decreasing withdrawal symptoms and drug-seeking behaviors. Their anti-inflammatory properties could also target neuroinflammation associated with SUDs. This review explores the current evidence for GLP-1RAs as a potential treatment for

SUDs and emphasizes the need for further clinical evaluation. **Methods:** A scoping review was conducted using PubMed and MEDLINE with the following search terms: glucagon-like peptide 1 receptor agonists, substance use disorders, addiction treatment, and reward pathway modulation. Studies were included if they assessed GLP-1RA interventions in preclinical or clinical settings related to SUDs. A total of 97 articles were screened, applying predefined inclusion and exclusion criteria based on the type of addiction, study design, and publication date. Extracted data included these aspects along with methodology, population, and outcomes. Descriptive statistics, including frequency and trends, were used to summarize findings. **Results:** Evidence indicates that GLP-1RAs effectively reduce drug cravings and consumption by modulating reward pathways. Clinical studies showed promising reductions in cravings and relapse rates among patients. Notably, GLP-1RAs also demonstrated anti-inflammatory effects that may address neuroinflammation linked to chronic addiction. The potential application of GLP-1RAs in treating polysubstance use was highlighted given their ability to target multiple addictions concurrently. However, study designs and outcomes limit definitive conclusions. **Conclusion:** This review emphasizes the promising role of GLP-1RAs in addressing SUDs, offering a diverse approach by reducing cravings, preventing relapse, and limiting neuroinflammation. Whereas preclinical and early clinical findings are encouraging, further large-scale, randomized clinical trials are required to establish their efficacy and safety as a treatment option for SUDs, including polysubstance use.

Optimizing Management of Opioid-Induced Constipation at a Single Veterans Affairs Medical Center

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Lexington Veterans Affairs Health Care System, Lexington, KY

Type: Work in progress. **Background:** Opioid-induced constipation (OIC) is one of the most common adverse effects caused by opioids with some estimates that more than half of those on long-term opioid therapy will develop constipation. Opioids are known to decrease motility and secretions in the gastrointestinal tract, leading to adverse effects such as nausea, vomiting, abdominal pain, decreased frequency of bowel movements, and harder stools. It is also important to know appropriate treatments for OIC and understand that monotherapy with a stool softener may not be effective. If left untreated, OIC can lead to decreased medication adherence, uncontrolled pain, increased health care costs, and reduced quality of life for patients. Some literature suggests that early detection of OIC may improve treatment outcomes. **Objectives:** The objective of this project is to utilize a validated screening tool and evidence-based medications to improve outcomes for patients with OIC. **Methods:** This is a single-center prospective qualitive improvement project targeting patients receiving opioid therapy as part of the clinical addiction treatment services pharmacist-led clinic, the pain pharmacotherapy specialty clinic, and the primary care long-term opioid therapy clinic. Data will be collected between November 1,2024, and February 28, 2025. Patients will be screened at baseline and again at follow-up using the Bowel Function Index to assess for changes in bowel habits. Based on screening results, patients may receive pharmacologic interventions using an order set that was created with evidence-based medications and guidance for the treatment of OIC. For the purposes of this project, all patients in the above clinics who are receiving opioid therapy will be included. Patients with documented chronic constipation at baseline and patients on opioid therapy for < 2 weeks will be excluded. **Outcomes:** The primary outcome is comparing the change in Bowel Function Index score from baseline to follow-up. Key secondary outcomes include health care visits due to constipation, changes in bowel regimens, and nonformulary consults placed for lubiprostone.

Optimizing Medication Services for the Unhoused in a Street Psychiatry Clinic

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Veterans Affairs Tennessee Valley Healthcare System, Nashville, TN

Type: Work in progress. **Background:** In 2024, it was estimated that 32 882 US veterans were experiencing homelessness. Though this number decreased by 7% since 2023, homelessness continues to remain a significant issue for veterans. Additionally, about 75% of chronically unhoused veterans have at least 1 diagnosed mental illness. Homelessness and psychiatric diagnoses are significant barriers to care alone and provide greater challenges when experienced together. Unhoused individuals are less likely to be adherent to medications and attend health care appointments than housed individuals. Since 2021, the Department of Veterans Affairs (VA) has established several initiatives aimed at ending and preventing homelessness among veterans. Some VA health care systems have established outreach clinics to improve access to health care and medications. This project will focus on describing the services provided by a street psychiatry clinic within a VA health care system and highlight the importance of psychiatric pharmacist involvement in the care of unhoused veterans. **Objective:** Describe the impact of a street psychiatry clinic providing medication and nonmedication services in a large veterans health care system. **Methods:** This is a retrospective, observational, descriptive cohort review of veterans with at least 1 documented encounter by the prescribing provider within the street psychiatry clinic at any point from April 1, 2021, through October 31, 2024. Demographic data to be collected includes age, sex, and

psychiatric diagnoses. Data will be collected via informatics extraction and manual chart review and analyzed using Microsoft Excel to obtain descriptive statistics. **Outcomes:** The primary outcome will be the number of unique patients served by the street psychiatry prescriber. Secondary outcomes will include medication and nonmedication interventions utilized in the street psychiatry clinic as well as average frequency of interactions among patients. Medication interventions include the number and type of medications prescribed. Nonmedication interventions include number and type of treatment referrals, assistance with lab collection/review, and additional care coordination. It is hypothesized that engagement in the street psychiatry clinic leads to favorable health care outcomes in unhoused veterans. The results of this project will be used to characterize the service and describe the utility of having a psychiatric pharmacist on the team.

Optimizing Pharmacotherapy for Suicidal Ideation: An Evaluation of Appropriate Initiation Strategies at a Large Nonprofit Hospital

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Memorial Regional Hospital, Hollywood, FL

Type: Work in progress. **Background:** Suicide ranks among the top causes of death, claiming a life every 11 minutes in the United States. With the rate steadily increasing, promptly initiating evidence-based pharmacologic and nonpharmacologic interventions to reduce risk and stabilize mood is imperative. Esketamine is the only FDA-approved treatment for acute suicidality, whereas traditional antidepressants can take weeks to work and should not be used alone. Off-label use of lithium and clozapine have also shown potential in reducing suicide risk. The study aims to evaluate the appropriate and timely initiation of FDA-approved or off-label agents for patients admitted to suicidal ideation. **Objectives:** (1) Evaluate the rate of patients who were started on the appropriate agents for suicidal ideation over a 6-month period. (2) Evaluate the readmission rate for patients with a history of suicidal ideation over a 6-month period, the rate of how often patients were offered pharmacotherapy for their symptoms, and if alternatives to pharmacological therapy were offered (transcranial magnetic stimulation or electroconvulsive therapy). **Methods:** This institutional review board–exempt retrospective, single-center, observational, cohort study will include all patients admitted at a large nonprofit hospital with a diagnosis of suicidal ideation between January 1, 2024, and July 1, 2024. Those patients whose index visit with the accepted diagnosis not within the study period will be excluded. Demographic information will be collected (age, gender, race, medical diagnoses, psychiatric diagnoses, creatine phosphokinase, corrected QT interval on admission, and home medications). Other pertinent data to be collected include admission date, psychotropic medications-initiated inpatient, alternate therapy for suicidal ideation offered, discharge medications, and date of discharge. **Outcomes:** We will report demographic information of patients who meet the inclusion criteria. Preliminary results will be reported for all primary and secondary objectives.

Outcomes Related to Psychiatric Pharmacist Care of Patients With Mental Illness

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Veterans Affairs North Texas Health Care System, Dallas, TX

Type: Work in progress. **Background:** In 2021, 57.8 million people were estimated to live with mental illness with psychotropic medications accounting for 20% of treatments. Pharmacists with psychiatric care training are increasingly recognized for enhancing medication therapy in health care settings. Studies show benefits such as achieving therapeutic goals, improving adherence, managing adverse effects, and reducing hospitalizations, especially when pharmacists expand their roles, including prescribing. Despite promising findings, evidence remains fragmented, often relying on patient-reported outcomes, highlighting the need for standardized approaches. This study aims to examine the impact of psychiatric pharmacists on hospitalization rates, emergency room visits, medication management, and monitoring in the North Texas Veterans Affairs (VA) system, comparing health outcomes before and after patients received psychiatric pharmacist care. The findings are expected to provide concrete evidence supporting the integration of pharmacists into mental health care teams and ultimately improve patient outcomes. **Objectives:** (1) Compare hospitalization rates and emergency room visits in mental health patients during the 2 years before and after initiating care with a psychiatric pharmacist. (2) Evaluate the mean number of mental health medications prescribed before and after the involvement of a psychiatric pharmacist. (3) Assess the rates of up-to-date psychotropic medication monitoring before and after psychiatric pharmacist care. **Methods:** This institutional review board–approved retrospective cohort study will review data from patients aged 18 and older enrolled in the VA North Texas Healthcare System's mental health outpatient clinic between January 1, 2014, and December 31, 2023. Subjects must have been assigned to a psychiatric pharmacist and had consistent follow-up for at least 2 years before and after the assignment. Statistical analysis will include paired t tests and χ^2 tests for primary and secondary outcomes. **Outcomes:** Data collection and analysis are expected to be completed by May 2025.

Outpatient Long-Acting Injectable Antipsychotic Clinic in a Safety Net Hospital

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Regions Hospital, St Paul, MN

Type: Work in progress. **Background:** Access and adherence are significant barriers for patients using long-acting injectable antipsychotics (LAIAs). Despite their benefits, including improved medication adherence, reduction in hospitalization, and reduction in mortality rates, challenges in outpatient settings persist. There can be problems with payer authorization, properly trained staff, and care coordination. The hospital established a clinic to address these issues to enhance outpatient care and improve patient follow-up. **Objectives:** This study evaluates the clinical benefits of the new LAIA clinic established in our health system this year compared with historical patients who were previously seen outside of the health system. It focuses on readmission rates for psychotic disorders treated by LAIA as well as descriptive reporting on adherence to follow-up appointments. Additionally, the study will explore current trends in reimbursement to ensure that the clinic is financially viable. **Methods:** This institutional review board–approved retrospective quality improvement project was conducted in a major metropolitan academic hospital. Data were collected through retrospective electronic health record chart reviews of patients discharged from inpatient psychiatric units between April 1, 2022, and October 1, 2023, and those enrolled in the LAIA clinic between July 1, 2024, and January 1, 2024. Demographic information (age, gender, race, ethnicity) will be collected. Other pertinent data to be collected include the diagnosis at time of visit, antipsychotic administered, and dose of antipsychotic. The financial analysis highlights the clinic's sustainability. **Outcomes:** We will report on the comparative impact the health system LAIA clinic has had on readmission rates for psychotic disorders treated by LAIA and adherence rates to appointments to continue to receive medications. **Conclusions and Future Directions:** This project underscores the importance of access to care and its potential to improve overall patient outcomes. Future aims are to expand the services the clinic can provide for the community by including services such as treatments for substance use disorders and olanzapine long-acting injectable. The health system hopes to develop a self-sustaining clinic to create a resource within the community that will improve patient adherence to both medications and appointments. The study aims to demonstrate the positive impact a pharmacist-run LAIA clinic can have on the community.

Patient and Environmental Factors Affecting Sublingual Buprenorphine Prescription Pickup

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Type: Work in progress. **Background:** As of 2016, more than 9.3 million people in the United States meet criteria for needing opioid use disorder (OUD) treatment, but only about 25% of eligible people receive medication treatment for OUD. Buprenorphine is shown to increase retention in treatment, reduce risk of overdose death, and reduce overall mortality. Despite these benefits, this treatment remains underused with differences in treatment access based on race, ethnicity, age, and gender. Numerous barriers to accessing medications for OUD exist; previous studies on pharmacy-related barriers to accessing treatment identified delays in dispensing, non-dispensing due to red flags identified by community pharmacists, and pharmacies with insufficient stock of buprenorphine. The patient and environmental factors impacting sublingual buprenorphine prescription pickup in San Francisco, California, is not well-understood. **Objective:** Identify patient demographics and environmental factors affecting new-start sublingual buprenorphine prescription pickup among ambulatory care clinic patients served by a county-wide, safety net health network. **Methods:** This institutional review board–approved retrospective case-control study includes all new-start sublingual buprenorphine prescriptions for patients with OUD served by a county-wide, safety net health network between January 25, 2021, and October 31, 2024. Cases will be defined as patients who did not pick up their buprenorphine prescription and controls as patients that did pick up their buprenorphine prescription in the same time frame. Data will be retrieved from electronic health records and outpatient pharmacy dispensing, including patient demographics, walking distance between clinic and pharmacy, pharmacy type, co-occurring substance use disorders and psychiatric conditions, and history of OUD treatment. Logistic regression will be used to calculate odds ratios to describe the association between these variables and prescription pickup. **Outcomes:** We hypothesize that shorter walking distances between clinic and pharmacy increase the odds of prescription pickup for patients starting sublingual buprenorphine treatment. The results from this study will allow us to better understand the factors associated with prescription pickup, and our findings will inform the design of targeted services within a county-wide safety health network, including a mobile pharmacy dispensing sublingual buprenorphine. Expansion of such pharmacy services may be used to address inequities in access experienced by communities of color and in low-income areas.

Patient Characteristics Associated With Medication Selection for Acute Agitation in a Behavioral Health Emergency Department

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Type: Work in progress. **Background:** Guidelines recommend antipsychotics and benzodiazepines as monotherapy or in combination for the treatment of acute agitation. Previous research identifies an association between certain nonmodifiable patient factors (ie, age, sex, race) on prescribing decisions related to psychiatric medication treatment. The aim of this study is to evaluate the effect of patient characteristics on selection of as-needed medications for acute agitation management in a behavioral health emergency department. **Objectives:** (1) Characterize as-needed medications ordered for acute agitation management in the psychiatric emergency department. (2) Evaluate the association of as-needed medication selection with individual patient factors. **Methods:** A retrospective observational study will be performed including adult patients receiving care in the behavioral health emergency department of a large academic medical center between July 1, 2022, and June 30, 2024. Patients who were ordered for at least 1 as-needed medication for acute agitation management by a psychiatric provider will be included. Demographics, medication order information (ie, medication name, dose, route, frequency, order comment, and order date and time) and emergency department encounter data will be collected from the electronic medical record. As-needed medications will be classified according to their drug class, dose, and route of administration. Doses will be categorized as low, average, or above average according to the recommended dosing per medication package insert with consideration given for usual clinical practice at the study site. Descriptive statistics will be used to summarize patient and as-needed medication characteristics. Regression models will be used to examine the association of patient factors with medication selection. Patient factors of interest include age, sex, race, ethnicity, body mass index, insurance status, and psychiatric diagnoses. **Outcomes:** Patient and as-needed medication characteristics will be reported using summary statistics. Factors found to increase the likelihood of a patient being ordered for a specific as-needed medication for acute agitation, an antipsychotic versus non–antipsychotic medication, combination pharmacotherapy, or a higher-than-average as-needed medication dose will be described.

Patients' Preferences Toward Antipsychotic-Induced Weight Gain Management

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Type: Work in progress. **Background:** Weight gain is a common side effect of antipsychotics. It is estimated that 37% to 76% of patients experience clinically relevant weight gain (ie, $\geq$ 7% baseline weight) depending on the agent used. Antipsychotic-induced weight gain (AIWG) is associated with increased morbidity, mortality, and nonadherence to antipsychotic regimens. AIWG may be managed with lifestyle modifications or pharmacologic agents. Whereas preferences toward the management of AIWG have been assessed in adolescent populations, it has not been evaluated in the adult population. **Objectives:** (1) Evaluate patients' experience with and willingness to manage AIWG. (2) Evaluate patients' preferences toward the management of AIWG. (3) Evaluate patients' preferences toward managing AIWG based on the antipsychotic formulation used. (4) Evaluate patients' weight threshold for managing AIWG with medication. (5) Evaluate demographic and health-related factors that may affect patients' attitudes and preferences toward managing AIWG. (6) Evaluate consequences of AWIG that are most bothersome to patients. (7) Evaluate motives for managing AIWG. **Methods:** This institutional review board–approved prospective survey will include adult patients who are voluntarily admitted to an inpatient psychiatric unit or receiving care at an outpatient psychiatry clinic at a safety net hospital between December 1, 2024, and March 31, 2025. Patients must also be taking at least 1 scheduled antipsychotic for at least 4 weeks to be included. Patients with acute psychosis or mania that impairs their ability to complete the survey, or a documented clinical history of an eating disorder, severe or profound intellectual disability, or dementia will be excluded. Patients will complete a 28-item survey surrounding their attitudes toward AIWG and preferences on AIWG management. Results from the survey will be analyzed via descriptive statistics, correlations, unpaired *t* tests, and Mann-Whitney U when appropriate. Finally, thematic analysis will be utilized to detect any themes that may emerge from any participant narratives that will be documented during the survey. **Outcomes:** We will report the percentage of patients who *agree* or *strongly agree* with the following survey statement: *I am interested in managing or losing weight*. The remainder of the survey results will be characterized as secondary outcomes.

Patterns of Pharmacologic Treatment for the Inpatient Management of Acute Bipolar Depression

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Type: Work in progress. **Background:** Acute bipolar depression is often associated with significant morbidity, impaired functioning, and a high risk of suicide. The management of bipolar depression is complex and often involves the use of mood stabilizers or antipsychotics with or without the addition of antidepressants. This study aims to evaluate current treatment practices for acute bipolar depression at an inpatient psychiatric facility. **Objectives:** (1) To evaluate the proportion of treatment regimens that utilize first-line medications for the management of bipolar depression. (2) To assess the pattern of pharmacological treatment in patients discharged with a diagnosis of acute bipolar depression. (3) To assess the dose (at time of discharge) of each medication used to treat bipolar depression. (4) To assess the serum concentration (at time of discharge) of each mood stabilizer used to treat bipolar depression. (5) To compare medication treatment patterns between units within the psychiatric facility. **Methods:** This retrospective chart review will include patients 18 years of age or older discharged following an inpatient admission to a psychiatric hospital for acute bipolar depression between January 1, 2020, and June 30, 2024. Patients who are pregnant or diagnosed with acute bipolar mania, major depressive disorder, persistent depressive disorder, schizophrenia, substance-induced depressive disorder, substance-induced psychosis, or unspecified mood disorder will be excluded. Baseline demographic information to be collected includes age, gender, race, insurance coverage, and comorbid psychiatric diagnoses. Length of stay, medications prescribed at discharge, medication dosages, and pertinent lab values will also be collected. Descriptive statistics will be used to assess treatment patterns, medication dosages, and serum concentrations of mood stabilizers. χ^2 tests will be used to compare medication regimens between different inpatient units. **Outcomes:** Preliminary data for 61 patient encounters have been reviewed. Of those encounters, 41 patients met inclusion criteria, and 35 (75.6%) were discharged on an appropriate first-line treatment medication. The most common reasons patients were not discharged on a first-line regimen include a failed previous trial or documented adverse effect or contraindication to a first-line regimen. The average medication dose, average serum concentration of mood stabilizers, and comparisons between inpatient units have yet to be evaluated.

Perceptions of Psychiatric Care Among Formerly Incarcerated Individuals

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Type: Work in progress. **Purpose:** Formerly incarcerated individuals face disproportionately high rates of mental health disorders, yet there is limited literature addressing their experiences with psychiatric care and recovery. This study aims to fill these gaps by exploring perceptions and attitudes toward psychiatric care, enabling health care providers to better serve this underserved population. **Objectives:** (1) Identify barriers that hinder effective provider-patient relationships among formerly incarcerated individuals. (2) Investigate the reasons behind these barriers through interviews. (3) Educate future health care professionals using findings and tailored resources. **Methods:** This mixed-methods study will incorporate quantitative surveys and qualitative interviews. Fifty participants will be recruited from Reddit and Quora communities focused on formerly incarcerated individuals with recruitment posts designed to foster trust and transparency. Participants will complete a 10- to 15-minute survey assessing attitudes toward mental health services and recovery during and after incarceration. Each participant will receive a $10 gift card to a retail store of their choosing as compensation. Survey respondents can volunteer for follow-up interviews, from which 10 individuals will be randomly selected. Interviews will be conducted remotely via Zoom by AAPP student members, using questions developed in collaboration with a campus counselor specializing in opioid rehabilitation. To ensure a diverse and representative sample, inclusion criteria will prioritize participants across a range of genders, races, and age groups. Exclusion criteria will include individuals who have not been incarcerated, have not had any mental health counseling, are currently incarcerated, or those unable to provide informed consent. Recruitment efforts will actively encourage participation from underrepresented groups to capture a wide variety of experiences and perspectives. **Outcomes:** These interviews will provide insights into participants' lived experiences with psychiatric care. Data from the surveys and interviews will be analyzed to identify key themes and actionable takeaways to inform curriculum development. The findings will additionally guide the creation of a curriculum for pharmacy and medical students, enhancing their understanding of the mental health challenges faced by formerly incarcerated individuals and improving intervention strategies for this underserved population.

Pharmacy-Led Medication Reconciliation at an Inpatient Behavioral Health Facility

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Type: Work in progress. **Background:** Transitions of care are a frequent source of medication errors (MEs). A study published in April 2024 examined the effectiveness of conducting a second medication reconciliation in identifying MEs within an inpatient psychiatric facility. The findings revealed that the second reconciliation identified the highest number of MEs with common errors including omitted home medications, incorrect dosing frequencies, and prescribing medications the patient was not taking. Additionally, every patient admitted on long-acting injectables (LAIs) had discrepancies related to the timing of their last dose. Identifying and correcting these errors enhanced patient safety and improved outcomes. **Methods:** This prospective cohort study, incorporating an intervention component, will evaluate the effectiveness of a quality improvement measure on patient safety and outcomes. The study will recruit 100 patients from February 1, 2025, until October 1, 2025, who have undergone a medication reconciliation conducted by nursing staff within 48 hours of admission, aiming for at least 85 participants to consent to participation. Medication reconciliation will involve reviewing the patient's medical record, conducting a patient interview, and contacting the patient's pharmacy to compile an accurate list of home medications. The primary outcome will be identifying medication-related errors missed during the initial medication reconciliation. **Results:** To gather results for this work-in-progress study, institutional review board approval has been secured with hospital approval pending and expected. Interim results will be presented, focusing on identifying missing medications, medications initiated but not current, incorrect doses or frequencies, incorrect formulations, missing documentation of last dose date and time for home medications, and omissions in recording the last dose date for LAIs. These findings will be based on a comparison between the investigators' medication reconciliation and the reconciliation completed by nursing staff. **Conclusions:** We anticipate uncovering significant discrepancies between nursing-led and pharmacy-led medication reconciliations. Through this research, we aim to demonstrate how pharmacy-led reconciliations can effectively identify and reduce these errors. Given the complexity of managing psychiatric disorders and the need for precise dosing history with new formulations such as LAIs, this study has the potential to enhance the accuracy and comprehensiveness of future medication reconciliation processes.

Phenobarbital Versus Benzodiazepine for Alcohol Withdrawal in General Medicine Setting: Focus on Safety and Hospital Length of Stay

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Type: Work in progress. **Background:** Severe alcohol withdrawal syndrome (AWS) may include hallucinations, seizures, delirium tremens, and death. The standard of care for AWS includes symptom-triggered benzodiazepine administration based on an evidence-based scale. Phenobarbital has been used in patients who do not respond to first-line benzodiazepine treatment for AWS or at an increased risk of severe withdrawal symptoms. Safety concerns associated with the use of phenobarbital include drug interactions, oversedation, and respiratory depression. Recent studies within the critical care population suggest phenobarbital may decrease hospital length of stay and incidence of mechanical ventilation. This project compares the safety and hospital length of stay of patients treated in a general medicine unit with benzodiazepines and phenobarbital. **Objectives:** To compare the safety and hospital length of stay of phenobarbital and benzodiazepine use in alcohol withdrawal in the acute medicine setting. **Methods:** This is a retrospective cohort review of veterans treated for alcohol withdrawal, confirmed by International Classification of Diseases, 10th revision diagnosis codes, with benzodiazepines or phenobarbital during a general medicine hospitalization. The study population includes veterans within a large veteran's health care system admitted to acute medicine between September 1, 2023, and September 1, 2024, treated with either diazepam, lorazepam, or phenobarbital. Exclusion criteria include veterans who received other benzodiazepines, had active prescriptions for benzodiazepines and/or barbiturates, had a history of sedative use disorder, had a positive toxicology screen for benzodiazepines and/or barbiturates at time of admission, direct ICU admissions, outside facility transfers, or discharges against medical advice. Data will be analyzed using Microsoft Excel to obtain descriptive statistics with assistance from Veterans Affairs statisticians. **Outcomes:** The primary outcome is the composite of the development of serious adverse events, including hypotension, respiratory depression, oversedation, falls, or transfer to a higher level of care following treatment with either benzodiazepines or phenobarbital for alcohol withdrawal management. Secondary outcomes include hospital length of stay. Additional data collection includes age, sex, history of delirium tremens and/or seizures, history of traumatic brain injury, comorbid psychiatric illnesses, blood alcohol level, and liver function tests on admission.

Postoperative Buprenorphine Management in Patients Taking Buprenorphine Prior to Admission

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Type: Work in progress. **Background:** With access to buprenorphine for opioid use disorder (OUD) continuing to increase, the challenge of managing buprenorphine in patients with acute pain has emerged. Previous literature recommended temporarily discontinuing buprenorphine when using full opioid agonists. However, recent guidelines and expert opinions reached the consensus that buprenorphine can and should be continued in patients with acute pain requiring full opioid agonists. One suggested strategy is to divide once daily dosing into multiple daily dosing, particularly in mild-to-moderate pain. Another strategy that has been suggested is to decrease the dose of buprenorphine in the postoperative period. The above strategies are primarily based on the pharmacologic properties of buprenorphine and case reports. Currently, there are no studies directly comparing the different buprenorphine management strategies. **Objectives:** (1) Compare pain scores during hospitalization among different buprenorphine management strategies in patients receiving buprenorphine for OUD. (2) Compare the number of as-needed pain medications given during hospitalization. (3) Compare morphine milligram equivalent (MME) requirements during hospitalization. (4) Compare Pasero Opioid-induced Sedation Scale (POSS) scores during hospitalization. **Methods:** This institutional review board–approved retrospective chart review will include adult patients who were prescribed buprenorphine for OUD and underwent elective surgery at an urban safety net academic medical center between January 1, 2020, and December 31, 2023. Patients will be excluded if they are prescribed buprenorphine for indications other than OUD prior to surgery or prescribed buprenorphine subcutaneous injection or transdermal implant. Data to be collected will include demographic information, type and severity of surgery performed, buprenorphine dose, scheduled and as-needed pain medications ordered during hospitalization, pain scores, and POSS scores. Demographic data will be analyzed using descriptive statistics. A variety of tests including χ^2 analysis of variance, and Pearson correlations will be used to analyze primary and secondary outcomes. **Outcomes:** This study will compare pain scores during hospitalization between different buprenorphine management strategies. The number of as-needed pain medications, MMEs, and POSS scores will also be compared between groups. The findings of this study could help to develop guidelines regarding the postoperative management of buprenorphine for OUD and could lead to improved outcomes in pain control in this patient population.

Prevalence of ADHD in People Who Use Methamphetamine

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Type: Work in progress. **Background:** In recent years, the use of methamphetamine (MA) and MA-related mortality have been increasing, but the causes of increased MA use are still not well-described. Among other suggested explanations for motives to use MA, illicit stimulant use has been hypothesized to occur to treat symptoms of underlying attention-deficit/hyperactivity disorder (ADHD). Whereas many previous studies have established an increased risk for substance use disorders among people with ADHD, limited studies examine ADHD's association with the use of specific substances, such as MA. A few studies have found an increased prevalence of ADHD in people who use MA compared with the prevalence of ADHD in the general population, suggesting that further investigation may help enhance our understanding of factors contributing to increased MA use. **Objectives:** Examine the prevalence of ADHD symptoms in patients with a history of MA use. **Methods:** This institutional review board– approved cross-sectional study will recruit participants from existing patients in a contingency management program. English-speaking patients with a history of MA use or MA use disorder will be selected for inclusion in this study. Exclusion criteria include patients younger than 18 and patients who cannot speak English. ADHD-related symptoms will be assessed using the Wender Utah Rating Scale (WURS) 25, with which a score of 36 or more has demonstrated high efficacy and sensitivity for an ADHD diagnosis. No diagnosis will be provided following assessment of the WURS 25 score; however, if the participant scores 36 or higher, we will advise that they may benefit from further evaluation and provide them with resources to do so. Following assessment completion, each participant will be given a $30 gift card, funded by a grant from the AAPP Foundation. Patients can use gift cards for food and retail purchases (excluding purchase of alcohol or substances). Descriptive statistics will be performed to examine the prevalence of ADHD symptoms in patients with a history of MA use. **Outcomes:** We will report the prevalence of ADHD symptoms in patients with a history of MA use, indicated by a WURS 25 score of 36 or more.

Psychiatric Electives in US Colleges of Pharmacy: A Narrative Review

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Type: Work in progress. **Background:** Although most pharmacy program curricula include some psychiatric pharmacotherapy content, the content priority usually aligns with the 2023 American College of Clinical Pharmacy Pharmacotherapy Didactic Curriculum Toolkit tier 1 recommendations. Some colleges of pharmacy offer psychiatric pharmacy electives to bridge gaps in psychiatric pharmacotherapy education within required coursework. It is currently unknown how many programs offer these electives, and for those that do, the type of instructional content and delivery modalities likely vary. Describing these data may assist faculty in creating and implementing psychiatric pharmacy electives at their respective institutions. **Objectives:** The primary objective of this study is to determine the prevalence of pharmacy schools in the United States that offer psychiatric pharmacy electives. Secondary objectives include qualitatively reporting the type of content covered in addition to delivery modalities. **Methods:** Four pharmacy students will collaboratively review 144 Accreditation Council for Pharmacy Education (ACPE)–accredited pharmacy schools, distributing the workload equally. Faculty lists will be assessed to determine the presence of a board-certified psychiatric pharmacist (BCPP) faculty member. These faculty members will be contacted directly via email to request access to the institution's psychiatric elective course syllabi if available. The dean of student affairs will be copied on all emails sent. If no BCPP faculty are found, the dean of student services or the dean of pharmacy will be singularly contacted. Responses will be organized through student email folders. Follow-up emails will be sent after 7 and 14 days from the initial email. Responses will be compiled and analyzed. **Outcomes:** We will report the compiled number of ACPE accredited colleges of pharmacy that report offering a psychiatric pharmacy elective. For those that provide course syllabi, descriptive data will be collected pertaining to credit hours offered, content type, instructional delivery modalities, and the credentials of faculty involved.

Utilizing Vaccine Outreach to Assess Day Center Client Mental Health: A Single-Center, Prospective Study

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Type: Work in progress. **Background:** Stigma, access challenges, and socioeconomic barriers significantly impede healthcare delivery to underserved populations, particularly individuals experiencing homelessness. These populations face disproportionately high risks for mental health challenges and communicable diseases. Pharmacists, as some of the most accessible healthcare providers, are uniquely positioned to mitigate these challenges by delivering vaccination services, conducting mental health screenings, and implementing harm reduction strategies. This initiative seeks to enhance healthcare equity by offering vaccinations, providing mental health screenings, and addressing barriers to care at a day center facility offering harm reduction and social services to the homeless in San Antonio, Texas. **Methods:** This prospective, single-center study will employ a brief patient questionnaire consisting of validated mental health screening tools that are administered by pharmacy personnel after a patient has received a vaccination. The study population will include voluntary individuals receiving treatment at the Corazon Day Center. Vaccinations including Hepatitis A and B, MMR, Meningococcal, and Tdap will be offered. In addition to vaccinations, participants will undergo mental health screenings using validated assessment tools. These include the Patient Health Questionnaire-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), Tobacco, Alcohol, Prescription Medication, and Substance Use Screening Tool (TAPS), Alcohol Use Disorder Identification Test (AUDIT), and abuse history questionnaires. **Objectives:** (1) Improve vaccination rates in those experiencing homelessness in San Antonio. (2) Quantify the mental health conditions experienced by day center participants via validated mental health assessments. **Outcomes:** Vaccination rates will be tracked and compared to baseline data provided by Corazon Ministries to measure the program's effectiveness in addressing immunization gaps. The prevalence and severity of mental health conditions identified through screenings will be analyzed, with a focus on identifying correlations with factors such as socioeconomic status and substance use. The program will also monitor the number of patients referred to mental health services and track follow-up outcomes to assess the effectiveness of these referrals. Results of the study will be used to tailor programming and advocate for additional mental health services at the Corazon Day Center.

Reimplementation of a Pharmacist-Centered Contingency Management Service—Current Challenges and Expansions to the Program

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Type: Work in progress. **Background:** Contingency management (CM) is an evidence-based practice centered on decreasing urges related to substance use by using positive reinforcement. CM is primarily targeted to treat stimulant use disorder; however, more research is being published to determine its use and effectiveness in other areas such as cannabis use disorder, alcohol use disorder, and smoking cessation. Its success is noteworthy, and its reimplementation into this system is warranted due to the large number

of patients who could potentially benefit. The goal of the project is to reestablish CM in this Veterans Affairs (VA) and expand the program to the other sites associated with this VA. **Service Description:** CM helps patients with stimulant overuse by rewarding abstinence with the goal being complete abstinence and reduction of cravings. The most important clinical outcome of CM is the longest contiguous period of abstinence during treatment. Patients are enrolled in 24 sessions. At the first session, the patient will be provided with a summary of the program. The patient provides a urine drug sample (UDS) and is rewarded if the sample is negative. During sessions 2 through 24, the patient provides a UDS, and a patient interview is conducted to determine efficacy of the program. If the sample is negative, the patient is given a reward. Patients who complete at least 22 visits with the last 4 visits having negative UDSs will receive a completion certificate. Every negative screen adds to draws from the fishbowl at each visit up to 10 draws, which can contain monetary rewards to be redeemed at the Veteran Canteen Services. **Impact:** CM has been established at more than 147 sites in the VA since 2011 with more than 7300 veterans being served. Of the 95 739 UDS samples collected, 88 369 have tested negative, representing 92.30% of all samples. The service was previously implemented at this VA, but data from previous implementation showed promising results. Of the roughly 45 patients, only 3 patients were reported to have positive UDS results. The program was successful in its previous form, and reimplementation will continue the previous success.

Relationship Between Patient-Specific Factors and Clozapine Prescribing During Psychiatric Hospitalization

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Type: Work in progress. **Background:** Schizophrenia is a chronic psychiatric disorder characterized by disturbances in perception, cognition, and emotional expression. One in 3 people with schizophrenia will exhibit symptom persistence despite trialing multiple, first-line antipsychotics. To date, clozapine is the only antipsychotic approved by the US Food and Drug Administration for the management of treatment-resistant schizophrenia (TRS). It also has significant evidence for reducing suicidality in people with schizophrenia or schizoaffective disorder. These attributes distinguish clozapine from other antipsychotics and render it an appealing therapy option for patients hospitalized on an inpatient behavioral health unit. Unfortunately, clozapine is associated with several potentially life-threatening adverse effects (adverse drug reactions [ADRs]), including agranulocytosis, myocarditis, seizures, orthostatic hypotension, and bowel or intestinal obstruction. Due to the risk for severe neutropenia, clozapine can only be prescribed through an FDA Risk Evaluation and Mitigation Strategies program, which requires that the absolute neutrophil counts (ANC) be measured at least once monthly. Clozapine's adverse effect profile and strict monitoring and adherence requirements may influence clozapine prescribing practices and contribute to clozapine's underutilization in TRS. **Objectives:** The primary objective of this institutional review board–approved, single-center, retrospective review is to identify potential associations between demographic factors, clinical characteristics, and the decision to continue clozapine upon discharge among adults initiated on the medication during an inpatient behavioral health admission. **Methods:** Patients initiated on clozapine between April 1, 2021, and April 30, 2024, will be included in the review. Demographic variables of interest include age, sex assigned at birth, race/ethnicity, and smoking status. Clinical variables of interest include length of hospital admission, the primary psychiatric diagnosis, weekly ANC values, frequency of clozapine ADRs, clozapine levels, the clozapine dose upon discharge, change in BMI between admission and discharge, and discharge disposition. Descriptive statistics will be performed to examine factors associated with likelihood of continuing clozapine upon hospital discharge as well as the 6- and 12-month psychiatric readmission rates following the index discharge. **Significance of Study:** The results of this study may elucidate opportunities to optimize clozapine prescribing and identify clinical conditions associated with successful continuation of clozapine in a high-risk patient population upon discharge from an inpatient hospital admission.

Retrospective Review of Hospital Length of Stay in Patients Receiving As-Needed Olanzapine After Implementation of As-Needed Agitation Order Set

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Type: Work in progress. **Background:** Antipsychotics are commonly utilized for the treatment of agitation despite nonpharmacologic interventions being first line. They do not treat the underlying cause of delirium and carry significant risk for hyperglycemia, dyslipidemia, weight gain, falls, and decreased cognition, which can lead to further complications. Additionally, antipsychotics often get inappropriately continued upon discharge. It is important to identify whether an order set with an automatic 7-day stop date affects length of hospital stay on medicine units. **Objectives:**

(1) Assess hospital length of stay in patients prescribed as-needed (PRN) olanzapine in medicine units before and after implementation of a PRN order set intervention with a 7-day stop date. (2) Analyze the number of PRN olanzapine doses used during hospital stay, dosage, number of antipsychotic orders directly from the order set, and the number of 1-time doses of olanzapine given. **Methods:** This institutional review board–approved retrospective chart review will include adult patients who received olanzapine PRN during inpatient hospital stays on medicine units before and after order set intervention. Patients who receive antipsychotics for diagnoses of schizophrenia, Tourette syndrome, bipolar disorder, or Huntington disease will be excluded as well as patients on nonmedical units and treated with antipsychotics other than olanzapine. Demographic information (age, gender, race, ethnicity) will be collected. Other pertinent data to be collected include reason for admission, hospital length of stay, antipsychotic dosage, number of as-needed doses, number of orders from order set, and number of 1-time doses given. Descriptive statistics will be performed to examine the data above. **Outcomes:** We will report the length of hospital stay, number of doses, and number of direct order sets used and compare with the control group. Factors such as age, race, and ethnicity will be considered separately and in combination to identify patient groups more likely to be treated with an as-needed antipsychotic.

Systematic Review of Montelukast's Potential for Drug Repurposing and Management of Neurodegenerative Disorders

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Type: Work in progress. **Background:** Montelukast (MTK), a potent leukotriene receptor antagonist, is a medication historically used for asthma and allergic rhinitis. Serious neuropsychiatric events have been reported with MTK use, and in 2020, the Food and Drug Administration issued a boxed warning regarding serious behavior and mood-related changes with MTK. Given the neuropsychiatric events associated with MTK, research has been conducted to better understand its diverse biological effects with an emphasis on neuromodulation. Through this research, it has been discovered that MTK may have a role as a neurodegenerative disorder modulator and may be repurposed for neurodegenerative disorder management. This study aims to review existing literature and report on the potential role of MTK in the management of neurodegenerative disorders. **Objectives:** (1) Analyze existing research to assess the neuroprotective effects of MTK in mitigating the progression of neurodegenerative disorders. (2) Evaluate MTK's potential to be repurposed for the management of neurodegenerative disorders and identify the neurodegenerative disorders with the strongest evidence for repurposing. **Methods:** A systematic search will be conducted using MEDLINE, PubMed, and Embase. The following medical subject heading keywords will be included to identify relevant studies: *Montelukast*, AND *Neurodegenerative Disorders*, OR *Alzheimer Disease*, OR *Parkinson Disease*, OR *Sclerosis, Amyotrophic Lateral* OR *Sclerosis, Multiple* OR *Motor Neuron Disease*. References of identified publications will be reviewed for additional relevant studies. Preclinical (animal) and clinical (human) observational studies will be included. Only full-text articles published in English will be included. Results will be presented following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 reporting guidelines. **Outcomes:** The study will report findings from both preclinical and clinical observational studies that detail the effects of MTK on neurodegenerative and neuroinflammatory markers, neuronal activity, and neural processing. These outcomes will be evaluated to support the objectives of analyzing MTK's neuroprotective effects and its potential for repurposing in the management of neurodegenerative disorders. Comparisons will be made across the various types of neurodegenerative disorders. Results may provide valuable insights for future research and potential clinical applications, particularly in identifying novel therapeutic avenues for managing neurodegenerative disorders.

The Association Between Mental Health Disorders and Allergic Reactions: A Multicenter Retrospective Analysis

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Type: Work in progress. **Background:** Existing literature suggests a link between mental health disorders and allergies, including allergic disease (eg, atopic dermatitis, asthma) and specific intolerances (eg, drug and food allergies). However, the underlying reason is not well-established. Prior epidemiological studies focus primarily on multidrug intolerance syndrome—defined as allergies to 3 or more classes of medications—and its association with anxiety, mood, personality, and psychotic disorders rather than examining a broader range of mental health disorders

and allergies. A more comprehensive look at the association could provide insights into possible epidemiological or pathophysiological connections, which may inform future research and patient care. **Objectives:** (1) Determine if mental health diagnoses are correlated with an increased number of allergic reactions to any allergen. (2) Identify correlations between specific mental health diagnosis-allergen pairs. **Methods:** This is an institutional review board–approved, multicenter, retrospective analysis of all patients admitted to 7 hospital sites across a large health system between October 1, 2023, and September 30, 2024. Collected data for each patient includes demographic data (age, legal sex and gender, race and ethnicity, pregnancy status, body mass index); documented diagnosis history coded in the International Classification of Diseases, 10th Revision; and documented allergies or intolerances. Mental health disorders include any listed in the *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition, Text Revision. Allergies include any allergic reaction to any allergen (ie, foods, drugs, insects, molds, types of animal dander, or latex). The correlation between mental health diagnoses and allergies will be analyzed using a logistics regression model adjusted for confounders of age, sex, and BMI. The incidence of each diagnosis-allergen pair for analysis of the secondary objectives will be analyzed in a similar manner. **Outcomes:** We will report the correlation between mental health diagnoses and allergies as well as the incidence of diagnosis-allergen pairs. The results of this study will be evaluated and discussed critically to establish potential links between mental health disorders and allergic reactions, enabling a more personalized care approach with regards to screening practices and management strategies.

The Effect of Subcutaneous Risperidone Long-Acting Injectable on 30-Day Readmission Rates in Adult and Adolescent Patients at a Safety-Net Psychiatric Hospital: A Retrospective Review

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Type: Work in progress. **Background:** Previous studies show that long-acting injectable (LAI) antipsychotics are superior to oral antipsychotics in preventing hospitalizations, particularly for patients experiencing relapses due to nonadherence. Since their FDA approvals in 2018 and 2023, subcutaneous risperidone formulations have emerged as favorable options because they do not require a loading dose or oral overlap. However, literature is lacking to determine if 1 dose of subcutaneous risperidone administered upon discharge from an inpatient psychiatric facility leads to significantly reduced readmission rates. This study aims to compare the 30-day readmission rate in patients who received subcutaneous risperidone LAI to the overall 30-day readmission rate for all patients discharging from a psychiatric hospital. **Objectives:** (1) Compare 30-day readmission rates of patients who receive subcutaneous risperidone to overall 30-day readmissions rates for all patients discharging from this hospital. (2) Identify key patient demographics, practice characteristics, and patient tolerability with the use of subcutaneous risperidone. **Methods:** This is a retrospective, single-center medical record review examining inpatients who were discharged on a subcutaneous risperidone regimen from July 1, 2023, to December 31, 2024. This chart review includes patients $\geq$ 13 years old, patients with a diagnosis of psychosis or psychotic features, and patients who have been stabilized on a therapeutic dose of oral risperidone. This review excludes patients $<$ 13 years old, pregnant or lactating women, and patients whose primary residence is outside the state of California. Data will be collected through review of existing medical records through EPIC EMR software. **Outcomes:** The primary outcome measure is all-cause readmission rates at 30 days following administration of subcutaneous risperidone LAI upon discharge from an inpatient psychiatric hospital. Secondary outcomes include length of stay, length of time to readmission, 30-day emergency treatment service visit rate, patient demographics (eg, race, age, sex/gender), discharge characteristics (eg, disposition, number of antipsychotics prescribed), and adverse effects. χ^2 test for nominal outcomes, independent-samples *t* test for normally distributed continuous outcomes, and Wilcoxon rank-sum test for nonnormally distributed ordinal outcomes will be used for statistical analysis.

The Impact of Antipsychotics in the Treatment of Catatonia

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Type: Work in progress. **Background:** Catatonia is a severe motor syndrome with an estimated prevalence of 10% among psychiatric inpatients. Research on catatonia treatment is scarce, but evidence supporting the role of benzodiazepines and electroconvulsive therapy (ECT) is substantial. There is uncertainty about the role of antipsychotics in catatonia. Antipsychotics may contribute to maintaining or worsening catatonia and increase the risk for neuroleptic malignant syndrome (NMS). Thus, it is generally recommended to discontinue antipsychotics in catatonia, especially first-generation antipsychotics due to the higher risk of NMS. The role of second-generation antipsychotics (SGAs) in catatonia, however, is more ambiguous. SGAs have weak GABA-agonist

activity and 5HT2-antagonism, which stimulates dopamine release and may alleviate catatonic symptoms. Further complicating this dilemma is the potential role antipsychotics have in addressing underlying causes of catatonia. **Objectives:** The primary objective will evaluate length of stay in catatonic patients receiving scheduled antipsychotics compared with those not receiving scheduled antipsychotics. Secondary objectives will include maximum total daily doses (TDD) of benzodiazepines inpatient and upon discharge, TDD of inpatient adjunct medications, number of inpatient ECT treatments, and change in Bush-Francis Catatonia Rating Scale scores upon discharge. **Methods:** This will be a retrospective, single-centered study that will include patients admitted to inpatient psychiatry at a large academic medical center between January 1, 2020, and June 30, 2024, with a primary diagnosis of catatonia and treated with scheduled benzodiazepines. Patients will be excluded if they are less than 18 years of age, pregnant, diagnosed with alcohol use disorder, seizure disorders, Parkinson disease, cognitive impairment, or eating disorders. **Outcomes:** We will report demographics for patients who continued antipsychotics while receiving treatment with scheduled benzodiazepines for catatonia and compare these with the control group. Factors such as age, past medical history, substance use, and total antipsychotic doses will be assessed to identify potential confounders among groups. **Originality of Project:** Reports on antipsychotic utilization in catatonia are limited primarily to case studies. This study will assist in understanding the relationship between antipsychotics and catatonia. Results will be used to drive discussion and influence further research on the continued appropriateness of antipsychotic discontinuation in catatonia.

The Effect of Initiating Pharmacotherapy for Alcohol Use Disorder in the Inpatient Medical Unit on Hospital Readmission Rates for Alcohol Withdrawal at a Federal Health Care Center

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Type: Work in progress. **Background:** Alcohol use disorder (AUD) is a chronic disease state that greatly impacts the US health system. Alcohol contributes to roughly 18.5% of emergency department visits, and an average of 140 557 individuals die from the effects of alcohol annually in the United States. In the veteran population, it is estimated that approximately 11% of veterans who visit a Veterans Affairs health care facility have a substance use disorder with more than 80% of those individuals being diagnosed with AUD. It has been determined that up to half of patients who are admitted for acute alcohol withdrawal are readmitted for acute alcohol withdrawal within 30 days. Appropriate initiation of AUD medications is important to promote abstinence and to potentially decrease hospital readmission. **Objectives:** (1) Assess 30-day readmission rates for patients admitted to an inpatient medical unit for alcohol-related disorders. (2) Analyze 90-day hospital readmission rates, AUD medication selection, and the impact of discharge placement on initiation of AUD medication. (3) Determine understanding, willingness, and attitude of inpatient providers to initiate pharmacotherapy for AUD. **Methods:** This is a retrospective cohort study analyzing patient outcomes following medication selection or lack thereof during an inpatient admission for alcohol related disorders in patients 18 years or older admitted to a federal health care center for an alcohol-related disorder between April 1, 2024, and October 31, 2024. Patients will be excluded if they did not have a positive blood alcohol content on admission, left against medical advice, were admitted for less than 24 hours, or died during hospitalization. The electronic medical record will be used to collect baseline characteristics, lifetime history of AUD medications, primary diagnosis, initiation of AUD medications during admission, and discharge location. Additionally, attitudes and understanding of AUD medications among acute care providers will be assessed with the use of a provider survey sent via email to practitioners. **Outcomes:** Impact of AUD medication initiation on hospital readmission rates will be reported. We will also evaluate attitudes and familiarities toward AUD medications among prescribers to identify potential barriers to providing care.

The Occurrence of Mental Health Diagnoses in GLP-1 Receptor Agonist Treated Patients

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Type: Work in progress. **Background:** Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) are FDA approved for type 2 diabetes (T2D) and weight control. The FDA has communicated on post-marketing reports of suicidal ideation but concluded that preliminary evidence does not support the association. Pharmacovigilance data is mixed and confounded by methodology and report bias. Larger cohort studies are more congruent in refuting an association. Despite this, the FDA still warrants caution. Given that risk cannot be completely ruled out, the need for ongoing evaluation from real-world data is important. This study seeks to address gaps in understanding mental health patterns, including suicidal ideation and health care use in patients treated with GLP-1 RAs. **Objectives:** The primary objective of this study is to assess the incidence of mood disorder diagnoses before, during, or shortly after GLP-1 RA initiation. A secondary outcome includes the incidence of psychiatric

outcomes—suicide or suicidality, psychiatric hospitalizations, and psychiatric emergency department visits in GLP-1 RA users with or without prior mental health diagnoses of interest. **Methods:** This retrospective cohort study, through use of a large epidemiologic database, will include adults prescribed GLP-1 RAs between 2017 and 2023. Data extracted will encompass demographics, prescription data, psychiatric diagnoses, and outcomes following initiation of any GLP-1 RA prescription. Statistical methods include incidence rate calculations, Cox proportional hazards models, and multivariable regression to identify potential risk modifiers. **Preliminary Data:** Among 61 091 patient trials (average age 51 years), the majority were female (59.4%) and White (90.8%) with a mean body mass index of 39.0; 87.3% were classified as obese, and 77.2% had T2D. Among patients with past psychiatric diagnoses, 51.6% and 59.3% had preexisting history of anxiety or mood disorder, respectively. Out of those with a preexisting psychiatric diagnosis, 13.2% were psychiatrically hospitalized and 34.2% had a psychiatric emergency department visit within 60 days of GLP-1RA initiation. Further evaluation will compare those without a historical psychiatric diagnosis.

Tirzepatide: The First and Only Prescription Medicine for Moderate-to-Severe Obstructive Sleep Apnea (OSA) in Adults With Obesity: A Scoping Review

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Type: Work in progress. **Purpose:** Obstructive sleep apnea (OSA) is a chronic disorder characterized by recurrent airway collapse during sleep, leading to hypoxia and sleep disturbances. OSA is associated with adverse cardiovascular outcomes, metabolic dysfunctions, and reduced quality of life with obesity as a significant factor. Current treatments, such as continuous positive airway pressure (CPAP), have limited adherence due to patient intolerance. This review explores recent advances in pharmacological management, focusing on tirzepatide, a glucagon-like peptide-1 (GLP-1) receptor agonist with dual benefits in reducing body weight and improving OSA outcomes. **Methods:** A literature search was conducted through PubMed and MEDLINE using the following keywords: obstructive sleep apnea, OSA management, OSA drug therapy, tirzepatide, and GLP-1 receptor agonists. Complete human trials evaluating pharmacologic interventions were included. Articles were screened using predefined inclusion and exclusion criteria, focusing on study population, design, and time of publication. Data extraction was completed by analyzing selected articles for key data points, including intervention type, study design, sample size, and primary outcomes. Descriptive statistics, including counts and percentages, were used to describe the extracted data. **Results:** Upon evaluation, a major research study has demonstrated that tirzepatide significantly reduces apnea-hypopnea index (AHI) with a mean decrease of −25.3 events/hour in trial 1 (non-CPAP patients) and −29.3 events/hour in trial 2 (CPAP patients) compared with placebo. Body weight reduction and improvements in hypoxic burden, high-sensitivity C-reactive protein levels (hsCRP), and systolic blood pressure were also observed. Adverse events were predominantly gastrointestinal and mild to moderate in severity. Other pharmacological approaches, including central nervous system stimulants, antidepressants, and weight-loss medications, show potential in targeting OSA manifestations. **Conclusion:** Tirzepatide offers a promising therapeutic option for OSA patients, demonstrating efficacy in reducing AHI and addressing obesity-related pathophysiology. Whereas pharmacologic advancements favor OSA management, further large-scale trials and real-world studies are essential to validate long-term outcomes and optimize patient-specific treatment approaches.

Use of Glucagon-Like Peptide-1 Receptor Agonists (GLP-1 RA) on Alcohol Use Disorder and Opioid Use Disorder Health Care Related Outcomes

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Type: Work in progress. **Background:** A rising body of evidence suggests that glucagon-like peptide-1 receptor agonists (GLP-1 RA) may play a role in the treatment of substance use disorder (SUD). Patients taking GLP-1 RA appear to have a 50% lower rate of alcohol intoxication and 40% lower rate of opioid overdose. **Objective:** We aim to evaluate if GLP-1 RA reduces the incidence of alcohol and opioid use–related health care. **Methods:** This nationwide new-user active-comparator cohort study included individuals 18 years and older initiated on a GLP-1 RA, sodium glucose cotransporter-2 inhibitor (SGLT2i), or dipeptidyl peptidase-4 inhibitor (DPP4i) from January 1, 2018, through July 1, 2024, using propensity score matching based on predefined variables using a disjunctive criterion. Patients were excluded if they had no health care encounters in the past 2 years, were initiated on both agents on the same day, or prior use of either study medication. The primary outcome was comparing the composite endpoint of health care utilization related to alcohol use defined as inpatient, outpatient, or emergency room visits combined with new-start medications for alcohol use disorder

treatment. Secondary outcomes include individual components of the primary outcome and incidence of patients in SUD related residential treatment programs, outpatient pain and mental health–related health care use, average morphine equivalent daily dose at 1 year after index date, and opioid use disorder–related inpatient and emergency room visits. All outcomes were compared between the 2 matched cohorts: GLP-1 RA and SGLT2i as well as GLP-1 RA and DPP4i. Cox proportional hazard regression was used to analyze time to event outcomes, whereas Poisson or negative binomial regression was utilized for count outcomes. **Outcomes:** Results to follow on the association of GLP-1 RA and alcohol and opioid-related events.

Use of Hypnotic Agents for Pediatric or Adolescent Patients in an Inpatient Behavioral Health Facility

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Type: Work in progress. **Background:** Sleep plays an important role in the development of adolescents. In an inpatient setting, the application of sleep hygiene is often impractical. Therefore, in an inpatient psychiatry unit, sleep medications are often employed to target sleep in adolescents. The scarcity of studies leads to gaps in treatment guidelines and management for effective administration of pharmacological agents for insomnia. The purpose of this study is to analyze the use of pharmacologic agents for insomnia and evaluate psychotropic prescribing for hypnotic purposes in adolescents. **Objectives:** The primary objective is to determine the use of hypnotic agents as a primary indication for sleep and compare that to using hypnotic agents as adjunctive treatment for patients with psychiatric comorbidities. The secondary objectives are to quantify the prevalence of comorbid insomnia with psychiatric diagnoses and to identify whether adolescent patients are coming into the behavioral health facility previously maintained on a hypnotic agent or whether it's prescribed during the hospitalization. **Methods:** This study is a retrospective, observational, single-center review and the study population is focused on adolescent patients treated for insomnia in an inpatient behavioral health facility from February 22, 2022, to February 23, 2024. The inclusion criteria include patients $<$ 18 years old who were admitted to the Riverside University Health System behavioral inpatient facility. Patients must be initiated/maintained on a hypnotic agent to target insomnia-related complaints and remain adherent to medication administration. Exclusion criteria include patients $\geq$ 18 years old and have another sleep disorder diagnosis. Patients with insomnia due exclusively to illicit substance intoxication or withdrawal are excluded. Correlation coefficient calculations will be used to determine the relationship between variables analyzed in the study. **Outcomes/Results:** The primary outcome is to quantify psychotropics commonly used for adolescent patients in an inpatient health facility and the indication(s) for psychiatric comorbidities. The secondary outcomes include the cause for hospital admission, duration of hypnotic use, diagnosis of insomnia during inpatient facility visits, patient demographics, utilization of as-needed insomnia medications, comparison of hypnotic agent initiation versus continuation of home medications, and prevalence of insomnia associated with psychiatric diagnoses. This study is currently in progress and results are pending.

Use of Vilazodone for the Treatment of Posttraumatic Stress Disorder

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Type: Work in progress. **Background:** Posttraumatic Stress Disorder (PTSD) is a chronic psychiatric condition that develops after exposure to a traumatic event in which the patient experiences actual or threatened sexual or physical violence, serious injury, or death. Given the severity of untreated PTSD, practice guidelines recommend initiation of an antidepressant medication if psychotherapy is declined by the patient or if there is a need for augmentation to psychotherapy. Currently, only sertraline and paroxetine are FDA approved for the treatment of PTSD though other SSRIs as well as SNRIs are utilized off-label. Vilazodone acts as both an SSRI and a partial agonist of the 5-hydroxytryptamine 1A (5HT-1A) receptor. There is limited literature available assessing the effectiveness and safety of vilazodone compared with other commonly used and lower cost antidepressants, such as sertraline, for the treatment of PTSD. The aim of this evaluation is to contribute to the currently small quality and quantity of data available. **Objectives:** (1) To determine the time to all-cause discontinuation in patients prescribed vilazodone for PTSD. (2) To define the reason for treatment discontinuation (adverse effects, lost to follow-up, etc) in patients prescribed vilazodone. **Methods:** This is a retrospective chart review that will include adult patients who were prescribed vilazodone for the treatment of PTSD between July 1, 2011, and November 1, 2024. Demographic information (age, gender, race) will be collected. Other pertinent data will include concomitant psychiatric conditions, previous antidepressant trials, engagement in psychotherapy, concomitant psychopharmacotherapy, Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5) scores, history of suicide attempts, and psychiatric hospitalizations. Descriptive statistics will be used to analyze data points. **Outcomes:** We will

report demographics of patients prescribed vilazodone for PTSD. Time to all-cause discontinuation of vilazodone and reason for treatment discontinuation will also be reported. Factors such as concomitant psychiatric conditions, engagement in psychotherapy, and previous antidepressant trials will be considered separately to identify patient groups who may be more likely to benefit from treatment with vilazodone for PTSD.

Utilizing Pharmacist Roles to Improve the Use of Medication-Assisted Therapy for Alcohol Use Disorder on an Internal Medicine Floor at a Veterans Affairs Institution

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Type: Work in progress. **Background:** Alcohol consumption is a leading cause of morbidity and mortality in the United States with an increase in alcohol-related hospital admissions occurring over the past 2 decades. Among veterans, alcohol is the most commonly misused substance with alcohol use disorder (AUD) being the most prevalent form of substance use disorder. Guideline recommended treatment for AUD involves both nonpharmacologic and pharmacologic interventions. Though there are accessible guideline-recommended medications for alcohol use disorder (MAUD), use has been significantly limited. From January to June 2024, there were nearly 150 alcohol-related hospital admissions at this Veterans Affairs institution. When patients are admitted for an alcohol-related diagnosis, pharmacists in the inpatient setting have a direct opportunity to discuss and recommend MAUD. **Objective:** To identify if direct internal medicine clinical pharmacist practitioner (IM CPP) involvement in recommending MAUD prior to discharge for an alcohol-related admission will improve MAUD prescribing rates and reduce the number of alcohol-related admissions and readmissions. **Methods:** This prospective, pre-post study will include all patients with an alcohol-related admission from January 2024 to December 2024. An educational intervention was delivered in June 2024 by an IM CPP to other IM CPPs on general MAUD prescribing and explanation and created a note template used for MAUD recommendations. Chart reviews will be performed for preintervention and postintervention patient lists. The time frames for preintervention and postintervention patient lists will be from January 1, 2024, to June 30, 2024, and from July 1, 2024, to December 31, 2024, respectively. The following will be collected: admitting alcohol diagnosis, gender, age, race and ethnicity, Alcohol Use Disorders Identification Test—Consumption (AUDIT-C) admission score, comorbid psychiatric disorder(s), alcohol-related comorbidities, past MAUD trials, MAUD recommendation by IM CPP and, if initiated, MAUD prescribed, and readmission within 30 days. **Outcomes:** The primary outcome will be the percentage reduction in all alcohol-related admissions from recommended MAUD initiation by IM CPPs following a pharmacist educational intervention. Secondary outcomes include number of readmissions after 30 days, MAUD prescribing rates following IM CPP recommendation, MAUD prescribed, and number of return-to-clinic orders placed by IM CPPs for outpatient intramuscular naltrexone.

Utilizing Pharmacogenomic Testing Among Primary Care Providers to Guide Initial Antidepressant Therapy Selection

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Type: Work in progress. **Introduction:** There are a variety of antidepressants that can be used for the treatment of major depressive disorder. However, some antidepressants may not be well-tolerated by patients. If a patient trials and fails 2 different antidepressants, the patient is considered to have treatment-resistant depression. Ordering a pharmacogenomics (PGx) test and utilizing the results can be beneficial when selecting an initial antidepressant. Utilizing genetic information to choose an antidepressant may increase the likelihood of the patient being able to better tolerate the chosen agent and limit the trial and error of multiple medications. **Objective:** Provide education to primary care providers (PCPs) and nurses on how PGx testing can be used to aid in choosing an initial antidepressant to streamline the medication selection process that occurs before a patient finds a medication that is tolerable and effective. **Methods:** Academic detailing sessions were performed with PCPs and nurses to share information regarding the benefit of PGx and to encourage the ordering of a PGx test prior to or shortly after selecting an antidepressant to initiate. Additionally, a clinical reminder order check was implemented to populate for providers ordering a new-start antidepressant medication to remind them to consider PGx testing. A dashboard was utilized to determine if PGx tests are being ordered for new start antidepressants and if the results are being utilized to aid in the selection of an agent. An additional PGx dashboard will be used to determine if a patient's prescribed antidepressant is an impacted medication based on PGx results. If the antidepressant is affected, an evaluation will be performed to determine if the dosing was affected. **Preliminary Results:** As the total number of academic detailing sessions that were performed increased, the percentage at which PGx tests were ordered by PCPs for new-start antidepressants has started to

increase as well. Thus far, there have been 2 affected antidepressants; however, they did not require alternative dosing.

Innovative Practices Abstracts

Education on Proper Administration of Transmucosal Buprenorphine to Improve Dental Adverse Outcomes in Patients With OUD

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Type: Innovative practices. **Background:** Transmucosal buprenorphine-containing medications are commonly prescribed to treat opioid use disorder (OUD). In January 2022, the US Food and Drug Administration issued a warning concerning the adverse effects of these medications on dental health. Nearly 1000 cases of dental-related adverse events have been classified as serious by June 30, 2024, with 31 cases leading to death in patients. Proper administration to minimize dental complications, including tooth decay and loss, is underrecognized. There is a need to expand provider and patient awareness of this adverse effect to balance the benefits and risks of buprenorphine therapy. **Description of Innovative Service:** This project introduces a multifaceted service aimed at mitigating the dental risks associated with transmucosal buprenorphine-containing medication use. Additionally, it targets improving understanding of these medications to provide more holistic patient-centered care. Hygiene kits containing dental care essentials and an educational pamphlet on buprenorphine are distributed to local OUD clinics and outpatient pharmacies. Kits are assembled by primarily student volunteers from different health care professions over two 4-hour service days on February 10, 2025, and February 15, 2025. These service days will provide an opportunity for eligible volunteers to participate in a presurvey and postsurvey to assess their knowledge before and after their participation in the service day activities. This project leverages an innovative community-focused approach to expand the patient counseling skills of future health care professionals. **Impact on Patient Care:** Approximately 230 patients with OUD will be directly impacted by oral health resources and knowledge to improve outcomes. The utilization of this project as an educational platform for pharmacy and interprofessional students improves their understanding of OUD pharmacotherapy and counseling. **Conclusion:** This project showcases the effects of integrating oral health complications into psychiatric pharmacy practice to address a systemic gap in OUD pharmacotherapy. By fostering interdisciplinary collaboration, improving pharmacy education, and positively affecting patient outcomes, this project has the potential to influence the current models of care and further expand the role of psychiatric pharmacists.

Effect of a Board-Certified Psychiatric Pharmacist Integrated Into a Team-Based Outpatient Psychiatry Clinic

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Type: Innovative practices. **Background:** Board-certified psychiatric pharmacists (BCPPs) provide a unique skillset to improve mental health services in the ambulatory setting. This can be accomplished through improved medication access, reduced care-team burnout with clinical pharmacy support, increased collaboration, and lower costs to patients, which all align with AAPP's Core Outcome Set for Psychiatric Pharmacists. **Description of Innovative Service:** The Massachusetts General Hospital (MGH) Team-Based Outpatient Psychiatry Clinic (TOP) provides care for patients referred from MGH primary care providers. The multidisciplinary team(s) consist of a psychiatrist, psychiatric nurse practitioner, psychologist, social worker, medical assistant, and most recently a BCPP. The structure of the clinic allows consistent communication and collaboration across team members to leverage the skillsets of the different disciplines. Through a collaborative practice agreement, psychiatric providers in the TOP clinic can refer patients to BCPPs for medication management, including medication titration or taper, laboratory monitoring, and lifestyle modification counseling. Team members meet daily for a huddle to discuss new patient intakes as well as have designated case conference time to review challenging cases. Patients are not billed for these encounters. **Impact on Patient Care:** From October 1, 2022, to September 1, 2024, a total of 397 visits were conducted for 117 unique patients. The most common primary diagnoses at visits included major depressive disorder and generalized anxiety disorder. Median age of individuals was 44 (range: 31 to 55) with females being most of the study population (68.4%). A total of 585 medication interventions occurred among the 397 encounters with 43% being direct drug interventions. Side effects and/or lifestyle counseling occurred in 42% of encounters. The median time from provider referral to BCPP visit was 22.6 days. Pharmacist visits occurred as frequently as weekly during medication titrations or tapers, whereas psychiatrist visits occur every 4 to 8 weeks due to limited availability. **Conclusion:** The collaborative pharmacy service in the TOP clinic allows for increased access to

medication management, collaboration among psychiatric providers, and reduced patient barriers. BCPPs play a vital role in patient care due to expertise in pharmacotherapy and patient education. Future directions include assessing provider and patient satisfaction.

Impact of Ambulatory Care Psychiatry Pharmacist Medication Reviews and Histories

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Type: Innovative practices. **Background:** Patients with mental health conditions are more likely to have extensive medication trials and be at risk for polypharmacy. In ambulatory psychiatry, pharmacist-led medication reviews provide crucial information to providers, including up-to-date medication lists, identification of potential medication interactions, and assessments of the extent and validity of past psychotropic trials (eg, nontherapeutic doses, inadequate trial time). For treatment-resistant patients, these reviews can save a tremendous amount of time during subsequent visits with prescribers. Pharmacists are also uniquely positioned to make recommendations following their encounters, furthering the potential effect on visit outcomes and pharmacy visibility in the psychiatric ambulatory care space. **Purpose:** This study's primary objective is to characterize the impact of pharmacist-led medication reconciliations and psychotropic reviews in the psychiatric ambulatory care space. Specific points of interest include discrepancies identified within the current medication list, provider time saved, and number of recommendations accepted following provider encounters. **Design:** This study will be a single-center, retrospective chart review of patient encounters with pharmacists for the purpose of a medication review and psychotropic treatment history prior to a new patient evaluation in an ambulatory psychiatry clinic within a large academic medical system. Participating clinic subtypes include depression, bipolar, and early psychosis. Patient chart review will be conducted to catalogue discrepancies in current medication lists as well as whether pharmacist recommendations, if able to provide in the setting of diagnostic clarity, were accepted by providers. Providers will also be surveyed to characterize perceived time saved and clinical utility. Descriptive statistics will be used to report the study's findings. **Results:** Preliminary data from phone encounters starting on August 1,2024, through November 21, 2024, included 46 patients. The average time saved was 28 minutes, and 40 patients (87%) had identified medication errors, which were most commonly missing medications. Of the 21 patients on which recommendations were made, 14 were accepted (66.7%). **Conclusion:** Pharmacist-led reconciliations and reviews can provide crucial effects on safety and efficacy of patient medication therapy and enhance provider knowledge and time management during first visit appointments. This study will aid in solidifying the potential benefits seen in other settings in the psychiatric ambulatory space.

Integration of a Psychiatric Pharmacist Into a Pediatric Psychiatric Emergency Department and Novel Outpatient Crisis Clinic

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Type: Innovative practices. **Background:** In 2021, a national state of emergency was declared for children's mental health because of the growing rates of child and adolescent emergency department (ED) visits for behavioral health concerns. Across the nation, suicide is the second leading cause of death for children and adolescents and wait times to see a psychiatric provider average 7.5 weeks. Psychiatric pharmacists are well-positioned to address gaps in care and improve care of children and adolescents during a mental health crisis. **Description of Innovative Service:** A psychiatric pharmacist was integrated into the psychiatric ED and novel outpatient crisis clinic at a children's hospital with the goal to improve patient care for psychiatric patients in crisis. The crisis clinic is an 8-week ambulatory clinic for patients who can safely discharge from the ED or hospital but could benefit from medication management and therapy using the Collaborative Assessment and Management of Suicidality framework while awaiting connection with ongoing outpatient psychiatric services. Psychiatric pharmacist services initiated at the start of the pilot include medication reconciliation, comprehensive medication management, and patient/family education. **Impact on Patient Care/Institution:** The pilot of the ED/crisis psychiatric pharmacist was initiated on November 15, 2024. To date, in the psychiatric ED and crisis clinic, the psychiatric pharmacist has completed 48 medication reconciliations, reviewing 221 medications that led to 36 medication corrections, 33 medication additions, 47 medications removed, and 1 significant medication error that was corrected; 10 medication educations; 10 medication assessments; and 41 clinical recommendations, including psychotropic monitoring, cross-tapers, dose changes, titrations, holding doses for ingestions, continuation of home medications, formulary substitutions, and medication selection for acute agitation and psychiatric disease state management. Future goals include psychiatric-focused education for ED providers, creation of order sets for acute agitation and emergency medications, development of a collaborative practice agreement, and establishment of a virtual medication education group for the crisis clinic. **Conclusion:** Psychiatric pharmacist integration into the psychiatric ED and novel outpatient crisis clinic at a children's hospital can improve patient care for children and adolescents who are experiencing a mental health crisis.

Integration of Mental Health Clinical Pharmacist Practitioner Into Inpatient Substance Use Disorder Consult Team to Expand Substance Use Disorder Pharmacotherapy Initiation for Hospitalized Patients

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Type: Innovative practices. **Background:** Engagement in substance use disorder (SUD) treatment remains low with only 6.5% of adults with SUDs receiving treatment in 2023. The Sub40 metric measures the number of hospitalized patients identified with alcohol or drug use disorder who receive or refuse at discharge a prescription for FDA-approved medications for alcohol or drug use disorder or who receive or refuse a referral for addiction treatment. This particular Veterans Affairs Medical Center (VAMC) did not have a standardized process to identify eligible Sub40 patients and was below the national average for the Sub40 metric. **Description of Innovative Service:** This was a single-site, prospective, quality improvement initiative that took place at a VAMC from February 13, 2024, through April 19, 2024. An automated report was developed to identify potential Sub40 patients, and a chart review was conducted to confirm eligibility. For those eligible, outreach was completed prior to discharge by the social worker, primary medicine team or the mental health clinical pharmacist practitioner (MH CPP)/PGY-2 psychiatric pharmacy resident who assessed patients' interest in starting SUD pharmacotherapy or receiving a SUD treatment referral. **Impact on Patient Care:** There were 249 Veterans identified on the automated report, and 91 were deemed eligible for outreach. Of these 91 veterans, 86 (95%) were male and 70 (76%) were white with an average age of 60 years. A majority of veterans had alcohol use disorder (57%), 21% had stimulant use disorder, and 4% had opioid use disorder. Outreach was completed for 60 of the 91 eligible veterans; outreach was not completed for 31 veterans due to time constraints with other clinical responsibilities. Medication was started 18 times for alcohol use disorder and twice for opioid use disorder; naloxone was prescribed 14 times. By the end of this quality improvement project this VAMC's Sub40 score increased from 72.72% at the end of Q1 to 86.11% during Q2 at the time of project completion. **Conclusion:** Through the standardization of patient identification and integration of an MH CPP into the SUD inpatient consult team, this VAMC Sub40 score improved from Q1 to Q2 and increased opportunities to provide SUD care to veterans.

Medication Superhero Group on an Inpatient Child Psychiatry Unit

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Type: Innovative practices. **Background:** Psychotropic medication adherence is a long-standing challenge, particularly in child psychiatry patients, who may lack perceived benefit and understanding of psychotropics. Medication education groups improve adherence for psychiatric inpatients up to 97%. Children respond positively to creative teaching methods utilizing art and imagination. Psychiatric pharmacists can provide tailored education to promote empowerment and encourage medication adherence in children with psychiatric diagnoses. **Description of Practice:** This pilot medication education group took place on the child unit of an inpatient pediatric psychiatric community hospital. The clinical pharmacist prepared medication charts for each patient describing medication name, class, dose and administration time, and symptoms each medication manages. The group began with personal experiences and a basic discussion of medications. Common psychiatric diagnoses and holistic symptom management were reviewed, leading to psychotropic discussion and the group activity. Each patient chose a psychotropic from the provided medication lists to create a medication superhero drawing with associated superpowers relating to symptoms the psychotropic helps manage. For example, *Focalin the Fierce fends off irritability, battles a busy body, and enables super-focus*. Laminated medication superhero examples provided inspiration for patients. **Impact on Patient Care:** Starting October 10, 2024, the clinical pharmacist began weekly medication superhero groups on the inpatient child unit. To date, the clinical pharmacist has led 48 children over 10 weeks to create unique medication superheroes. Patients were average age 10 years (range 6 to 13 years) and 54% female. Attention deficit hyperactivity disorder and posttraumatic stress disorder were the most common diagnoses. Each child had an average of 3 scheduled medications prescribed, most commonly stimulants and nonstimulants. When utilizing medication superheroes on an individual teaching basis for medication-resistant children outside of the group setting, psychotropic medication adherence improved from 33% to 100%. Staff on the child unit were collectively supportive of the medication superhero group and individual teaching method. **Conclusion:** Children experiencing mental health crises may struggle with medication adherence due to a lack of understanding of how a psychotropic could help manage symptoms. Utilizing a creative way to teach children about psychotropics encourages treatment engagement, provides a sense of autonomy and promotes medication adherence.

Pharmacist-Led Education and Training of Health Care Practitioners to Administer Long-Acting Injectable Medications

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Type: Innovative practices. **Background:** Fourteen long-acting injectable (LAI) antipsychotics are currently available in the United States, each with distinct characteristics. Beyond antipsychotics, other medication classes are also being developed in LAI formulations. These medications vary in active ingredients, administration routes, preparation, and storage requirements. However, despite the growing availability of LAIs, there remains a gap in education regarding their preparation and administration. To address this, a team of pharmacists from the University of Maryland designed an innovative program to educate health care providers on common errors, such as improper mixing, incorrect site administration, and inappropriate medication selection while also offering hands-on training in administration techniques. **Description of the Innovative Practice:** The pharmacy education team promotes their training services to conferences, academic institutions, and clinical settings. Their curriculum includes education on administering injections at ventrogluteal, dorsogluteal, deltoid, and subcutaneous sites; understanding the pharmacokinetics associated with each injection site; and overcoming common challenges during administration. Additional components cover injection site preferences, an overview of available LAI options, and practical simulations using mannequins for identifying injection sites, drawing up medications, and engaging patients in discussions about their options. **Impact on Patient Care and Institutions:** The team has conducted 7 programs, providing education to registered nurses, nurse practitioners, physician assistants, doctors of osteopathic medicine, medical doctors, doctors of pharmacy, and students from these disciplines. Whereas many participants have prior didactic education on these topics, the majority report learning valuable new skills and insights during these sessions. **Conclusion:** The techniques taught in these training sessions are applicable across various medication classes, extending the program's relevance beyond psychiatry. This hands-on, comprehensive training model is, to our knowledge, the first to combine preparation and administration education with practical, real-world scenarios. As the use of LAIs expands, this model has the flexibility to adapt and evolve, ensuring it remains a critical resource for health care providers.

Pharmacist-Led Implementation of Extended-Release Buprenorphine in an Inpatient General Psychiatry Unit

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Type: Innovative practices. **Background:** The availability of parenteral extended-release buprenorphine (Bup-XR) on the Canadian market in February 2020 changed the landscape of opioid use disorder (OUD) treatment. Bup-XR helps to overcome traditional barriers to treatment retention such as regular observed dosing and withdrawal symptoms due to missed doses. Substance use and mental health conditions are highly comorbid with medication adherence being especially low in this population. Long-acting injectable (LAI) antipsychotics are known to improve medication adherence and reduce relapse in patients with schizophrenia. Opportunities exist for clinical pharmacists to spearhead Bup-XR initiations on inpatient general psychiatry units particularly for patients with concurrent opioid use and psychiatric disorders. **Description of Innovative Practice:** From February 3, 2020, through December 31, 2024, clinical pharmacists spearheaded a pilot program on the implementation of Bup-XR on an inpatient general psychiatry unit. In-service education on Bup-XR prescribing and administration was provided to the interdisciplinary team, including psychiatrists, psychiatry residents, and nurses. Pharmacists actively identified and provided consultations for patients with OUD who may benefit from buprenorphine. Pharmacists also managed the induction of transmucosal buprenorphine and subsequent transition to Bup-XR for clinically appropriate patients that consented to treatment. For patients on concurrent Bup-XR and an LAI, efforts were made by the clinical pharmacists to integrate care and enhance treatment adherence in the community by aligning Bup-XR administration with the LAI. **Impact on Patient Care:** Five staff psychiatrists and 21 nurses completed the manufacturer certification program for the provision of care with Bup-XR. To date, a total of 28 patients received Bup-XR during the pilot with 12 of these patients receiving Bup-XR and an antipsychotic LAI concurrently. Overall, patients expressed satisfaction with Bup-XR and its ease of follow-up, particularly for patients on concurrent treatment with Bup-XR and LAI. No significant adverse outcomes related to the recommendations occurred. Feedback from the interdisciplinary team was universally positive with strong emphasis on clinical pharmacists being uniquely skilled to lead Bup-XR implementation on the unit. **Conclusion:** Bup-XR has led to the removal of barriers in buprenorphine treatment for OUD. A pharmacist-led program led to the successful uptake of Bup-XR in an inpatient general psychiatry unit.

Pharmacist-Led Psychotropic Stewardship Program to Assess Antipsychotic Polypharmacy

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Type: Innovative practices. **Background:** Many patients fail or only partially respond to initial antipsychotic therapy. In patients with treatment refractory schizophrenia, providers may be compelled to initiate multiple antipsychotic agents. Antipsychotic polypharmacy occurs to 30% to 50% of patients hospitalized in a psychiatric facility despite limited evidence of efficacy. Furthermore, antipsychotic polypharmacy can increase risk of side effects, such as dystonia, akathisia, pseudoparkinsonism, tardive dyskinesia, and metabolic effects and result in drug-drug interactions, medication errors, and nonadherence. The Joint Commission states that potentially appropriate uses for dual antipsychotic therapy may include patients with a documented history of at least 3 failed trials of unique antipsychotic monotherapy, patients amid an antipsychotic cross-titration, augmentation of clozapine, or documentation of other therapeutic justification. **Objectives:** (1) Develop and implement a pharmacist-led psychotropic stewardship service aimed to reduce antipsychotic polypharmacy rates at our institution. (2) Asses the accuracy and improve the quality of rationale for antipsychotic polypharmacy on discharge documentation. **Methods:** Patients admitted to an inpatient psychiatric hospital prescribed 2 or more antipsychotics were prospectively identified from December 1, 2024, and referred to a pharmacist-led psychotropic stewardship service. Patient electronic health record and psychotropic medication history were reviewed to assess rationale for antipsychotic polypharmacy and identify potentially inappropriate antipsychotics. Recommendations to optimize antipsychotic regimens were relayed to the treatment team. Post-discharge documentation of antipsychotic polypharmacy rationale will be assessed. **Outcomes:** We will assess prescriber acceptance rates of psychotropic stewardship recommendations and perform a postintervention analysis to determine reasoning for any recommendations not accepted. In addition, rates of discharge rationale documentation discrepancies identified and resolved will be determined.

Psychiatric Pharmacist Consultation Orders in a Pediatric Mental Health Institute

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Type: Innovative practices. **Background/Rationale:** Board certified psychiatric pharmacists (BCPPs) are well-positioned to collaborate with child and adolescent psychiatrists, pediatricians, and patients and families to address the growing mental health needs among youth. Through implementation of comprehensive medication management and/or a psychotropic stewardship program (PSP), BCPPs improve adherence to regulatory standards, enhance patient outcomes, and increase medication knowledge among youth with a variety of mental health conditions, including substance use disorders. Literature is needed to establish best practices for PSP in child and adolescent psychiatry (CAP). **Description of the Innovative Service:** A psychiatric pharmacist consult order was created in 2022 at a pediatric mental health institute (PMHI) to provide psychotropic medication consultations in an outpatient CAP clinic (n = ~7000 medication visits annually). As BCPP services continue to expand within the PMHI, the consult was designed as a first step to development of a PSP in the outpatient clinic. Predefined reasons for a consult include *cross-taper/titration*, *medication interaction/adverse effect*, *medication information/literature review*, *patient/family medication counseling*, *pharmacogenomics testing*, *medication recommendation*, *laboratory evaluation/medication monitoring*, *vitamin/supplement information*, *harm reduction*, *clozapine REMS*, and *therapeutic drug monitoring*. Additionally, ordering providers can choose a priority level (eg, prior to next clinic visit) and free-text comments. Once an order is placed, it is sent to the psychiatric pharmacist pool and is answered by the covering psychiatric pharmacist. Responses are sent directly to the ordering provider or placed in the chart for families and other health care providers to see based on the discretion of the pharmacist. **Impact on Patient Care/Institution:** Since its creation November 1, 2022, 201 psychiatric pharmacist consults have been placed and answered. Patients were 4 to 21 years of age and span 4 outpatient CAP sites across the organization. Additional information will be presented, including the most frequent types of consults completed, effect on patient care/cost, and future directions. **Conclusion:** This consultation service created a streamlined way for psychiatric pharmacists to formally answer psychotropic medication questions, evaluate outcomes, and measure impact in a large health care system.

The Role of the Psychiatric Pharmacist in Shared Medical Appointments for Individuals With Bipolar Disorder

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Type: Innovative practices. **Background:** Shared medical appointments (SMAs) refer to medical care in which groups of

individuals with similar diagnoses meet with 1 or more health care providers for medical treatment. Current data have explored this model for chronic conditions in primary care and peripartum settings and represent a unique model of care for individuals with mental health conditions. Psychiatric pharmacists are in a unique position to contribute to SMAs and offer a multidisciplinary approach for individuals with serious mental illness. **Description of Innovative Service:** SMAs were implemented for individuals with bipolar disorder in a specialty psychiatry center beginning in October 2023. Up to 5 patients may participate in a single 90-minute session offered once weekly in person. Patients are recruited through a 6-week psychoeducation group or offered during individual care as an accessible option for medication management. Patients are also referred by other clinics within the same institution. The delivering health care team includes a psychiatrist and psychiatric pharmacist in addition to rotating psychiatry residents and pharmacy students. The psychiatric pharmacist provides various services during and outside scheduled SMAs, including patient interview and assessment, medical record review, drug information requests, and individual and group medication education **Impact on Patient Care:** Since October 1, 2023, 30 individuals with bipolar disorder have participated in SMAs. Three psychiatric residents and 4 pharmacy students have assisted in facilitating the appointments. A total of 9 educational topics have been curated and presented by the psychiatric pharmacist and pharmacy students during visits. Participating in shared medical appointments has assisted with expediting entry into specialized psychiatry care compared to the wait-time for individual appointments. Information regarding patient and provider satisfaction is being collected. **Conclusion:** This center provides specialized care for individuals with bipolar disorder in a region where access is a critical issue in providing evidence-based and coordinated care to this clinical population. Delivery of care through SMAs enables individuals to receive psychoeducation on their illness as well as peer support from other members in the group. Embedding a psychiatric pharmacist in SMAs provides an opportunity for providers and clients to benefit from real-time collaboration with a psychiatric medication expert.

Transitioning Patients to Longer Duration Long-Acting Injectable Antipsychotics at a Certified Community Behavioral Health Clinic

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Type: Innovative practices. **Background:** Long-acting injectable (LAI) antipsychotics are effective options for patients with a diagnosis of serious mental illness and are suggested to be used early in treatment. Risperidone intramuscular LAI and paliperidone palmitate are 2 LAI options on the formulary for the Certified Behavioral Health Center (CCBHC). Paliperidone is the active metabolite of risperidone, and therefore, both medications have similar efficacy and side effect profiles. Risperidone intramuscular LAI is administered every 2 weeks, and paliperidone palmitate is administered monthly. Switching from risperidone intramuscular LAI to paliperidone palmitate could improve patient adherence and lower cost burden on the system due to less frequent injections; however, no formal process was established at the CCBHC. The CCBHC developed a plan for transitioning patients from risperidone intramuscular LAI to paliperidone palmitate utilizing clinical pharmacy specialist review and coordination. **Description of Innovative Service:** Fifty-six patients were identified in Epic, which provided a report of patients prescribed risperidone intramuscular LAI in the previous 12 months. A thorough chart review of each patient was completed by a clinical pharmacist to ensure a switch from risperidone intramuscular LAI to paliperidone palmitate would be appropriate. Patients were organized by medication payor source (insurance or patient assistance program). Emails were sent to the assigned psychiatric providers outlining the potential benefits of switching to paliperidone palmitate as well as the recommended conversion from risperidone intramuscular LAI for each individual patient. The clinical pharmacy team offered to assist with any questions regarding the conversion and to assist with contacting patients and patient families as needed to complete education. **Impact on Patient Care:** Of the 56 patients, 30 were no longer receiving risperidone intramuscular LAI. Of those 30, 12 were switched to Invega paliperidone palmitate with the other 18 leaving services or switched to another therapy. Of the remaining 26 still receiving risperidone intramuscular LAI, 11 had documented reasoning for continuation. **Conclusion:** Whereas the majority of patients identified were not switched from risperidone intramuscular LAI to paliperidone palmitate, this project provided a framework for future endeavors of switching patients to LAIs with a longer duration at the CCBHC.

Therapeutic Case Report Abstracts

Aripiprazole Concentrations After Inadvertent Administration of Aripiprazole Lauroxil 1064 mg in the Deltoid Muscle: A Case Report

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Type: Therapeutic case report. **Purpose:** The FDA-approved package insert for aripiprazole lauroxil indicates that the 1064-mg dose should be administered as an intramuscular injection in the gluteal muscle every 8 weeks. Administration at a different site may change how the

medication is absorbed and eliminated, thereby altering peak medication concentrations, half-life, and time to next injection. There is currently no data available to indicate how this dose of aripiprazole lauroxil would be affected if administered in a different site. **Case Summary:** A case of inadvertent administration of aripiprazole lauroxil 1064 mg in the deltoid muscle is described. Regular medication serum concentrations were obtained to assist in determining the best course of treatment for this patient and are reported. Based on medication concentrations, the next injection was delayed until 13 weeks after the initial injection in the deltoid muscle. **Conclusion:** This case report is the first to describe how the pharmacokinetics of aripiprazole lauroxil 1064 mg are altered in the case of inadvertent administration in the deltoid muscle. Under these conditions, higher maximum concentration (Cmax) was observed with a similar time to maximum concentration (tmax), but a significantly longer exposure time. Confounding variables may have affected the data.

Clozapine Continuity: The Key to Stability Amid Command Hallucinations and Detrimental Self-Injury

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Type: Therapeutic case report. **Background:** Clozapine is the gold standard for treatment-resistant schizophrenia, yet it is underprescribed. This may be due to the high rate of discontinuation from nonadherence, adverse events, extensive monitoring, barriers to access, or clinical decisions. Despite its efficacy, cessation of clozapine leads to rapid deterioration and rehospitalization. **Patient History:** The patient is a 45-year-old female with schizoaffective disorder, bipolar type, admitted for stabilization following a self-injury resulting in partial blindness. She has had 27 admissions to the psychiatric hospital. At her last admission, she was discharged on clozapine, fluphenazine decanoate, oxcarbazepine, and clonazepam. After discharge, her outpatient provider changed her regimen to olanzapine and haloperidol decanoate, along with electroconvulsive therapy. Three months post-discharge, she began displaying bizarre behavior and was sent to the emergency department, where she attempted to remove her eyes due to command hallucinations, successfully removing one eye and severely damaging the other. After medical stabilization, she was admitted to the psychiatric hospital where her previous regimen of clozapine, clonazepam, and fluphenazine decanoate were restarted along with divalproex sodium. After 7 months of gradual tapering off safety restraints and mittens, she reported a significant decrease in command hallucinations and absence of thoughts of self-injurious behavior and met all her other discharge criteria. **Review of Literature:** A PubMed search revealed that this is the only known case of self-injurious behavior resulting in blindness after switching from clozapine to olanzapine. It contributes to the literature showing symptom deterioration following clozapine cessation. Numerous reports indicate that clinicians are often reluctant to prescribe clozapine for treatment-resistant schizophrenia due to various reasons, including the extensive monitoring of blood levels required of the Risk Evaluation and Mitigation Strategy program. Additionally, clinicians have reported resorting to polypharmacy before even attempting clozapine. This stigma and the prescribing barriers surrounding clozapine can lead to severe life-altering outcomes as highlighted in this case. **Conclusion:** Continuity of clozapine treatment is crucial for the stability of patients with treatment-resistant schizophrenia and command hallucinations. It is imperative to reduce barriers and stigma around clozapine prescribing to prevent debilitating self-injurious behavior in the future.

Cobalamin Conundrum: How Low Can B12 Go?

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Type: Therapeutic case report. **Background:** Cobalamin, or vitamin B12, deficiency is more common among older adults. Serum B12 $<$ 300 pg/mL indicates a deficiency and is supported by an elevated methylmalonic acid (MMA) and mean corpuscular volume (MCV). Vitamin B12 is stored extensively in the liver, which can delay symptom onset up to 5 years. Vitamin B12 deficiency can manifest as anemia, cognitive impairment, peripheral neuropathy, and neuropsychiatric symptoms. **Case Presentation:** A 66-year-old male presented following an intentional bupropion overdose. His past medical history includes depression, poly-substance use disorder, hepatitis C, coronary artery disease, gastroesophageal reflux disease, and peripheral neuropathy. He endorsed recent falls, unsteadiness, and discomfort secondary to peripheral neuropathy. His medical records reflected a 10+ year history of B12 deficiency. On admission, initial serum B12 concentration was reported as undetectable. Daily B12 replacement injections were ordered. Shortly after receiving his first injection, a repeat B12 level was drawn and resulted as serum B12 $>$ 2000 pg/mL. Pathology updated the initial result, reporting that the original sample was diluted, and the undetectable lab was in error. Based on the new elevated level, B12 replacement therapy was discontinued. However, his elevated MMA $>$ 5000 nmol/L, elevated MCV $>$ 100 fL and neurologic symptoms were consistent with B12 deficiency. Four days following the single B12 injection, his B12 level dropped to 452 pg/mL. He was ultimately discharged with oral B12 replacement therapy and duloxetine to replace bupropion. **Review of Literature:** A PubMed search

identified a paucity of reports of undetectable B12 levels. One case report described an undetectable B12 level associated with metformin. Cyanocobalamin's prescribing information suggests rapid absorption following intramuscular administration. Peak concentrations are achieved within 1 hour and 50% to 90% of the dose will be renally excreted within 48 hours. **Conclusions:** The significant fluctuation in this patient's B12 levels over a short period of time led to confusion and uncertainty in how to proceed with his care. This case emphasizes the importance of clear communication between pharmacists, pathology, nursing, and prescribers as well as the application of pharmacokinetic principles when collecting and evaluating labs to determine an optimal plan for the treatment of a B12 deficiency.

Long-Term Dexamethasone in the Treatment of Secondary Epilepsy Due to Grade 4 Astrocytoma Isocitrate Dehydrogenase (IDH) Mutant

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Type: Therapeutic case report. **Introduction:** Refractory focal seizures secondary to brain neoplasm continue to be a challenge for brain cancer patients. Failure to cease an epileptic attack with medication may lead to patients being admitted into the neurological intensive care unit. This may result in intubation and general anesthesia, which can cause serious complications and extended hospitalizations. **Case Presentation:** SA is a married 32-year-old white male pharmacist with a past medical history of left frontal lobe isocitrate dehydrogenase (IDH) mutant astrocytoma grade IV (status post resection in May 2022) whose focal seizures were aborted when dexamethasone was added to conventional antiepileptic (AED) medications. SA was well-managed and adherent on levetiracetam 3000 mg since December 2022 and had no seizures until November 2024. He presented to the emergency room with delirium, blank stares, forgetfulness, and shaking, which initially occurred at home. SA continued experiencing focal seizures in the hospital (up to 29 per day) throughout a 5-day stay despite the addition of lacosamide 300 mg every 12 hours, clobazam 10 mg every 12 hours, lamotrigine 25 mg daily titration, and divalproex 750 mg every 8 hours. A 10-mg load of intravenous dexamethasone was given followed by 4 mg every 8 hours by mouth. All clinical and electroencephalogram seizures ceased 48 hours after initiating dexamethasone. When dexamethasone was discontinued after the seizures were controlled, the seizures then returned. The neurology team opted to allow the patient to remain on long-term dexamethasone. **Discussion:** Despite an increase in the availability of fast-acting AEDs, aborting secondary seizures in patients with brain cancer can still be difficult. Because quality of life is of utmost importance in the malignant brain tumor population due to its poor prognosis, it is imperative to focus on symptom relief more than the long-term complications of steroids. Multiple AEDs administered at appropriate doses can still fail to abort focal seizures. Because standard AED regimens may not be effective and because of the risks stemming from intubation and anesthesia, providers must have other options for these patients. Our case study shows that anti-inflammatory agents, such as dexamethasone, may fulfill this need. Additionally, our case suggests a major role for inflammatory or immune factors in causing and perpetuating drug-resistant seizures.

Patients and Providers Satisfaction Surveys on Long-Acting Injection Antipsychotics

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Type: Therapeutic case report. **Previously Presented:** American Pharmacists Association (APhA) 2025 annual meeting and ASHP 2021 annual meeting poster presentation. **Purpose:** Patients taking oral antipsychotics are often nonadherent, resulting in relapse and hospitalization. Long-acting injectable antipsychotics (LAIAs) can combat nonadherence. This project evaluated patients' attitudes toward LAIA therapy and assessed health care providers' perspectives per institutional review board (IRB) survey studies. **Methods:** Both survey-based projects were approved by the IRB and implemented at the outpatient psychiatry clinic. Screening and recruitment included eligible English-speaking patients 18 and older; the survey used a 5-point Likert scale to assess (1) patient understanding of how injectable medication works; (2) injectable medication compared with previous oral treatment; (3) convenience coming to the clinic for injection; (4) satisfaction with LAIAs for symptom relief; (5) understanding of LAIAs versus oral medication; (6) convenience of LAIAs in the clinic versus oral medications; and (7) satisfaction with the physician's suggestion to use injectable medication. The providers' satisfaction survey recruited volunteer participation; participants responded to questions using Qualtrics to explore health care providers' perceptions of LAIA efficacy and patient acceptance in managing schizophrenia and psychotic disorders. **Results:** Twenty-five patients were eligible for participation, 14 participants completed the survey, 64% of patients indicated good understanding of LAIA treatment, 57% agreed it was more convenient to come to the clinic to get injectable medication, 64% agreed or strongly agreed it was more convenient to receive LAIA than take oral medications daily, 93% agreed or strongly agreed they understood why they were receiving LAIA medication rather than oral medication, 86% were glad their physician suggested and prescribed injectable medication. Providers' satisfaction survey

on prescribing LAIAs to prevent relapses and hospitalizations reported by 64% of respondents: 36% cited nonadherence to oral medications, patient refusal (26%), insurance restrictions (26%), and administration process concerns (16%). Fifty-five percent of respondents strongly agreed that LAIAs prevent or delay hospital readmission; 45% of respondents strongly agreed and 45% agreed to comfort recommending and administering LAIAs, 9% expressed discomfort. Sixty-four percent agreed that patients are less inclined to accept LAIAs compared with oral antipsychotics. **Conclusion:** The small pool of data limits objective conclusions. However, studies suggest LAIA treatments were generally well-accepted and positive about use in this unique practice setting.

Recurrent Clozapine-Induced Pneumonia

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Type: Therapeutic case report. **Background:** Clozapine, an atypical antipsychotic primarily prescribed for treatment-resistant schizophrenia, is recognized for its superior efficacy in managing severe psychiatric disorders but is also associated with significant adverse effects. Among these, pneumonia is a rare yet serious complication that can lead to mortality. **Patient History:** The patient is a 44-year-old male transferred to our facility August 8, 2022, with treatment-resistant schizophrenia and polysubstance abuse, diagnosed in September 2018. His diagnosis had been previously managed with multiple therapies, including lithium, olanzapine, fluoxetine, gabapentin, lamotrigine, paroxetine, paliperidone palmitate, and electroconvulsive therapy. Clozapine, however, proved to be the only medication that significantly improved his psychotic symptoms. With prior use, he experienced clozapine-induced pneumonia, diagnosed through clinical presentations of fever, elevated leukocyte counts, and a chest x-ray revealing significant alveolar infiltrates. Antibiotic therapy was initiated, allowing the patient to recover and clozapine to be retrialed on a slow titration schedule starting at 6.25 mg. Atropine sublingual drops were initiated 9 days later to prevent possible aspiration pneumonia. Ten days after starting atropine drops, the patient presented again with high fever and chest pain. Despite a normal leukocyte count and a negative COVID-19 test, the physical examination revealed diminished breath sounds, suggesting another episode of pneumonia. Notably, the clozapine dosage had not been increased, and the patient's other maintenance medications—divalproex, clonazepam, chlorpromazine, and haloperidol—remained unchanged, and clozapine was discontinued again. Management was further complicated by his refusal of diagnostic imaging. **Review of Literature:** Clozapine-induced pneumonia is documented in previous case reports; there are mixed outcomes in clozapine retrial for patients who developed pneumonia with some cases achieving success through slow titration or dose reduction. Typically, most case reports highlight pneumonia developing at doses greater than 150 mg/day. To our knowledge, this is the first case report of pneumonia developing with the smallest dose of clozapine while prophylactically utilizing anticholinergics to reduce risk of aspiration pneumonia. **Conclusion:** Pneumonia was most likely attributed to clozapine based on a Naranjo causality assessment score of 8. Extra precautions are necessary when retrialing clozapine in patients with recurrent clozapine-induced pneumonia.

Serotonin Syndrome and Protracted Discontinuation Syndrome With Escitalopram in a CYP2C19 Poor Metabolizer—A Case Report

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Background: Adherence to antidepressants is often compromised by serotonin-related adverse drug reactions (ADRs). Serotonin syndrome (SS) is a rare but potentially serious adverse event, while antidepressant discontinuation syndrome (ADS) symptoms typically lasts one to two weeks. Both ADRs may be influenced by dose or exposure to an antidepressant. Limited data exist regarding pharmacogenetic (PGx) relationships with SS or ADS. This report highlights a young, healthy patient who experienced SS and prolonged ADS associated with a significant gene-drug interaction. **Patient-History:** A 40-year-old Caucasian female with a psychiatric medical history significant for anxiety (on buspirone 10 mg three times daily) and attention-deficit/hyperactivity disorder (ADHD) (on stimulants) was prescribed escitalopram 5 mg daily for worsening anxiety symptoms. One day after initiating escitalopram, she developed symptoms consistent with SS, including agitation, confusion, diarrhea, and muscle rigidity. Escitalopram and buspirone were discontinued after three days. Three weeks later, escitalopram 5 mg daily was re-trialed, and within one day, SS symptoms recurred and persisted as subacute SS symptoms. Despite subacute SS symptoms, she continued escitalopram for two years. Her mental health deteriorated leading to an episode of suicidal ideation. Fearing initial SS recurrence, she declined medication changes. Two years after re-trial, escitalopram was discontinued at a mental health clinic, and she experienced prolonged ADS lasting approximately 60 days. Her nurse practitioner and psychiatric pharmacist recommended PGx testing, which revealed she

was a CYP2C19 *2/*2 poor metabolizer. **Review of Literature:** Despite a low dose of escitalopram, her CYP2C19 *2/*2 poor metabolizer status, likely increased overall exposure of the antidepressant, which may explain the unique SS-like and prolonged ADS. To our knowledge, there are no prior reports linking CYP2C19 poor metabolizer status with ADS from escitalopram or citalopram. A review of three case reports linked CYP2C19 polymorphisms to SS with escitalopram use. These prior SS cases and our current case support hypotheses that elevated exposure to escitalopram, resulting from lower clearance in these individuals, may increase risk of SS and or ADS, and reinforces potential benefit of preemptive PGx testing. **Conclusion:** This case supports a role for PGx consideration in antidepressant therapy and role of interprofessional care.

Somatic Symptom Disorder: Role of the Pharmacist in Minimizing Polypharmacy

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Type: Therapeutic case report. **Background:** Somatic symptom disorder is a psychiatric condition characterized by excessive thoughts relating to somatic symptoms that are distressing or result in significant disruption to quality of life. As a result of patients' fixation on somatic concerns, they are often prescribed medications to alleviate pain or discomfort brought on by their symptoms. However, these medications are not without risks of their own and can place patients at an increased risk of falls, altered mental status, dependence, and medication adverse events. **Patient History:** The patient is a 71-year-old female with a past medical history significant for hyperlipidemia, chronic pain syndrome, gastroesophageal reflux disease, constipation, and chronic venous stasis, who was admitted to our inpatient psychiatric unit with a chief complaint of pain and difficulty with mobility. Past psychiatric history includes major depressive disorder with psychotic features, generalized anxiety disorder, insomnia, and somatic symptom disorder. In addition to medications for management of chronic conditions, the patient was prescribed numerous medications to alleviate pain and discomfort: sumatriptan, amitriptyline, butalbital/acetaminophen/caffeine, gabapentin, duloxetine, lorazepam, and cyclobenzaprine. At the time of admission, the patient was living at home with her husband who endorsed difficulty caring for the patient given an increase in the patient's reported symptoms of pain. A thorough workup was conducted by specialists in neurology, internal medicine, nutrition, and physical therapy that deemed there were no structural neurologic processes underlying their complaints regarding muscle weakness and pain. Throughout the hospital stay, the patient was started on aripiprazole for somatic symptom disorder management. Additionally, several medications originally prescribed for pain and discomfort were able to be discontinued or reduced in dosage through gradual tapers. **Review of Literature:** A preliminary review of available literature was conducted relating to polypharmacy in patients with somatic symptom disorder. Whereas literature does confirm the likelihood of polypharmacy in this population, no literature from our review outlined a methodology for pharmacists to assist providers in deprescribing. **Conclusion:** Pharmacists involved in the care of geriatric patients with somatic symptom disorder have an opportunity to help identify potentially inappropriate medications and help minimize the burden of polypharmacy through gradual dosage tapers of medications.

The Pharmacist's Role in Clozapine Initiation: Early Detection of Clozapine-Induced Myocarditis—A Case Report

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Type: Therapeutic case report. **Background:** Myocarditis affects up to 3% of patients treated with clozapine with a 10% to 30% mortality rate. It typically occurs during titration and within the first 6 weeks of treatment. Elevated troponin and C-reactive protein (CRP) can indicate a hypersensitivity reaction, so monitoring these markers during the initial 4 to 6 weeks is recommended. **Patient History:** A 39-year-old Caucasian male with a history of schizoaffective disorder and autism spectrum disorder was admitted to the psychiatric unit after voicing suicidal ideation. At the time of admission, he was prescribed divalproex, lithium, perphenazine, guanfacine, and benztropine. Clozapine was initiated and titrated to 100 mg over 8 days. On the 13th day of treatment, troponins and CRP were elevated at 0.5 ng/mL and 194 mg/L, respectively. The patient was transferred to the medical service for suspected sepsis secondary to pneumonia. He was sent for cardiac catheterization due to recurrent elevated troponin, tachycardia, and anterolateral ST elevation suspicious for myocardial injury. Catheterization suggested non-epicardial etiologies such as sepsis or myocarditis, and clozapine was discontinued. The patient began treatment with metoprolol ER 12.5 mg daily, improved, and was then transferred back to the behavioral health unit. **Review of Literature:** Clozapine is linked to myocarditis due to immune-mediated hypersensitivity or direct cardiotoxicity. Clozapine-induced myocarditis (CIM) presents variably with symptoms ranging from fatigue to cardiac failure,

complicating diagnosis. Management involves cessation of clozapine and supportive care with beta-blockers and diuretics. Rechallenges may be considered but may trigger recurrence. Research is needed to refine diagnostic criteria and optimize treatment protocols. **Conclusion:** This case highlights the importance of early detection and intervention in CIM. Elevated cardiac markers were crucial in prompting the appropriate diagnostic workup, leading to timely discontinuation of clozapine and preventing further complications. Psychiatric pharmacists can play a role in routine monitoring of cardiac markers during the first few weeks of clozapine treatment to help detect early signs of myocarditis to improve patient safety and ensure better clinical outcomes.